

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended October 31, 2021

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from **to**

Commission File Number: 001-36334

KEYSIGHT TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware

*State or other jurisdiction of
Incorporation or organization*

46-4254555

*I.R.S. Employer
Identification No.*

Address of principal executive offices: 1400 Fountaingrove Parkway, Santa Rosa, CA 95403

Registrant's telephone number, including area code: (800) 829-4444

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock par value \$0.01 per share	KEYS	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of common equity held by non-affiliates as of April 30, 2021 was approximately \$19 billion, based upon the closing price of the Registrant's common stock as quoted on New York Stock Exchange on such date. Shares of stock held by officers, directors and 5 percent or more stockholders have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of December 13, 2021, there were 183,042,478 shares of our common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Document Description

Portions of the Proxy Statement for the Annual Meeting of Stockholders (the "Proxy Statement") to be held on March 17, 2022 and to be filed pursuant to Regulation 14A within 120 days after registrant's fiscal year ended October 31, 2021 are incorporated by reference into Part III of this Report.

10-K Part

III

TABLE OF CONTENTS

	Page
Forward-Looking Statements	3
PART I	
Item 1 Business	3
Item 1A Risk Factors	21
Item 1B Unresolved Staff Comments	33
Item 2 Properties	34
Item 3 Legal Proceedings	35
Item 4 Mine Safety Disclosures	35
PART II	
Item 5 Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	36
Item 6 [Reserved]	36
Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations	37
Item 7A Quantitative and Qualitative Disclosures About Market Risk	52
Item 8 Financial Statements and Supplementary Data	54
Item 9 Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	101
Item 9A Controls and Procedures	101
Item 9B Other Information	101
PART III	
Item 10 Directors, Executive Officers and Corporate Governance	101
Item 11 Executive Compensation	102
Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	102
Item 13 Certain Relationships and Related Transactions, and Director Independence	102
Item 14 Principal Accounting Fees and Services	103
PART IV	
Item 15 Exhibits, Financial Statement Schedules	103
Item 16 Form 10-K Summary	107
Signatures	108

Forward-Looking Statements

This report contains forward-looking statements including, without limitation, statements regarding trends, seasonality, cyclicalities and growth in, and drivers of, the markets we sell into, our strategic direction, earnings from our foreign subsidiaries, remediation activities, new solution and service introductions, the ability of our solutions to meet market needs, changes to our manufacturing processes, the use of contract manufacturers, the impact of local government regulations on our ability to pay vendors or conduct operations, our liquidity position, our ability to generate cash from operations, growth in our businesses, our investments, the potential impact of adopting new accounting pronouncements, our financial results, our purchase commitments, our contributions to our pension plans, the selection of discount rates and recognition of any gains or losses for our benefit plans, our cost-control activities, savings and headcount reduction recognized from our restructuring programs and other cost saving initiatives, and other regulatory approvals, the integration of our completed acquisitions and other transactions, our transition to lower-cost regions, the existence of political or economic instability, the impact of increased trade tension and tightening of export control regulations, the impact of compliance with the August 2, 2021 Consent Agreement with the Directorate of Defense Trade Controls, Bureau of Political-Military Affairs, Department of State, continued impacts to the supply chain, government mandates related to pandemic conditions such as a novel strain of coronavirus ("COVID-19") and its variants, impacts related to net zero emissions commitments, the impact of volatile weather caused by environmental conditions such as climate change, and our estimated or anticipated future results of operations, which involve risks and uncertainties. Our actual results could differ materially from the results contemplated by these forward-looking statements due to various factors, including but not limited to those risks and uncertainties discussed in Part 1 Item 1A and elsewhere in this Form 10-K.

PART I

Item 1. *Business*

Overview

Keysight Technologies, Inc. ("we," "us," "Keysight" or the "company"), incorporated in Delaware on December 6, 2013, is a technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world by providing electronic design and test solutions that are used in the simulation, design, validation, manufacture, installation, optimization and secure operation of electronics systems in the communications, networking and electronics industries. We also offer customization, consulting and optimization services throughout the customer's product development lifecycle, including start-up assistance, asset management, up-time services, application services and instrument calibration and repair.

We generated \$4.9 billion, \$4.2 billion and \$4.3 billion of revenue in fiscal years 2021, 2020 and 2019, respectively. Revenue, income from operations and assets by business segment as of and for the fiscal years ended October 31, 2021, 2020 and 2019 are provided in Note 16, "Segment Information," to our consolidated financial statements. We had more than 17,500 direct customers for our solutions and services in fiscal year 2021 and greater than 32,000 customers including indirect channels. No single customer represented 10 percent or more of our revenue.

Strategies

With a focus on electronic design, test and optimization, we deliver market-leading solutions across a wide range of industries, including commercial communications; networking; aerospace, defense and government; automotive; energy; semiconductor; general electronics; and education. Our software and hardware solutions support our customers' design and test challenges across the entire product lifecycle. We provide simulation, prototype development and validation solutions for research and development ("R&D"), high-volume manufacturing test solutions, as well as handheld and other solutions for operational test and optimization including user experience in the field. Our objective is to increase the productivity of our customers and reduce their time to market. Keysight's solutions utilize a common portfolio of market-leading software and hardware technologies along with a suite of valued-added services. This broad portfolio of solutions enables our customers to efficiently develop and deploy their products to address the most rapidly evolving new technologies and market opportunities. The following section represents our significant strategies and the key underlying initiatives:

- Expanding our software-centric solutions to meet customer needs and increase recurring revenue
 - *PathWave software solutions.* The PathWave platform is an open, scalable, and predictive software platform enabling fast and efficient data processing, sharing and analysis at every stage in the product development workflow. Combining design software, instrument control, and application-specific test software, it fuels engineering and business operation improvements to help enterprises address increasing design, test, and measurement complexity and develop optimal electronic products. Keysight's platform-based approach delivers faster time to market, increased

engineering productivity and cost-efficiency, improved design and test reuse, and faster analysis and insight to support customer's decision-making.

- *Eggplant software test automation.* The Eggplant software test automation platform uses artificial intelligence ("AI") and machine learning to automate test creation and test execution and to create an innovative force in the automated test market with next generation software testing technology. The Eggplant platform extends our core test capabilities in physical layer, communications, and network protocol design and test with intelligent automated test capabilities to enable integrated performance and user experience testing of our customers' solutions across multiple industry verticals. Eggplant software enables bi-directional leverage of measurement technologies and differentiated solutions offering.
- *Subscription-based business models.* Significant portions of Keysight's broad software portfolio are sold to customers on a one-time basis, granting the customer a license to use the software in perpetuity. We are in the process of adding subscription-based purchasing alternatives to more of our software, in some cases phasing out perpetual access, and for some new product offerings, never offering perpetual terms, in order to provide customers with regular updates and predictable expense outlays, while increasing our recurring revenues. Services components of our solutions such as KeysightCare are also increasingly provided on a subscription basis as part of this strategy.
- Providing complete solutions with services
 - The breadth of our service offerings enables Keysight to provide customers with complete solutions that incorporate both leading product capabilities and the appropriate services and support. We have expanded and deepened our service offerings beyond a strong foundation of calibration and repair to include customization, consulting and optimization services. Support offerings such as KeysightCare, asset optimization, technology refresh and other value-added services enable us to provide complete customer solutions across a broad set of communications and electronics markets, technologies and industries.
- Investing early to achieve first-to-market solutions
 - *Wireless communication measurement solutions.* We are investing in the development of new wireless communications test solutions to satisfy the commercial communications end market, which is being driven by growth in mobile data, Internet of Things ("IoT") and evolving wireless standards. With our technical breadth and expertise and strategic engagement with market-leading customers and partners around the world, we have leading-edge solutions for wireless applications available and have been first to market with many 5G, 6G and virtual network solutions. With the acquisition of Prisma Telecom Testing ("Prisma") in fiscal 2019, we enhanced our ability to deliver total solutions to the designers of cellular base stations. The acquisition of Sanjole Corp. ("Sanjole") in fiscal 2021 enriched our solutions for protocol decoding and interoperability of wireless technologies. These strategic moves support the delivery of a comprehensive, innovative 5G portfolio at the forefront of advancing communications technology.
 - *Automotive design and measurement solutions.* We are investing in the development of new automotive test solutions to address the rapidly emerging electric, hybrid electric, connected and autonomous vehicle segments. In recent years, we have introduced new solutions covering vehicle intelligence, connectivity, power and security. The Automotive Cybersecurity Program validates the resiliency of connected components of a vehicle individually or as an entirely functioning automobile. In addition, Keysight delivers extensive security validations of the 4G/5G radio access network (RAN) infrastructure that connects vehicles with the back-end data centers. We also deliver application-optimized, customer-specific test solutions for the development and production of charging technology and infrastructure, energy storage, battery management systems, inverters and DC/DC converters.
 - *Network applications.* Keysight's market leading network test solutions provide network equipment manufacturers and service providers with critical capability for testing next-generation network technologies. We continue to invest to provide first-to-market capability to meet the needs of our customers in this rapidly evolving market as network speeds increase and networks grow in complexity with virtualization and software control. Our network visibility solutions allow enterprises and service providers to optimize their network operations by efficiently feeding detailed traffic data to analysis tools for enhanced performance and security. We are investing to bring this powerful capability to a broad range of increasingly software-driven environments driven by cloud technology. Together, these solutions enable network and data center operators to continuously update their networks to deliver higher levels of performance, improve quality of service and enhance network security, necessitated by the rapid growth of high-speed, connected devices and applications.
 - *Quantum computing.* Quantum Science is a field of physics and engineering research that harnesses the unique characteristics of quantum mechanics to provide breakthrough, revolutionary advances in the areas of computing,

communications and sensing. These areas represent an emerging growth opportunity for Keysight. We are investing to expand our software offerings to enable the development of advanced real time control systems to establish and sustain the quantum state of *qubits*, the building blocks of quantum computing systems.

- Developing solutions for network transformation

- *Network transformation requires new solutions.* Market drivers are leading to a transformation of both wireless and wired network technologies. In particular, the low-latency and high bandwidth requirements of 5G are transforming the entire network. We are making both organic and inorganic investments to enable the next generation of networks and beyond. We provide both wireless and wired network communications design and test solutions that address all seven layers of the communications stack. In addition, these solutions address customer needs across the entire communications ecosystem, from chipsets to devices to network access and then into the core network, data centers and the cloud.

Strengths

Our electronic measurement business originated in 1939. Our legacy encompasses more than 80 years of innovation, measurement science expertise and deep customer relationships. We conduct business annually with greater than 32,000 customers around the world, including most Fortune 1000 companies that are developing new electronic technologies, networks, systems, devices and components. The following strengths are significant:

- *Industry-focused organization structure to support customer success.* Our industry-focused organization structure enables closer customer alignment and allows us to partner closely with market leaders to enable new technologies and provide first-to-market solutions for emerging applications. Our solution-centric industry groups provide end-to-end design, test and optimization solutions driven by customer specifications and timetables. Keysight is viewed as a trusted adviser and partner across industries.
- *Technology leadership as a competitive differentiator.* Proprietary software and hardware technologies unavailable in the commercial market and developed by our R&D technology centers around the world enable many Keysight products to deliver the best design and measurement solution capability available for our customers' engineering requirements. Some of Keysight's hardware technologies are designed and manufactured in our own in-house integrated circuit fabrication facilities, which were purpose-built and optimized to deliver leading-edge performance and capabilities across the broad portfolio of Keysight instruments. This differentiation enables Keysight to be recognized as a leader in seven core measurement platforms: radio-frequency ("RF") and microwave design simulation software, network test, network analyzers, oscilloscopes, signal analyzers, signal sources and network emulation solutions. Keysight's technology leadership supports our strategy to deliver first-to-market solutions for our customers, which in turn enables them to be first to market with their products and gain a competitive advantage.
- *Broad portfolio of solutions and products to address customer needs.* Keysight has a broad portfolio of electronic design and test solutions and products, which we continue to expand. Our hardware product portfolio spans many technologies and price points. Products are available in various physical form factors, such as benchtop instruments, handheld units, custom or industry-standard modular formats, and others. We address time and frequency domain applications with RF, microwave, high-speed digital and general instrumentation. We also address network test, visibility and security applications. In addition, we have a broad portfolio of software solutions and products to enable our customers' success, including electronic design automation ("EDA") software for RF and high-speed digital design, software tools for programming, automation, and data analysis, and a broad range of application-specific software for our instruments. Our PathWave software platform incorporates some of these software elements. Finally, we offer an expanding set of services and support delivered under our KeysightCare offering.

Our broad portfolio of solutions and products includes, among others, the following:

Oscilloscopes and Analyzers:

Oscilloscopes
Spectrum Analyzers (Signal Analyzers)
Network Analyzers
Vector Signal Analyzers
EMI Receivers and EMC Analyzers
Noise Figure Analyzers
Logic Analyzers
Protocol Analyzers and Exercisers
Bit Error Ratio Testers (BERTs)
Optical Modulation Analyzers (OMAs)
Audio Analyzers
Thermal Imagers
Device Parameter Analyzers and Curve Tracers
Device Current Waveform Analyzers
Digitizers and Data Acquisition Systems
Network Test, Visibility, and Security
Network Protocol and Load Testers
Network Taps
Bypass Switches
Network Packet Brokers
Network and Application Security Solutions
Performance Monitoring and Optimization
Cloud Test Solutions
5G NR Base Station Test
Radio Access and Core Network Test

Meters:

Digital Multimeters (DMMs)
Phase Noise Measurement
Power Meters and Power Sensors
Frequency Counters
LCR Meters and Impedance Measurement Products
Picoammeters, Electrometers

Power:

AC Power Supplies and Analyzers
DC Power Supplies and Analyzers
Electronic Loads
Source/Measure Units (SMUs)
EV/HEV Charging Test Solutions

Software:

PathWave Design and Test Software
User Experience Test Software (Eggplant)
Electronic Design Automation (EDA) Software
Application-Specific Instrument Software
Programming and Automation Software
Data Analytics Software

Wireless:

Wireless Network Emulators
Channel Emulators
Network Coverage / Drive Test Solutions
Wireless Network Performance Monitoring
Over-The-Air (OTA) Chambers
Wireless Analyzers
IoT Regulatory Compliance Solutions
Network Digital Twin Solutions

Generators and Sources:

Signal Generators (Signal Sources)
Arbitrary Waveform Generators (AWGs)
Function Generators
Pulse Generators
Data Generators
Noise Sources

Additional Products:

Autonomous Driving and Advanced Driver Assistance Systems (ADAS) Solutions
Quantum Computing Solutions
In-Circuit Test (ICT) Systems
Semiconductor Parametric Test Solutions
Photonic Test and Measurement Products
Laser Interferometers and Calibration Systems
Materials measurement
Microwave and Millimeter Wave Devices
Test and Measurement Accessories
Custom Test Systems
PXI and AXIe Modular Solutions
Refurbished Equipment

Services:

KeysightCare Service and Support
Calibration
Repair
Technology Refresh
KeysightAccess Service
Consulting and Test as a Service (TaaS)

- *Industry-leading commitment to product quality and reliability.* Keysight has a reputation in the industry for high-quality and high-reliability electronic measurement instrumentation and software. Ensuring quality and reliability is an integral part of our new product development processes.
- *Sales channel with global reach.* We have a comprehensive sales channel with experienced management teams and highly technical sales and application engineers in all parts of the world, including a strong local presence in emerging markets. As part of our sales channel strategy, we have more than doubled our direct sales force over the past five years, primarily driven by investments and acquisitions. This global direct channel is focused on addressing the needs of our customers by selling Keysight products, systems, solutions and services. Approximately 75 percent of our business comes from customer interactions with our direct sales organization. In countries with low sales volumes, sales are made through various representatives and channel partners. To ensure broad geographic coverage and further drive growth, we maintain a network of over 800 channel partners and an e-commerce platform to complement our direct sales force to extend the digital buying experience for our customers. The combined direct and indirect channels contribute to our focus on acquiring new customers, resulting in the addition of more than 2,000 new customers in 2021.
- *Large installed base.* The breadth of our solutions portfolio and our long history of producing high-performance and high-quality solutions have resulted in our large worldwide installed base of equipment. This installed base enables a strong and growing services solutions portfolio, which provides a wide range of calibration and repair services on both a per-incident and contract basis, as well as technical support as part of KeysightCare. It also provides additional sales opportunities as loyal customers refresh or upgrade their equipment.
- *Centralized order fulfillment.* Our order fulfillment organization allows us to leverage the scale and scope of our business to provide high-quality, market-leading instrument solutions to our customers while generating competitive gross margins. Keysight has a central order fulfillment organization that supplies solutions to customers across geographies. Our Penang, Malaysia site is our largest manufacturing facility, with a proven track record of operational excellence, technology capability and quality. We have an established network of suppliers and subcontractors, especially in Asia, that complements our in-house capabilities.

- *Flexible business model.* Our operating model incorporates a substantial amount of cost structure flexibility with the intent to be materially profitable across a range of economic and market conditions. Our variable compensation programs, sales channel strategy and the outsourced components of our supply chain have been implemented to improve the flexibility of our cost structure.

The Keysight Leadership Model

The Keysight Leadership Model (“KLM”) is the company's framework to continuously deliver value to our customers, stockholders and employees and provides the structure to execute Keysight's strategy. This model encompasses seven interlinked areas of focus that are centered around our customers and include: Customer Success, Market Insight, Capital Allocation, First-to-Market Solutions, Operational Excellence, Employee Growth and Keysight Values.



- Customer Success is the heart of everything we do, embodying our relentless drive to deeply understand our customers challenges and help them achieve positive, sustained outcomes through the application of new insights and the use of Keysight solutions.
- Market Insight is enabled by our deep customer relationships and focuses our product and solution roadmaps, informs our mergers and acquisitions priorities, and factors into our hiring priorities and talent development plans. Our market insight allows us to move with speed and focus delivering first-to-market solutions that enable customers to address their engineering challenges.
- Capital Allocation is how we direct our financial and human capital to business opportunities, projects and processes that align with our strategy to generate financial returns, which create value for the company, shareholders and employees. The threshold for our capital allocation is an expected return on invested capital that is above our cost to procure that capital.
- First-to-Market Solutions is what we strive to deliver to our customers across the industries we serve. By being first-to-market with the right solutions, we enable our customers to also be first-to-market with their products.
- Operational Excellence across all functions is a relentless focus. It allows us to accelerate R&D by developing common technology platforms, maximize margins through cost reductions and supply optimization, implement LEAN+ processes for continuous improvement, and leverage general and administrative spend as the company grows. We believe this focus drives long-term competitive advantage and growth while building customer loyalty.
- Employee Growth is enabled in a diverse, inclusive and respectful work environment, where employees are offered challenging assignments, development opportunities, competitive salaries and a safe workplace. This environment supports employees throughout their careers with the goal of connecting their passions to business results.
- Keysight Values of Speed and Courage, Uncompromising Integrity, High Performance, Social Responsibility and One Keysight foster a dynamic and inspiring environment conducive to collaboration, innovation and experimentation. Our values help us attract and retain top talent and guide how we work with each other and engage with our customers, suppliers and communities.

More information on the KLM can be found at <https://about.keysight.com/en/companyinfo/leadership.shtml>.

Operating Segments

We have two reportable operating segments, the Communications Solutions Group and the Electronic Industrial Solutions Group.

Communications Solutions Group

The Communications Solutions Group serves customers spanning the worldwide commercial communications and aerospace, defense and government end markets. The group's solutions consist of electronic design and test software, electronic measurement instruments, systems and related services. These solutions are used in the simulation, design, validation, manufacturing, installation and optimization of electronic equipment and networks. This business generated revenue of \$3,523 million in fiscal 2021, \$3,132 million in fiscal 2020 and \$3,177 million in fiscal 2019.

Communications Solutions Group Markets

Our Communications Solutions Group serves the following two markets:

Commercial Communications Market

We market our electronic design and test solutions to chipset providers, network equipment manufacturers ("NEMs"), wireless device providers and component providers within the supply chain for these customers as well as network operators, including communications service providers and enterprises. Growth in mobile data traffic and increasing complexity in semiconductors and components are driving test demand across the communications ecosystem. We provide end-to-end solutions for mobile chipsets, connected smart sensors/devices (i.e., IoT), wireless base stations, networks, data centers and cloud. Our leading-edge solutions enable and accelerate new technology waves, including 5G and 6G wireless, O-RAN, Wi-Fi 6, 400G+ telecom and optical test and PCIe Gen5 high speed digital. Our ability to design and deliver first-to-market solutions is enabled by our technical expertise as well as our strategic engagements with market-leading customers across the commercial communications ecosystem.

NEMs and chipset providers design and manufacture products to enable the transmission of voice, data and video traffic. The NEMs' customers are communications service providers and enterprises that deploy and operate the networks and deliver services, as well as distribute end-user subscriber devices such as wireless smart phones, tablets and other connected devices. To meet their customers' demands, NEMs require test and measurement instruments, systems and solutions for the development, production and installation of each optical, electrical and wireless network technology. The chipset providers' customers are device makers who design and manufacture smartphones, tablets, wearables, IoT, etc. They are also module makers who design and manufacture communication modules with cellular, bluetooth and/or Wireless Lan connection capabilities to laptop, cars and other devices. To meet their customers requirements, device makers and module makers need test and measurement solutions for development, validation, production and regulatory confirmation to cover all supported communication technologies.

Wireless device providers require design and test solutions for the design, development, manufacture and repair of a variety of mobile and connected devices, including both smart phones and tablets. These mobile devices are used for voice, data and video delivery to individuals who connect wirelessly to the service provider's network. The device manufacturers' customers are large and small service providers, enterprises and consumers who purchase directly from retailers.

Component providers design, develop and manufacture electronic and optical components and modules used in network equipment and mobile devices. The component providers require test and measurement products to verify that the components and modules interoperate properly and that their performance meets the specifications of their customers.

Communications service providers and enterprises require reliable data center and network equipment that enables new service offerings and allows their networks to operate with ever-increasing capacities. To achieve this, enterprises and communications service providers require a range of sophisticated test instruments and systems to ensure conformance to communication standards and network requirements and to evaluate and optimize network performance. These customers also require solutions to improve management of data centers to preserve resources, save valuable IT time and maximize return on IT investments.

Aerospace, Defense and Government Market

We market our electronic design and test solutions to manufacturers and research laboratories within the aerospace and defense industries. This market includes commercial and government customers and their contracted suppliers. Electromagnetic

spectrum operations, digital transformation and modernization of satellites, radars and surveillance systems worldwide are the drivers of test demand within the aerospace and defense market.

Government customers include departments or ministries of defense and related agencies around the world. Prime contractors, sub-contractors and component manufacturers support the government customers by providing design and manufacturing capabilities for a variety of programs. Commercial customers include aerospace and satellite equipment manufacturers and related component suppliers.

Customers use our electronic design and test solutions to develop and manufacture a wide variety of electronic components and systems used in aerospace and defense industries, including electromagnetic spectrum operations, radar, signal monitoring, space, satellite, commercial and military aircraft and public safety. Customers test the electrical parameters of a broad spectrum of components and assemblies and final products and often require large systems containing multiple electronic instruments.

We do not manufacture or sell weapons, munitions or components therein. Only a small percentage of Keysight revenue is from solutions with specific features or software “tailor-made” for our defense customers. In fiscal 2021, “tailor-made” defense revenue represented less than 5 percent of total revenue.

Communications Solutions Group Solutions

Our electronic design and test solutions include software design tools, software-driven RF, microwave (“uW”) instruments, and digital instruments and various other general purpose test instruments and targeted test solutions. Our technical breadth and expertise enables leading-edge solutions across commercial and government communications.

Electronic Design Automation Software

Our EDA software models, simulates and analyzes product designs at the circuit and system levels across RF/uW, high-speed digital, power electronics and semiconductor markets. R&D engineers use the software to predict the behavior of designs prior to building a prototype. They identify and correct issues with the design and optimize performance in a virtual environment, thus reducing the number of design iterations, reducing both time to market and cost.

RF and Microwave Solutions

Our software-driven RF and microwave test solutions and related software tools are used mainly in commercial, wireless and aerospace and defense applications. These solutions are required for the design and production of wireless network products, communications links, mobile devices and base stations. RF and microwave test instruments include signal analyzers, signal generators, network analyzers, network emulation tools and power meters. Our measurement application software is an integrated extension of our hardware solutions and enables a wide range of measurement capability used across all end markets to design and manufacture next-generation electronic components and products. Software tools are used to design and test wireless devices and test the performance of networks.

Digital Solutions

Our software-driven digital test solutions are used by R&D engineers across a broad range of customers to validate the function and performance of their digital product and system designs. These designs include a wide range of products from simple digital control circuits to complex high-speed systems such as computer servers. The test solutions offered include oscilloscopes, logic and serial protocol analyzers, logic-signal sources, arbitrary waveform generators and bit error rate testers. Our customers also use our high-frequency EDA software tools to model signal integrity problems in digital design applications as digital speeds continue to increase.

Network Applications Solutions

We offer a comprehensive suite of hardware and virtual network test platforms and software applications that provide customers with the ability to perform a broad range of testing for layers 2-7 of the network stack. These solutions measure and analyze the performance, functionality, interoperability, service quality and conformance of network equipment and networks as well as applications and services that run on these networks. Our technology-specific application test solutions include data center, routing and switching, Software Defined Networking (“SDN”), security and encryption. We also test network applications and services including voice, video and wireless technologies such as 4G and 5G as well as Wi-Fi.

Keysight's network visibility solutions provide real-time, end-to-end visibility, insight and security for physical, virtual and cloud-based software defined networks. Our solutions deliver the control, coverage, intelligence and performance customers need to protect and improve crucial networking, data center and cloud business assets. Our comprehensive network visibility

platform, proprietary software, and advanced processing technologies enable critical intelligence and functionality to enhance network efficiency and security.

Other Measurement Solutions and product offerings

Our suite of fiber optic test solutions measures and analyzes a wide variety of critical optical and electrical parameters in fiber optic networks and their components. Components that can be tested with our solutions include source lasers, optical amplifiers, filters and other passive components. Our test solutions include optical modulation analyzers, optical component analyzers, optical power meters and optical laser source solutions.

Additionally, we provide resale of refurbished used Keysight equipment, including Keysight Premium Used, which ensures the same high quality as our new equipment.

Communications Solutions Group Customers

Our customers include commercial companies and government agencies around the world. We have customers across the entire communications ecosystem that design, develop, manufacture, install and operate a wide variety of commercial and government communications equipment. Commercial customers include original equipment and contract manufacturers of electronic and optical components, semiconductors, chipsets, wireless devices and network equipment, as well as network service providers and enterprises that implement, maintain and manage communication networks and services. Other communications customers include defense contractors and sub-contractors. Government customers include departments or ministries of defense, government agencies and related research institutes. Our customers use our solutions to research, design, develop, validate, manufacture, install and securely operate radio frequency, microwave frequency, digital, semiconductor and optical products and systems. These products and systems range from passive components that require basic electrical measurements through complex networks and data centers that require integrated measurement solutions to optimize reliability, performance and security.

No single customer represented 10 percent or more of the group's revenue.

Communications Solutions Group Competition

The market for electronic design and test solutions is highly competitive across our targeted markets. In the commercial communications market, our primary competitors are Rohde & Schwarz GmbH & Co. KG, Anritsu Corporation, Fortive Corporation, Gigamon, National Instruments Corporation, Teledyne Technologies, Teradyne Inc., Spirent Communications plc, and VIAVI Solutions Inc.. In the aerospace, defense and government market, our primary competitors are Rohde & Schwarz GmbH & Co. KG, Teledyne Technologies, Fortive Corporation and VIAVI Solutions Inc.

We offer complete solutions that include a wide range of products, related software and services that compete primarily on the basis of differentiated capability, first-to-market leading-edge technology, product quality and long-term value to our customers.

Electronic Industrial Solutions Group

The Electronic Industrial Solutions Group provides test and measurement solutions and related services across a broad set of electronic industrial end markets, focusing on high-value applications in the automotive and energy industries and measurement solutions for consumer electronics, education, general electronics design and manufacturing, and semiconductor design and manufacturing. The group provides electronic measurement instruments, design and test software and systems and related services used in the simulation, design, validation, manufacturing, installation and optimization of electronic equipment, and automated test software that uses artificial intelligence and machine learning to automate test creation and test execution. This business generated revenue of \$1,418 million in fiscal 2021, \$1,089 million in fiscal 2020 and \$1,135 million in fiscal 2019.

Electronic Industrial Solutions Group Markets

We market our electronic design and test solutions to customers incorporating significant electronic content in their products across a broad set of automotive and energy, general electronics and semiconductor markets. Our customers are electronic component companies, original equipment manufacturers ("OEMs") and contract manufacturers and include their supply chain ecosystem suppliers for printed circuit assemblies, components/ICs, interconnected devices and software applications, including cloud services. These customers design, develop and manufacture a wide range of products, including those produced in high volumes, such as computers, computer peripherals, electronic components, consumer electronics, enterprise servers, storage networks and automotive electronics. Other industrial applications for our electronic industrial solutions include power, energy, automotive, medical, and university research and teaching labs.

Customers use our test solutions in developing, manufacturing and operating a wide variety of electronic components and systems. Customer requirements include testing the electrical parameters of digital, radio frequency, and microwave frequency semiconductors, components and assemblies; testing multiple parameters of the printed circuit boards used in almost every electronic device; testing of the final product; and testing of systems containing multiple electronic devices.

Electronic Industrial Solutions Group Solutions

Our electronic industrial solutions include design and design verification tools, a broad range of electronic test and measurement instruments, comprehensive manufacturing test systems, material analysis and education solutions to teach and train the next generation of engineers and scientists, and solutions to enable scientific discovery in university research labs in a variety of fields.

Design tools include design-for-test software for printed circuit assemblies and automotive radar, and EDA software for the design and simulation of wireless and wired communication links in industrial, automotive and power semiconductor devices.

Design verification tools include physical signal characterization and protocol compliance, notably for those communication links used in industrial, energy and automotive devices and products. Major automotive and battery manufacturers are electrifying transportation and changing how electrical energy is generated, stored and controlled. Examples of verification solutions include those that help design engineers qualify and characterize power semiconductor devices, photo-voltaic/electrical vehicle/storage inverters, AC power analysis, DC battery cells/modules and automotive body/safety/engine electronic modules. High-precision and higher-bandwidth power analysis products address the increased power efficiency required with the proliferation of battery-powered and energy-efficient devices. We also provide the solutions required to test the components in the electrified drive train.

We offer a broad portfolio of general-purpose precision measurement solutions, from handheld test tools to bench measurement instruments and measurement solutions. Many of these products are designed for demanding industrial environments and provide high performance capabilities and include digital multimeters, function generators, frequency counters, data acquisition systems, audio analyzers, LCR meters, thermal imagers, source measure units, ultra-high precision device current analyzers, test executive software platforms and a wide variety of power supplies ranging from bench to highly scalable AC/DC modular supplies and electronically programmable loads. These instruments are increasingly integrated with solution-specific software that enables our customers to dramatically accelerate and improve the effectiveness of their product design, design validation, manufacturing and support activities. Our solutions also support fundamental measurement science for voltage, current, frequency, signal pulse width, sub-nanometer distance and other complex electronic measurements. This enables industry and government customers to measure fundamental electrical parameters.

Comprehensive manufacturing test systems include printed-circuit-board-assembly testers that ensure complex boards and components are assembled properly, integrated circuit parametric testers that ensure semiconductor wafers are processed consistently with high precision, and sub-nano-meter positioning sub-assemblies for semiconductor wafer manufacturing. We provide effective and efficient manufacturing test solutions for complex transportation electronic control/safety systems that include radar, autonomous driving capability, and state-of-the-art wired and wireless components that enable advanced communications capability. Our flexible and scalable manufacturing systems enable our manufacturing customers to deliver outstanding yield, quality and productivity resulting in lower overall cost of test.

Our highly regarded test and measurement products and software have a long history of broad adoption and use in universities and research centers that teach the next generation of engineers and scientists and enable basic research to flourish. Increasing global competition in education is driving the need for efficient and timely education solutions, and we are making those available in areas such as IoT, 5G communications technology and smart devices.

Our market-leading Eggplant test automation software has pioneered the concept of intelligent test automation by integrating AI-powered testing that identifies and builds tests automatically. This has reduced the time-to-market of solutions by

reducing the time taken for test. Our test automation can analyze and control applications and websites through the user interface in the same way a user would interact and this has extended Keysight's capabilities into the application layer and user experience. Our solutions are agnostic across devices and software platforms and are widely used across various industries, including aerospace and defense, healthcare, automotive, networking, retail, e-commerce and the financial sector.

Electronic Industrial Solutions Group Customers

Our electronic industrial products and services customers include semiconductor and component manufacturers, OEMS and contract manufactures in the automotive, semiconductor and general electronics industry. Our customers use our solutions to perform R&D and to design, manufacture and support their products and services. Customer products include electronic modules and systems that go into a wide range of electronic industrial products, such as electric/autonomous vehicles, connected consumer and industrial devices, digital healthcare devices in the IoT domain, semiconductor equipment and devices, and printed circuit assemblies. Our customers range from the largest multi-national global companies to the smallest start-ups and include universities and government agencies around the world. Our automotive customers use Keysight's solutions to develop, test and manufacture the electrified drive train, battery management systems, e-mobility and advanced vehicle-to-everything ("V2X") communications that will enable electric and hybrid-electric vehicles to be fully autonomous.

In order to address the growing needs of customers involved in the design and development of the latest automotive electronic technologies, we also operate four automotive application centers in Boeblingen, Germany; Michigan, United States; Shanghai, China; and Nagoya, Japan. These centers enable us to collaborate with and serve customers on a local basis and in close proximity to the world's major automotive development ecosystems. They include electronic test and measurement labs, technical experts, and state-of-the-art design and test software and hardware, as well as a customer training facility for hands-on workshops and seminars. These centers address the next-generation technology needs of our automotive industry customers, including OEMs, electronic components suppliers, semiconductor chipset manufacturers, battery and charging infrastructure providers and compliance labs, where we provide solutions across the entire ecosystem for the connected "smart" vehicle.

No single customer represented 10 percent or more of the group's revenue.

Electronic Industrial Solutions Group Competition

The market for electronic industrial design and test solutions is highly competitive across our targeted markets. In the electronic industrial test market, our primary competitors are Fortive Corporation, National Instruments Corporation and Rohde & Schwarz GmbH & Co..

Our electronic industrial design and test solutions offer a wide range of products and related software and compete primarily on the basis of differentiated capability, first-to-market leading edge technology, product quality and long-term value to our customers.

The following discussions of Research and Development, Services, Sales, Manufacturing, Marketing, Human Capital, Backlog, Intellectual Property, Materials, Government Regulations and Acquisition of Material Assets include information common to each of our businesses.

Research and Development

We are committed to investing in R&D and have focused our development efforts on key strategic opportunities in order to align our business with available markets and position the company for growth. Our R&D efforts focus on development of first-to-market solutions with differentiated technology to support new software and hardware product introductions and improvements to existing software and hardware products to provide complete customer solutions aligned to the ever-evolving requirements of industries that we serve. We conduct R&D in four principal areas: enabling technologies, system design, simulation and measurement. Our R&D seeks to improve on various technical competencies in software and hardware systems, electronics and solution delivery. R&D investments are focused on delivering technology and first-to-market solutions, as well as building a strong foundation for future solutions over a longer time horizon. Our significant technology development centers are in California, Colorado and Georgia in the United States and in Romania, Malaysia, India, China, Spain, Germany and Japan. We anticipate that we will continue to have significant R&D expenditures in order to maintain our competitive position with a continuous flow of innovative, high-quality software, customer solutions, products and services.

Services Solutions

Our services solutions include product support services, technical support and training and consulting. Customer demand is fulfilled by trained engineers and technicians through regional support and service centers located near customers or through on-site teams. Our global presence with localized service proximity is an important factor in sustaining our customers'

solutions, uptime and utilization requirements. We also provide industry-specific services to deliver complete Keysight solutions and help customers reduce their total cost of ownership for their design and test equipment. Our services solutions include the following general types of services:

- *Product support services.* Comprehensive support that includes repair, parts, and accredited calibrations of Keysight products and solutions.
- *Technical support for software and hardware.* Customer support for the usage and utilization of our products.
- *Professional services.* Installation, training and engineering services to optimize equipment adoption, utilization, and design of test processes.

Sales

Our direct sales force focuses on addressing the needs of our global and regional customers by selling Keysight products, systems, solutions and services. Keysight's direct sales force consists of sales and application engineers who have in-depth knowledge of the customers' business and technology needs. Our direct sellers concentrate on providing more complex, end-to-end solutions where customers require strategic consultation. Our application engineers bring deep solution and application expertise to provide a combination of consulting, systems integration and software engineering services that span all stages of the sale, deployment and support of our complex systems and solutions. Our direct sales organizations serve customers globally across the commercial communications, aerospace, defense and government, automotive and energy, semiconductor, general electronics, network test and network visibility markets.

To complement our direct sales force, we have an extensive network of channel partners around the world. These channel partners include resellers, manufacturer's representatives and distributors. They serve thousands of customers across a wide range of end-user markets. They are expected to provide the same level of service and support as our direct sales force for the products they sell and generate new sales opportunities to extend our reach. Electronic commerce and tele-sales channels are also in place for transactional, lower-touch sales.

For certain verticals such as network monitoring and performance management, our go-to-market solution strategy is based on strategic relationships with technical partners to provide the customer with a complete solution. In these cases, we work with technical partners in two main ways: (i) through customer referrals and recommendations and (ii) through automation integration/interoperability that provides a differentiated solution for our customers.

Manufacturing

To maximize our productivity and our ability to respond to market conditions, we have significant in-house manufacturing capabilities that are supplemented by contract manufacturers. Our in-house manufacturing efforts are focused on the highest value added, more complex and highly technical aspects of production, and we use contract manufacturers for assembly, printed circuit board production, metal die-casting and plastic moulding. We have manufacturing centralized in Penang, Malaysia, our largest manufacturing facility, which focuses on the final assembly of our most sophisticated instruments and on final tuning, calibration and test of instruments across the broader portfolio. Our other principal manufacturing facilities are in California and Colorado in the United States, and outside of the United States in Germany and Japan.

We also operate three technology centers located in Santa Rosa, California; Colorado Springs, Colorado; and Boeblingen, Germany that collectively provide key components and sub-systems for our instruments, including microwave monolithic integrated circuits, thick and thin film circuits, optical components, high-speed probes and precision machining. Our technology centers provide a competitive advantage by developing and manufacturing differentiated technology components with performance levels that are not available commercially. We generally manufacture products after we have received firm orders for delivery.

Marketing

Keysight Global Marketing positions the company brand and drives growth through programs to increase awareness, reputation, and demand for Keysight's software-centric test and measurement solutions in the industries we serve. We take a multi-pronged approach to building brand equity, including articulating a strong brand purpose, establishing our presence in key markets, deploying behavior-based and geo-targeting advertising to increase online reach, and maintaining leadership in worldwide earned media mentions. We support growth initiatives through high-value content, industry events and local market activities, and implement digital programs to attract new accounts. In response to the Covid-19 pandemic, we emphasized virtual events that enabled customers to remotely innovate and learn. We continue to expand Keysight University, an online learning platform for engineers, with courses for every career level, and have launched a Virtual Solutions Center to showcase

solution use cases. At our premium Keysight World virtual events, we bring together customers, industry thought leaders, academics and Keysight experts to share the applications and benefits of breakthrough technologies. We continuously adopt leading-edge marketing practices, technology, and data-driven investments to stay at the forefront of the industry and maximize marketing ROI for Keysight.

Human Capital

We have a diverse, inclusive and respectful work environment, where employees are offered challenging assignments, development opportunities, competitive salaries and a safe workplace. As of October 31, 2021, we had approximately 14,300 employees worldwide representing more than 80 self-identified nationalities working across approximately 30 countries. Of those employees, 5,200 are located in North America, including 5,000 in the U.S., 2,700 are located in Europe and 6,400 are located in Asia.

Culture, Values and Standards

Our core values and culture reflect a commitment to ethical business practices and outstanding corporate citizenship. We adhere to the tenets of the United Nations Guiding Principles on Business and Human Rights, and core International Labor Organization conventions, and we are an affiliate member of the Responsible Business Alliance. We comply with the labor and employment laws of all countries in which we operate, prioritizing fair employment practices, labor compliance, nondiscrimination and equal employment opportunity. Our KLM is the framework for how we do business, enabling us to execute on our strategies with our customers, stockholders and employees while demonstrating our values of Speed and Courage, Uncompromising Integrity, High Performance, Social Responsibility and One Keysight.

We believe our culture fosters employee inclusion, engagement and innovation, which we believe is a competitive advantage. We are committed to maintaining a work environment founded on respect for all in the workplace regardless of race, color, age, gender, sexual orientation, gender identity and expression, ethnicity, religion, disability, veteran status, national origin, or any protected class. Our Keysight Standards of Business Conduct ("SBC") govern our dealings with our customers, competitors, suppliers, third-party partners, as well as with our fellow employees, and is available for review on our website. Our employees are responsible for upholding the SBC, and SBC training is required annually for all our employees.

Governance and Oversight

The Chief People and Administrative Officer ("CAO") is responsible for developing and executing the company's human capital strategy. This includes directing Keysight's global policies and programs for leadership and talent development, compensation, benefits, staffing and workforce planning, human resources systems, education and organization development, workplace strategies, and ensuring effective and efficient internal company operations. The CAO is responsible for developing and integrating the company's diversity, equity and inclusion priorities and strategy.

The Chief Executive Officer ("CEO") and CAO regularly update our board of directors and the Compensation and Human Capital Committee (the "Committee") on human capital matters. In addition, in this past year the board of directors changed the name of the Committee from the Compensation Committee to the Compensation and Human Capital Committee and revised the Committee Charter to reflect the Committee's increased oversight responsibility for Human Capital management.

Hiring, Retention and Succession Planning

As an engineering company, we understand that Science, Technology, Engineering and Math ("STEM") education is critical to creating a pipeline of future engineers. We support STEM education through a variety of company-sponsored and employee-led programs, such as "Introduce a Girl to Engineering" and "Expand Your Horizons," which introduce school-age students to engineering.

Our talent acquisition and Human Resources teams work with business leaders to understand and align on business goals and strategies and how they impact our talent needs. The teams use this information to inform recruiting efforts and to build talent pipelines to support growth. In partnership with the marketing team, we have built a strong company brand utilizing multiple communication platforms, social media, and online job boards to highlight Keysight culture, our achievements, business and overall mission, all to better enable us to attract top talent.

We are continuously refining and expanding our talent acquisition strategies and processes, from interviewing to onboarding. As part of our talent acquisition strategy, we provide training to recruiters and hiring managers to assist them in recruiting and hiring top talent. "Developing Job Descriptions & Marketing Job Openings Inclusively" and "SELECT – The Neuroscience of Better Hiring" are two examples of courses available to recruiters and hiring managers. Through our global end-to-end onboarding project, we have created a smooth and simple onboarding experience for our new hires. We had a global

job acceptance rate of 86.3 percent in fiscal year 2021. The number of software engineers in our R&D function have more than doubled since we became an independent company.

On at least an annual basis, our business leaders are required to evaluate employee contributions to the company and to identify key contributors, as well as those in need of improvement. Our annual rewards process provides each employee with feedback on their performance over the past fiscal year and rewards achievement. Working with Human Resources, business leaders develop retention strategies and initiatives to keep critical talent focused and engaged and to minimize attrition. Our business leaders re-allocate resources where needed to balance attrition, retirements and the need to source new capabilities. The average tenure of our employees is 12.7 years. Our three-year average employee turnover rate was approximately 6.2 percent and has been lower than the industry average for the past five years.

Through succession planning and leadership development, we are developing our leadership bench. We have identified core competencies for our leadership positions along with a learning and development framework that can help leaders refine those skills. The executive team is actively involved creating, reviewing and revising succession plans. Succession planning sessions are conducted annually in each business and at many levels in the organization. These reviews provide visibility to the overall leadership bench, potential gaps, top talent and development plans.

Globally, 4 percent of our employee population is eligible to retire. In the U.S. and Japan, employees eligible to retire are 27.1 percent and 15.7 percent, respectively. We recognize that many of these employees have valuable skills and historical information and that knowledge transfer is critical. As part of our knowledge transfer practices, we utilize a combination of work shadowing, paired work, coaching, documenting workflows, and cross-training. In the U.S., we have a program specifically designed to enable retirement-ready critical talent to gradually reduce hours, giving us time to transfer critical information and processes. Once retired, these former employees are given the opportunity to consult with us on a limited basis to provide on-going mentoring and training.

Diversity and Equal Employment Policy

We are an equal opportunity employer, and we are committed to maintaining a diverse and inclusive work environment that is free from harassment and discrimination. Our commitment to diversity, equity and inclusion helps us attract and retain the best talent and drives high performance through innovation and collaboration. Diversity is a competitive advantage, and we strive to maintain a best-in-class work environment that fosters respect for individuals, their ideas and contributions. We benefit from the innovation that results when people with differing experiences, perspectives and cultures work together.

Diversity, equity and inclusion are among our CEO's top priorities. In addition to our broader diversity, equity and inclusion initiatives, we set near-term objectives to increase representation of under-represented minorities. We have a Senior Director of Diversity and Inclusion who is responsible for driving implementation of new and ongoing initiatives to continue to foster a diverse and inclusive environment.

Our staffing policies underscore our commitment to diversity, ethics, integrity and compliance. In order to increase the pool of diverse candidates for open positions, we participate in diversity-focused career fairs and conferences in the U.S., Asia and Europe. We identify diversity recruiting business champions to develop business-specific talent acquisition plans, and we have partnerships with universities worldwide that are aligned with our strategic talent needs, including Historically Black Colleges and Universities ("HBCU") in the United States.

We seek to create an environment where employees can be successful and provide mentoring programs, inclusive benefits, support for employee network groups, and training for every stage of employment.

As of October 31, 2021, women represented 30.3 percent of our global workforce, and underrepresented minorities represented 35.5 percent of the U.S. workforce. The percentage of women in leadership positions (Officer, Senior Vice President, Vice President, Senior Manager, Integrating Manager, Operating Manager and Supervisor) globally was 23.4 and the percentage of underrepresented minorities was 31.4. At the senior executive level (Officer, Senior Vice President, Vice President), 18.2 percent were women and 21.6 percent were underrepresented minorities. Our Board has ten members, three of whom are women, and one is a self-identified underrepresented minority.

In the U.S., we are seeking to expand our Asian, Black/African American, Hispanic/Latinx, Native American and Pacific Islander representation in our workforce. We established annual hiring goals to improve our workforce diversity. In fiscal year 2021, 34.4 percent of our global external new hires were women, falling short of our fiscal year 2021 goal of 35 percent. In fiscal year 2021, 46.4 percent of external new hires in the U.S. were underrepresented minorities, exceeding our goal of 45 percent. Our fiscal year 2022 hiring goal is intended to show improvement, with an increase to 35.4 percent global external new hires being women and 47.4 percent of external new hires in the U.S. being underrepresented minorities. A metric in our short-term executive compensation program for fiscal year 2022 is tied to the achievement of these goals. To measure achievement of

this goal, we are using the California Assembly Bill 979 definition of underrepresented minorities, which includes Black, African American, Hispanic, Latino, Asian, Pacific Islander, Native American, Native Hawaiian, Alaska Native, or gay, lesbian, bisexual or transgender.

Learning and Development

We believe that learning is a lifelong pursuit that creates a mindset of professional growth and continuous improvement. We emphasize on-the-job learning through stretch assignments and development opportunities as well as education. Our employees have access to a wide range of programs, workshops, classes and resources to help them excel in their careers and share what they know with others. Our Keysight University platform offers training and development programs, as well as learning resources. Our Employee Educational Assistance Program provides financial and management support to eligible employees, allowing them to pursue academic degrees related to their field of work. Employees are eligible for tuition reimbursement programs and distance learning degree programs with major universities.

Many of our employees are required to take annual training courses related to their work, including those pertaining to the environment, data privacy, and workplace health and safety. We also have leadership development programs available to employees, including the New Manager Training Program, Manager's Boot Camp, and Executive Online Development Program.

We hold an annual Keysight Executive Development ("KED") program with senior leaders to align on strategy and key focus areas for the company. Portions of these recorded sessions are then cascaded down to all Keysight employees. Our KLM was rolled out during a KED program, and subsequently over 11,500 Keysight employees have completed customized KLM training.

In addition, we expect all of our managers to complete the Yale University Fostering Inclusion & Diversity program by the end of fiscal year 2022.

Compensation and Benefits

We compensate employees with competitive wages and benefit programs designed to meet employee needs. Our compensation and benefit programs are designed to recognize our employees' contributions to value creation and business results. These programs include competitive base salaries and variable pay, which reward company and individual performance; share-based equity award grants; health and welfare benefits; time-off; development programs and training; and opportunities to give back to our communities through donations of time and money. We seek to ensure pay parity across our organization. In 2021 we achieved a worldwide male to female salary ratio of nearly 1:1. We monitor our benefits programs to ensure they meet the health and welfare needs of our employees.

Listening to Employees

We provide multiple avenues for employee input. Our Open-Door Policy provides employees with direct access to any level of management to discuss ideas, get input on career development and discuss concerns in a constructive manner. The MyVoice program fosters inclusion through engagement surveys on a variety of topics that give us insight on what employees value and helps us identify where to prioritize our efforts. We also created a global Inclusion Council comprised of employees from all functions and across the globe to help formulate our goals and track our progress.

Health, Safety and Wellness

We strive to maintain a best-in-class work environment and provide a safe and healthy workplace for all employees. We accomplish this through strict compliance with applicable laws and regulations regarding workplace safety, including recognition and control of workplace hazards, tracking injury and illness rates, utilizing a global travel health program, and maintaining robust emergency and disaster recovery plans. We promote the health and wellness of our employees through our Employee Well Being programs and workplace accessibility and accommodations.

Throughout the COVID-19 pandemic, we operated in accordance with three guiding principles – keep employees and their families safe and healthy, keep Keysight strong for our employees and customers, and help our communities. Our actions in response to the pandemic have been guided by these priorities. As we were making plans to return employees to our facilities, the prevalence of the Delta variant resulted in a delay of those plans. Most recently, in accordance with a Presidential mandate for federal contractors, we instituted a vaccine mandate for all U.S. employees unless they have approved medical or religious accommodations.

Backlog

Backlog represents the amount of revenue expected from orders that have already been booked, including orders for goods and services that have not been delivered to customers, orders invoiced but not yet recognized as revenue, and orders for goods that were shipped but not invoiced, awaiting acceptance by customers and/or completion of a commitment to a customer. At October 31, 2021, our unfilled backlog was approximately \$2,115 million as compared to approximately \$1,709 million at October 31, 2020, primarily driven by strong order growth and an increase in solutions sales with a longer order-to-revenue cycle. We expect the majority of unfilled backlog to be recognized as revenue within six months. While backlog on any particular date can be an indicator of short-term revenue performance, it is not necessarily a reliable indicator of medium or long-term revenue performance.

Intellectual Property

We generate patent and other intellectual property rights covering significant inventions and other innovations in order to create a competitive advantage. Although we believe that our licenses, patents and other intellectual property rights have value, in general no single license, patent or other intellectual property right is in itself material, other than the Keysight mark.

Materials

Our manufacturing operations employ a wide variety of semiconductors, electromechanical components and assemblies and raw materials, such as plastic resins and sheet metal. We purchase materials from thousands of suppliers on a global basis. Some of the parts that require custom design work are not readily available from alternate suppliers due to their unique design or the length of time necessary for design work. Our long-term relationships with suppliers allow us to proactively manage technology road maps and product discontinuance plans and monitor their financial health. To address the potential disruption in, and other risks related to, our supply chain, we use a number of techniques, including qualifying multiple sources of supply and redesign of solutions for alternative components. In addition, while we generally attempt to keep our inventory at optimal levels, we do purchase incremental inventory as circumstances warrant to protect the supply chain. With the global shortages and increased lead-times for commodities such as semiconductors and passive components, we have placed orders in advance for assurance of supply. For a further discussion of risks related to the materials and components required for our operations, please refer to “Item 1A. Risk Factors.”

Government Regulations

Our company is subject to various federal, state, local and international laws and regulations relating to the development, manufacture, sale and distribution of our products and solutions, and it is our policy to comply with the laws in every jurisdiction in which we conduct business. Regulations include but are not limited to those related to environment, corruption, bribery, import and export controls, competition, product safety, workplace health and safety, employment, labor and data privacy. The following describes certain significant regulations that may impact our business. For additional information about the risks related to government regulations, please refer to “Item 1A. Risk Factors.”

Environmental Regulations

Our R&D, manufacturing and distribution operations involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health and safety and the environment. We apply strict standards for protection of the environment and occupational health and safety to sites inside and outside the United States, even if not subject to regulation imposed by foreign governments. We believe that our properties and operations at our facilities comply in all material respects with applicable environmental laws and occupational health and safety laws. However, the risk of environmental liabilities cannot be completely eliminated, and there can be no assurance that the application of environmental and health and safety laws will not require us to incur significant expenditures. We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements. The environmental, product content/disposal and recycling laws are gradually becoming more stringent and may cause us to incur additional costs in the future.

Some of our properties are undergoing remediation by HP Inc. ("HP") for subsurface contamination that was known at the time of Agilent's separation from HP in 1999. In connection with Agilent's separation from HP, HP and Agilent entered into an agreement pursuant to which HP agreed to retain the liability for this subsurface contamination, perform the required remediation and indemnify Agilent with respect to claims arising out of that contamination. Agilent has assigned its rights and obligations under this agreement to Keysight in respect of facilities transferred to Keysight in our separation from Agilent on November 1, 2014 (the "Separation"). As a result, HP has access to a limited number of our properties to perform remediation. Although HP agreed to minimize interference with on-site operations at such properties, remediation activities and subsurface contamination may require us to incur unreimbursed costs and could harm on-site operations and the future use and value of the

properties. In connection with the Separation, Agilent will indemnify us directly for any liabilities related thereto. We cannot be sure that HP will continue to fulfill its remediation obligations or that Agilent will continue to fulfill its indemnification obligations.

In connection with the Separation, Agilent also agreed to indemnify us for any liability associated with contamination from past operations at all properties transferred from Agilent to us. We cannot be sure that Agilent will fulfill its indemnification obligations.

We maintain a comprehensive environmental site liability insurance policy that may cover certain clean-up costs or legal claims related to environmental contamination. This policy covers specified active, inactive and divested locations.

Import/Export Regulations

We sell products and solutions to customers all over the world and are required to comply with the U.S. Export Administration Regulations and economic and trade sanctions programs limiting or banning sales into certain countries. Countries outside of the U.S. have implemented similar controls and sanction regulations. Together these controls and regulations may impose licensing requirements on exports of certain technology and software from the U.S. and may impact our ability to transact business in certain countries or with certain customers. We have developed compliance programs and training to prevent violations of these programs and regulations, and we regularly monitor changes in the law and regulations.

On August 3, 2021, we entered into a Consent Agreement with the Directorate of Defense Trade Controls, Bureau of Political-Military Affairs, Department of State to resolve alleged violations of the Arms Export Control Act and the International Traffic in Arms Regulations ("ITAR"). Pursuant to the Consent Agreement, we will pay a penalty of \$6.6 million, \$2.5 million of which is suspended, over three years, and we have engaged a special compliance officer for three years. The suspended portion of the penalty will be reduced by amounts we spend on qualifying compliance activities during the three year period. Working with the special compliance officer, we will continue to develop and refine ITAR-related compliance and training programs to prevent future violations of these regulations. Changes in the law may restrict or further restrict our ability to sell certain products and solutions and may require us to develop additional compliance programs and training.

Anti-Corruption Regulations

Because we have extensive international operations, we must comply with complex foreign and U.S. laws and regulations, such as the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and other local laws prohibiting corrupt payments to governmental officials, and anti-competition regulations. We have compliance policies, programs and training to prevent non-compliance with such anti-corruption regulations in the U.S. and outside of the U.S. We monitor pending and proposed legislation and regulatory changes that may impact our business and develop strategies to address the changes and incorporate them into existing compliance programs.

Data Privacy Regulations

With extensive operations all over the world, we must comply with complex regulations governing data privacy, including the General Data Protection Regulation ("GDPR") in the European Union and data privacy regulations in other jurisdictions. These regulations require careful handling of internal data. We have internal data handling policies and practices to comply with global data privacy requirements, including GDPR and similar regulations and devote resources to keep up with changing data privacy regulations. The risk of data privacy breaches cannot be entirely eliminated, creating risk of fines and penalties. Additionally, new laws, amendments, or interpretations of regulations, industry standards, and contractual obligations relating to data privacy may require us to incur additional costs related to compliance and may restrict our business operations.

Health and Safety Regulations

We are subject to and comply with health and safety laws and regulations in jurisdictions in which we operate. These regulations may differ by country, requiring us to keep track of varied and complex requirements. In the U.S. we are subject to federal and state Occupational Health and Safety laws as well as federal, state and local requirements, including specifically Executive Order 14042 (the "Order"), Ensuring Adequate Safety Protocols for Federal Contractors, which requires all U.S. employees of federal contractors to be vaccinated against COVID-19 unless they have an approved religious or medical accommodation. We have put policies and practices in place and are devoting resources to comply with the Order, which could result in loss of key personnel. Similar mandates have been issued in countries outside of the U.S. Health and safety laws, regulations and orders, including the Order, and are subject to change over time and will require monitoring and may cause us to incur additional costs related to compliance.

Executive Officers of the Registrant

The following is information regarding our executive officers as of December 1, 2020.

Ronald S. Nersesian, 62, has served as President and Chief Executive Officer of Keysight since December 2013. From September 2013 to December 2013, he served as Executive Vice President of Agilent. Mr. Nersesian served as President of Agilent from November 2012 to September 2013 and as Chief Operating Officer, Agilent from November 2011 to September 2013. From November 2011 to November 2012, Mr. Nersesian served as Agilent's Executive Vice President and Chief Operating Officer. Mr. Nersesian has served as a Director on our board of directors since the December 2013, and as Chairman of our board of directors since November 2019.

Satish Dhanasekaran, 49, has served as Senior Vice President and Chief Operating Officer since October 2020. He was Senior Vice President and President of the Communications Solutions Group from July 2017 to September 2020. From May 2016 to July 2017, Mr. Dhanasekaran served as Keysight's Vice President and General Manager, Wireless Devices and Operators Business Unit. From June 2015 to May 2016, Mr. Dhanasekaran served as the General Manager of the Mobile Broadband Operation, and from November 2014 through June 2015, he led the marketing function for the Signal Analysis and Signal Sources Division.

Neil Dougherty, 52, has served as Senior Vice President and Chief Financial Officer of Keysight since December 2013. From 2012 to December 2013, Mr. Dougherty served as Vice President and Treasurer of Agilent. He served as Senior Director in Agilent's Corporate Development Group from 2010 to 2012, and from 2006 to 2010, he served as Agilent's Assistant Treasurer.

Jay Alexander, 58, has served as Senior Vice President and Chief Technology Officer of Keysight since May 2014. From November 2013 to May 2014, Mr. Alexander served as Vice President and General Manager, Oscilloscope and Protocol Division. From October 2009 to November 2013, he served as Vice President and General Manager for the Oscilloscope and Protocol Division of Agilent.

Huei Sin Ee, 55, has served as Keysight's Senior Vice President and President of the Electronic Industrial Solutions Group since October 2020. Previously, she was Vice President and General Manager of Keysight's General Electronics Measurement Solutions from November 2015 to September 2020. Ms. Ee concurrently served as Vice President of Keysight Education from September 2018 to September 2020. From June 2013 to October 2015, Ms. Ee was the Vice President and General Manager of Keysight's General-Purpose Electronic Measurement Division. Ms. Ee served as Vice President and General Manager of Agilent's Basic Instruments Division from February 2005 to May 2013.

Ingrid Estrada, 57, has served as Senior Vice President, Chief People and Administrative Officer and Chief of Staff since August 2017. Previously, she served as Keysight's Senior Vice President, Human Resources from December 2013 until August 2017. From 2011 until December 2013, she served as Vice President and General Manager of Global Sourcing of Agilent from 2011.

Soon Chai Gooi, 60, has served as Senior Vice President, Order Fulfillment and Information Technology since October 2020 and as Senior Vice President and President of the Electronic Industrial Solutions Group since November 2015. From December 2013 to November 2015, Mr. Gooi served as Senior Vice President of Order Fulfillment and Infrastructure for Keysight. Mr. Gooi served as President, from November 2012 to September 2013, and as Senior Vice President, from December 2011 to November 2012, of Agilent's Order Fulfillment and Supply Chain.

Jeffrey Li, 52, has served as Senior Vice President, General Counsel, and Secretary since July 2019. From December 2013 through July 2019, Mr. Li served as Vice President, Assistant General Counsel, and Assistant Secretary of Keysight, and as Senior Counsel of Agilent from 2011 to December 2013.

Kailash Narayanan, 48, has served as Keysight's Senior Vice President and President of the Communications Solutions Group since November 2021. From November 2020 until November 2021, Mr. Narayanan served as President of the Commercial Communications business. He served as Vice President and General Manager, Wireless Test Business Unit, from September 2017 until November 2020, and was Vice President and General Manager, Wireless Devices from May 2016 until September 2017. From November 2014 until May 2016, Mr. Narayanan served as R&D Senior Manager of Keysight's Mobile Broadband business.

John Page, 57, has served as Senior Vice President and President of Global Services since November 2015 and most recently served as Vice President of business finance of Keysight from February 2014 to November 2015. Prior to joining Keysight, Mr. Page served as the Chief Financial Officer of Nanosys, Inc. from 2010 to 2014.

John Skinner, 59, has served as Vice President, Corporate Controller and Principal Accounting Officer of Keysight since December 2013. Prior to that, Mr. Skinner served as Vice President, Agilent and Controller of Global Infrastructure and Enterprise Financial Planning and Analysis from April 2012 to December 2013.

Mark Wallace, 56, has served as Senior Vice President of Worldwide Sales since November 2016. From November 2014 to November 2016, Mr. Wallace served as Vice President and General Manager of Americas Field Operations. From November 2011 to November 2014, he served as Americas Field Operations Vice President of Agilent's Electronic Measurement Group.

Investor Information

We are subject to the informational requirements of the Securities Exchange Act of 1934 ("Exchange Act"). Therefore, we file periodic reports, proxy statements and other information with the Securities and Exchange Commission ("SEC"). The SEC maintains an internet site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers.

You can access financial and other information at our Investor Relations website at www.investor.keysight.com. We make available, free of charge, printed copies of our annual report on Form 10-K, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the SEC.

Our Corporate Governance Guidelines, the charters of our Audit and Finance Committee, Compensation and Human Capital Committee, Nominating and Corporate Governance Committee, Executive Committee as well as our SBC and Corporate Social Responsibilities reports are available on our website at www.investor.keysight.com under "Corporate Governance." These items are also available in print to any stockholder in the United States and Canada who requests them by calling (800) 829-4444. This information is also available by writing to the company at the address on the cover of this Annual Report on Form 10-K.

Item 1A. Risk Factors

Risks, Uncertainties and Other Factors That May Affect Future Results

Risks Related to Our Business

Global health crises, such as the COVID-19 pandemic, have had an impact on our supply chain and could have a material impact on our global operations, our customers and vendors, which could adversely impact our business results and financial condition.

In March 2020, the World Health Organization declared COVID-19 a global pandemic. In response to the rapid global spread of the virus, national, state, and local governments issued orders and recommendations to attempt to reduce spread of the disease. To protect the health and safety of our employees, we temporarily closed our facilities globally and asked employees who can work from home to do so for the foreseeable future. Employees who were not able to work effectively from home were brought back to work at our sites with strict safety protocols in place, which are in compliance with local regulations, recommendations from our medical director and guidance from the Centers for Disease Control and the World Health Organization. Fluctuation in infection rates have continued and the appearance of new and more easily transmitted variants of COVID-19, such as the Delta variant, have resulted in periodic changes in restrictions that vary from region to region and require vigilant attention and rapid response. Plans to return all employees to Keysight facilities at pre-COVID-19 levels were temporarily delayed by the emergence of the Delta variant.

The uncertain duration and severity of the pandemic caused by COVID-19 and its variants, as well as continued periodic spikes in infection rates, local outbreaks of the virus and its variants or potential outbreaks on our sites or supplier, customer or vendor sites, in spite of safety measures or vaccinations, where available, could cause disruptions to our operations or those of our suppliers, customers or vendors. Outbreaks causing renewed implementation or extension of existing government orders or new orders or mandates, such as government-imposed vaccine mandates, could also impact the availability of our employees or other workers or could lead to attrition of key employees, which could further impact our ability to manufacture, ship or deliver products and solutions to customers. As new variants of the virus appear, especially variants that are more easily spread, cause more serious outcomes, or are resistant to existing vaccines, new health orders and safety protocols could further impact our on-site operations and our ability to collaborate globally with customers, suppliers, and internal colleagues.

The pandemic has led to global supply chain challenges, which have adversely impacted our ability to procure certain components and could impact our ability manufacture products and cause delays in delivery of our solutions to our customers. Global shifts in customer demand and raw material supply due to COVID-19 could result in delayed or canceled orders and our customers' reduced spending, reduced demand for products and solutions, and their inability to pay for products and solutions.

These factors could materially and negatively impact our business results, operations, revenue, growth and overall financial condition.

Uncertainty in general economic conditions may adversely affect our operating results and financial condition.

Our business is sensitive to negative changes in general economic conditions, both inside and outside the United States. Global and regional economic uncertainty, recession, or depression may impact our business, resulting in:

- reduced demand for our solutions, delays in the shipment of orders or increases in order cancellations;
- increased risk of excess and obsolete inventory;
- increased price pressure for our solutions and services; and
- greater risk of impairment to the value, and a detriment to the liquidity, of our future investment portfolio.

In addition, global and regional macroeconomic developments, such as increased unemployment, decreased income, uncertainty related to future economic activity, reduced access to credit, volatility in capital markets, decreased liquidity, uncertain or destabilizing national election results in the U.S., Europe, and Asia, and negative changes or volatility in general economic conditions in the U.S., Europe, and Asia could negatively affect our ability to conduct business in those territories. Financial difficulties experienced by our suppliers and customers, including distributors, due to economic volatility or negative changes could result in product delays, delays in payment or inability to pay us, and inventory issues. Economic risks related to accounts receivable could result in delays in collection and greater bad debt expense.

Our operating results and financial condition could be harmed if the markets into which we sell our solutions decline or do not grow as anticipated.

Visibility into our markets is limited. Our quarterly sales and operating results are highly dependent on the volume and timing of technology-related spending and orders received during the fiscal quarter, which are difficult to forecast and may be cancelled by our customers. In addition, our revenues and earnings forecasts for future fiscal quarters are often based on the expected seasonality or cyclical nature of our markets. However, due to the uncertainties and volatile economic environment created by the continuing global pandemic, the markets we serve may experience increased volatility and may not experience the seasonality or cyclical nature that we expect. Any decline in our customers' markets would likely result in a reduction in demand for our solutions and services. The current impact of COVID-19 on the supply chain globally could impact our markets and harm our business. Also, if our customers' markets decline, we may not be able to collect on outstanding amounts due to us. Such declines could harm our financial position, results of operations, cash flows and stock price, and could limit our profitability. Also, in such an environment, pricing pressures could intensify. Since a significant portion of our operating expenses is relatively fixed in nature due to sales, R&D and manufacturing costs, if we were unable to respond quickly enough, these pricing pressures could further reduce our operating margins.

Economic and political policies favoring national interests could adversely affect our results of operations.

Nationalistic economic policies and political trends in the United States, the United Kingdom, the European Union, Singapore, Malaysia and China among other countries, such as opposition to globalization and free trade, sanctions or trade restrictions, withdrawal from or re-negotiation of global trade agreements, tax policies that favor domestic industries and interests, the distancing or potential exit of other countries from the European Union, and other similar actions may result in increased transaction costs, reduced ability to hire employees, reduced access to supplies and materials, reduced demand or access to customers in international markets, and inability to conduct our operations as they have been conducted historically. Each of these factors may adversely affect our business.

International trade disputes and increased tariffs between the United States and such jurisdictions could substantially change our expectations and ability to operate in such jurisdictions as we have done historically. Many of our suppliers, vendors, customers, partners, and other entities with whom we do business have strong ties to doing business in China. Their ability to supply materials to us, buy products or services from us, or otherwise work with us is affected by their ability to do business in China. If the U.S.'s relationship with China results in additional trade disputes, trade protection measures, retaliatory actions, tariffs and increased barriers, policies that favor domestic industries, or increased import or export licensing requirements or restrictions, then our deployment of resources in jurisdictions affected by such measures could be misaligned and our operations may be adversely affected due to such changes in the economic and political ecosystem in which our suppliers, vendors, customers, partners, and other entities with whom we do business operate.

A decreased demand for our customers' products or trade restrictions could adversely affect our results of operations.

Our business depends on our customers' ability to manufacture, design, and sell their products in the marketplace. International trade disputes affecting our customers could adversely affect our business. Tariffs on imports to or from China could increase the cost of our customers' components and raw materials, which could make our customers' products and services more expensive and could reduce demand for our customers' products. Protectionist and retaliatory trade measures by either China or the United States could limit our customers' ability to sell their products and services and could reduce demand for our customers' products. Our customers and other entities in our customer chain could decide to take actions in response to international trade disputes that we could not foresee. A decrease in demand or significant change in operations from our customers due to international trade disputes could adversely affect our operating results and financial condition.

In addition to the above, our customers and suppliers could become subject to U.S. export restrictions and sanctions, such as being added to the U.S. Department of Commerce's "Lists of Parties of Concern" and having U.S. export privileges denied or suspended. In the event that a customer or supplier of ours becomes subject to such sanctions, we will suspend our business with such customer or supplier. Because of the continued tense political and economic relationship between the United States and China, new sanctions could be imposed with little notice, which could leave us without an adequate alternative solution to compensate for our inability to continue to do business with such customer or supplier. Some of our suppliers and customers in the supply chain are working on unique solutions and products in the market, and it may be difficult if not impossible to replace them, especially with short notice. We cannot predict what impact future sanctions could have on our customers or suppliers, and therefore, our business. Any export restrictions or sanctions and any tariffs or other trade restriction imposed on our customers or suppliers could adversely affect our financial condition and business.

Economic, political, and other risks associated with international sales and operations could adversely affect our results of operations.

Because we sell our solutions worldwide, our business is subject to risks associated with doing business internationally. We anticipate that revenue from international operations will continue to represent a majority of our total revenue. However, there can be no assurances that our international sales will continue at existing levels or grow in accordance with our effort to

increase foreign market penetration. In addition, many of our employees, contract manufacturers, suppliers, and manufacturing facilities are located outside the United States. Accordingly, our future results could be harmed by a variety of factors, including but not limited to:

- negative impact of a country's response to the global COVID-19 pandemic or an imposed reduction in economic activity and other economic and political measures taken to contain the spread of COVID-19;
- changes in a specific country's or region's political, economic or other conditions, including but not limited to changes that favor national interests and economic volatility;
- negative consequences from changes in tax laws;
- difficulty in protecting intellectual property;
- existing interruptions to transportation flows for delivery of parts to us and finished goods to our customers;
- changes in foreign currency exchange rates;
- difficulty in staffing and managing foreign operations;
- local competition;
- differing labor regulations;
- unexpected changes in regulatory requirements;
- inadequate local infrastructure;
- potential incidences of corruption and fraudulent business practices; and
- volatile geopolitical turmoil, including popular uprisings, regional conflicts, terrorism, and war.

We centralize most of our accounting processes at two locations: India and Malaysia. These processes include general accounting, inventory cost accounting, accounts payable and accounts receivables functions. If conditions change in those countries, it may adversely affect operations, including impairing our ability to pay our suppliers. Our results of operations, as well as our liquidity, may be adversely affected and possible delays may occur in reporting financial results.

Further, even if we are able to successfully manage the risks of international operations, our business may be adversely affected if our business partners are not able to successfully manage similar risks.

Failure to introduce successful new solutions and services in a timely manner to address increased competition, rapid technological changes, and changing industry standards could result in our solutions and services becoming obsolete.

We generally sell our solutions in industries that are characterized by increased competition through frequent new solution and service introductions, rapid technological changes and changing industry standards. In addition, many of the markets in which we operate are seasonal and cyclical. Without the timely introduction of new solutions, services and enhancements, our solutions and services will become technologically obsolete over time, in which case our revenue and operating results would suffer. Our ability to offer new solutions and services and to deploy them in a timely manner depend on several factors, including but not limited to our ability to:

- properly identify customer needs;
- innovate and develop new technologies, services and applications;
- successfully commercialize new technologies in a timely manner;
- manufacture and deliver our solutions in sufficient volumes and on time;
- differentiate our offerings from our competitors' offerings;
- price our solutions competitively;
- anticipate our competitors' development of new solutions, services or technological innovations; and
- control product quality in our manufacturing process.

The continuing COVID-19 global pandemic could impact our ability to execute on these dependencies. It may be difficult to differentiate ourselves from our competitors due to limited travel and access to customers, which could make it difficult to properly assess customer needs, and interruptions in manufacturing and delivery of solutions.

Our future operating results may fluctuate significantly if our investments in innovative technologies are not as profitable as we anticipate.

On a regular basis, we review the existing technologies available in the market and identify strategic new technologies to develop and invest in. We are currently devoting significant resources to new technologies in the communications, automotive, battery, Internet of Things, and mobile industries. We are investing in R&D, developing relationships with customers and suppliers, and re-directing our corporate and operational resources to grow within these innovative technologies. Our income could be harmed if we fail to gain sufficient market share, if demand for our solutions is lower than we expect, or if our income related to the innovative technologies is lower than we anticipate. We provide solutions for the design, development, and manufacturing stages of our customers' workflow. Our customers who currently use our solutions in one stage of their workflow may not use our solutions in other aspects of their manufacturing process.

Failure to adjust our purchases due to changing market conditions or failure to estimate our customers' demand could adversely affect our income.

Our income could be harmed if we are unable to adjust our purchases to market fluctuations, including those caused by the seasonal or cyclical nature of the markets in which we operate. The sale of our solutions and services are dependent, to a large degree, on customers whose industries are subject to seasonal or cyclical trends in the demand for their products. For example, the consumer electronics market is particularly volatile, making demand difficult to anticipate. Making such estimations in the current economic climate affected by the global pandemic is particularly difficult as increased volatility may impact seasonal trends making it more difficult to anticipate demand fluctuations. Additionally, the current disruption to the global supply chain has impacted our ability to purchase supplies and components to meet increasing product demand, which could materially affect our results. We have seen a shortage of parts for some of our products. In addition, some of the parts that require custom design are not readily available from alternate suppliers due to their unique design or the length of time necessary for design work. Should a supplier cease manufacturing such a component, we would be forced to re-engineer our solution. In addition to discontinuing parts, suppliers may also extend lead times, limit supplies or increase prices due to capacity constraints or other factors. The COVID-19 pandemic has further exacerbated these risks as suppliers are impacted by periodic surges in infection rates, possible shutdown orders, new safety restrictions, including government and customer vaccine mandates, and disruptions to the global supply chain. In order to secure components for the production of products, we may continue to enter into non-cancellable purchase commitments with vendors, or at times make advance payments to suppliers, which could impact our ability to adjust our inventory to declining market demands. Prior commitments of this type have resulted in an excess of parts when demand for electronic products has decreased. If demand for our solutions is less than we expect, we may experience additional excess and obsolete inventories and be forced to incur additional charges.

Dependence on contract manufacturing and outsourcing other portions of our supply chain may adversely affect our ability to bring solutions to market and damage our reputation. Dependence on outsourced information technology and other administrative functions may impair our ability to operate effectively.

As part of our efforts to streamline operations and to cut costs, we outsource aspects of our manufacturing processes and other functions and continue to evaluate additional outsourcing. If our contract manufacturers or other outsourcers fail to perform their obligations in a timely manner or at satisfactory quality levels, our ability to bring solutions to market and our reputation could suffer. For example, during a market upturn, our contract manufacturers may be unable to meet our demand requirements, which may preclude us from fulfilling our customers' orders on a timely basis. The ability of these manufacturers to perform is largely outside of our control. Additionally, changing or replacing our contract manufacturers or other outsourced vendors could cause disruptions or delays. In addition, we outsource significant portions of our information technology ("IT") and other administrative functions. Since IT is critical to our operations, any failure of our IT providers to perform could impair our ability to operate effectively. In addition to the risks outlined above, problems with manufacturing or IT outsourcing could result in lower revenues and unrealized efficiencies and could impact our results of operations and stock price. Much of our outsourcing takes place in developing countries and, as a result, may be subject to geopolitical uncertainty.

Our operating results may suffer if our manufacturing capacity does not match the demand for our solutions.

Because we cannot immediately adapt our production capacity and related cost structures to rapidly changing market conditions, when demand is lower than our expectations, our manufacturing capacity will likely exceed our production requirements. During a general market upturn or an upturn in our business, if we cannot increase our manufacturing capacity to meet product demand, we will not be able to fulfill orders in a timely manner, which could lead to order cancellations, contract breaches or indemnification obligations. This inability could materially and adversely limit our ability to improve our income, margin and operating results. By contrast, if, during an economic downturn, we had excess manufacturing capacity, then our fixed costs associated with excess manufacturing capacity would adversely affect our income, margins and operating results.

Key customers or large orders may expose us to additional business and legal risks that could have a material adverse impact on our operating results and financial condition.

As a global company, we have key customers all over the world, although no one customer makes up more than 10 percent of our revenue. Sales to those customers could be reduced or eliminated as a result of failure to respond to customer needs, reduced customer demand, increased sales to our competitors, inability to manufacture or ship products and solutions, supply chain constraints, trade restrictions, sanctions and embargoes. We have experienced forced reductions in sales and been prevented from selling large orders to certain key customers due to trade restrictions, which we have been able to mitigate with the addition of new customers and new business. If we have future reductions in sales or lose key customers, there is no guarantee that we will be able to mitigate the impact of such reductions or losses, which could negatively impact our income, operating results and financial condition.

Certain key customers have substantial purchasing power and leverage in negotiating contractual arrangements with us. These customers may demand contract terms that differ considerably from our standard terms and conditions. Large orders may also include severe contractual liabilities if we fail to provide the quantity and quality of product at the required delivery times or fail to meet other obligations. While we attempt to contractually limit our potential liability, we may agree to some or all of these provisions to secure these orders and grow our business. Such actions expose us to significant additional risks, which could result in a material adverse impact on our operating results and financial condition.

Industry consolidation and consolidation among our customer base may lead to increased competition and may harm our operating results.

There is potential for industry consolidation in our markets. As companies attempt to strengthen or hold their market positions in an evolving industry, companies could be acquired or may be unable to continue operations. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that industry consolidation may result in stronger competitors and could lead to more variability in our operating results and could have a material adverse effect on our business, operating results, and financial condition. Furthermore, particularly in the communications market, rapid consolidation would lead to fewer customers, with the effect that loss of a major customer could have a material impact on results not anticipated in a customer marketplace composed of more numerous participants.

Additionally, if there is consolidation among our customer base, our customers may be able to command increased leverage in negotiating prices and other terms of sale, which could adversely affect our profitability. In addition, if, as a result of increased leverage, customer pressures require us to reduce our pricing such that our gross margins are diminished, we could decide not to sell our solutions under such less favorable terms, which would decrease our revenue. Consolidation among our customer base may also lead to reduced demand for our solutions, replacement of our products by the combined entity with those of our competitors and cancellations of orders, each of which could harm our operating results.

Our acquisitions, strategic alliances, joint ventures, internal reorganizations and divestitures may result in financial results that are different than expected.

In the normal course of business, we may engage in discussions with third parties relating to possible acquisitions, strategic alliances, joint ventures and divestitures. Additionally, we occasionally make changes to our internal structure to align business products, services and solutions with market demands and to obtain cost synergies and operational efficiencies. As a result of such transactions, our financial results may differ from our own or the investment community's expectations in a given fiscal quarter, or over the long term. If market conditions or other factors lead us to change our strategic direction, we may not realize the expected value from such transactions or reorganizations. Further, such third-party transactions often have post-closing arrangements, including, but not limited to, post-closing adjustments, transition services, escrows or indemnifications, the financial results of which can be difficult to predict. In addition, acquisitions and strategic alliances may require us to integrate a different company culture, management team, employees and business infrastructure into our existing operations without impacting the business operations of the newly acquired company. We may have difficulty developing, manufacturing and marketing the products of a newly acquired company in a way that enhances performance and expands the markets of the newly acquired company. The acquired company may not enhance the performance of our businesses or product lines such that we do not realize the value from expected synergies. Depending on the size and complexity of an acquisition, the successful integration of the entity depends on a variety of factors, including but not limited to:

- the achievement of anticipated cost savings, synergies, business opportunities and growth prospects from combining the acquired company;
- the scalability of production, manufacturing and marketing of products of a newly acquired company to broader adjacent markets;
- the ability to cohesively integrate operations, product definitions, price lists, delivery, and technical support for products and solutions of a newly acquired company into our existing operations;

- the compatibility of our infrastructure, operations, policies and organizations with those of the acquired company;
- the retention of key employees and/or customers;
- the management of facilities and employees in different geographic areas; and
- the management of relationships with our strategic partners, suppliers, and customer base.

If we do not realize the expected benefits or synergies of such transactions, our consolidated financial position, results of operations, cash flows and stock price could be negatively impacted. Additionally, we may record significant goodwill and other assets as a result of acquisitions or investments, and we may be required to incur impairment charges, which could adversely affect our consolidated financial position and results of operations.

Any inability to complete acquisitions on acceptable terms could negatively impact our growth rate and financial performance.

Our ability to grow revenues, earnings and cash flow depends in part upon our ability to identify and successfully acquire and integrate businesses at appropriate prices and realize anticipated synergies and business performance. Appropriate targets for acquisition are difficult to identify and complete for a variety of reasons, including but not limited to, limited due diligence, high valuations, business and intellectual property evaluations, other interested parties, negotiations of the definitive documentation, satisfaction of closing conditions, the need to obtain antitrust or other regulatory approvals on acceptable terms, and availability of funding. The inability to close appropriate acquisitions on acceptable terms could adversely impact our growth rate, revenue, and financial performance.

We may need additional financing in the future to meet our capital needs or to make opportunistic acquisitions, and such financing may not be available on terms favorable to us, if at all, and may be dilutive to existing shareholders.

We may need to seek additional financing for our general corporate purposes. For example, we may need to increase our investment in R&D activities or need funds to make acquisitions. We may be unable to obtain any desired additional financing on terms favorable to us, if at all. If adequate funds are not available on acceptable terms, we may be unable to fund our expansion, successfully develop or enhance solutions or respond to competitive pressures, any of which could negatively affect our business. If we finance acquisitions by issuing additional convertible debt or equity securities, our existing stockholders may experience share dilution, which could affect the market price of our stock. If we raise additional funds through the issuance of equity securities, our shareholders will experience dilution of their ownership interest. If we raise additional funds by issuing debt, we may be subject to further limitations on our operations and ability to pay dividends due to restrictive covenants.

We have outstanding debt and may incur other debt in the future, which could adversely affect our financial condition, liquidity and results of operations.

We currently have outstanding debt as well as availability to borrow under a revolving credit facility. We may borrow additional amounts in the future and use the proceeds from any future borrowing for general corporate purposes, future acquisitions, expansion of our business or repurchases of our outstanding shares of common stock.

Our incurrence of this debt, and increases in our aggregate levels of debt, may adversely affect our operating results and financial condition by, among other things:

- requiring a portion of our cash flow from operations to make interest payments on this debt;
- increasing our vulnerability to general adverse economic and industry conditions;
- reducing the cash flow available to fund capital expenditures and other corporate purposes and to grow our business; and
- limiting our flexibility in planning for, or reacting to, changes in our business and the industry.

Our current revolving credit facility and term loan imposes restrictions on us, including restrictions on our ability to create liens on our assets and the ability of our subsidiaries to incur indebtedness, and requires us to maintain compliance with specified financial ratios. Our ability to comply with these ratios may be affected by events beyond our control. In addition, the indenture governing our senior notes contains covenants that may adversely affect our ability to incur certain liens. If we breach any of the covenants and do not obtain a waiver from the lenders, then, subject to applicable cure periods, our outstanding indebtedness could be declared immediately due and payable.

If currency exchange rates fluctuate substantially in the future, our financial results could be adversely affected.

A substantial amount of our solutions are priced and paid for in U.S. Dollars, although many of our solutions are priced in local currencies and a significant amount of certain types of expenses, such as payroll, utilities, tax and marketing expenses, are paid in local currencies. Our hedging programs are designed to reduce, but not entirely eliminate, within any given 12-

month period, the impact of currency exchange rate movements, including those caused by currency controls, which could impact our business, operating results and financial condition by resulting in lower revenue or increased expenses. However, for expenses beyond a 12-month period, our hedging strategy will not mitigate our exchange rate risk. In addition, our currency hedging programs involve third-party financial institutions as counterparties. The weakening or failure of these counterparties may adversely affect our hedging programs and our financial condition through, among other things, a reduction in the number of available counterparties, increasingly unfavorable terms or the failure of counterparties to perform under hedging contracts.

Volatile changes in weather conditions and effects of climate change could damage or destroy strategic facilities, including our headquarters, which could have a significant negative impact on our operations.

We and our customers and suppliers are vulnerable to the increasing impact of climate change. Volatile changes in weather conditions, including extreme heat or cold, could increase the risk of wildfires, floods, blizzards, hurricanes and other weather-related disasters. Such extreme weather events can cause power outages and network disruptions that may result in disruption to operations and may impact our ability to manufacture and ship product, which may negatively impact revenue. Disasters created by extreme conditions could cause significant damage to or destruction of our facilities resulting in temporary or long-term closures of our facilities and operations and significant expense for repair or replacement of damaged or destroyed facilities. This could also result in loss or damage to employee homes, employees relocating to other parts of the country or being unwilling to relocate to the strategic locations, housing shortages and loss of or inability to recruit key employees. This could result in adverse impact to the available workforce, damage to or destruction of inventory, inability to manufacture and deliver solutions, cancellation of orders, and breaches of customer contracts leading to reduced revenue.

If we suffer a loss to our employees, factories, facilities or distribution system due to a catastrophic event, our operations could be significantly harmed.

Our factories, facilities and distribution system are vulnerable to catastrophic loss due to natural or man-made disasters. Several of our facilities could be subject to a catastrophic loss caused by earthquake or other natural disasters due to their locations. For example, our production facilities, headquarters and laboratories in California and our production facilities in Japan are all located in areas with above-average seismic activity. If any of these facilities were to experience a catastrophic loss, it could disrupt our operations, delay production, shipments and revenue and result in large expenses to repair or replace the facility. In addition, since we have consolidated our manufacturing facilities, we are more likely to experience an interruption to our operations in the event of a catastrophe in any one location. Although we carry insurance for property damage and business interruption, we do not carry insurance or financial reserves for interruptions or potential losses arising from earthquakes or terrorism. Also, our third-party insurance coverage will vary from time to time in both type and amount depending on availability, cost and our decisions with respect to risk retention. Economic conditions and uncertainties in global markets may adversely affect the cost and other terms upon which we are able to obtain third-party insurance. If our third-party insurance coverage is adversely affected, or to the extent we have elected to self-insure, we may be at a greater risk that our operations will be harmed by a catastrophic loss.

Our commitment to Net Zero emissions in company operations by Fiscal Year 2040 will be subject to significant costs and regulations which could impact business operations, processes, revenue, and reputation.

In May 2021, the company disclosed its commitment to achieving net zero Scope 1 and Scope 2 emissions by the end of fiscal year 2040. The company plans to meet this commitment by reducing energy consumption through efficiency and conservation measures, investments in renewable energy and selective purchase of certified offsets for residual emissions. The company also committed in September 2021 to developing approved science-based targets in line with limiting global warming to 1.5 degrees Celsius above pre-industrial levels. In addition to Scope 1 and Scope 2 emissions defined by our net zero goal, the company will develop Scope 3 reduction and engagement targets across relevant categories as part of our commitment to science-based targets. The development and implementation of goals and targets may require significant and expensive capital improvements, changes in product development, manufacturing processes and shipping methods. These changes may materially increase the cost to manufacture and ship products and solutions, result in price increases to customers, reduce product or solution performance, and create customer dissatisfaction, potentially adversely impacting our revenue and profitability.

Achieving net zero emissions goals and targets may entail compliance with evolving laws and regulatory requirements, which may cause us to change or reconfigure facilities and operations to meet regulatory standards. If operations are out of compliance, we may be subject to civil or criminal actions, fines and penalties and be required to make significant changes to facilities and operations and temporarily or permanently shut down non-compliant operations, which could result in business disruption and significant unexpected expense, delays in or inability to develop, manufacture and ship products and solutions, customer dissatisfaction, loss of revenue and damage to our reputation.

If we are unable to sufficiently reduce Scope 1 and Scope 2 emissions through energy reduction measures or our investments in renewable energy are not successful, we may fail to achieve our net zero emission commitment by fiscal year 2040. If we are unable to achieve Scope 3 reduction and engagement targets, we may fail to achieve our commitment to science-based targets. Failing to achieve the company's net zero or science-based targets commitments could result in

regulatory non-compliance, criminal or civil actions against us, assessment of fees and penalties, inability to develop, manufacture and ship products, customer dissatisfaction with our products and solutions, reduced revenue and profitability, shareholder lawsuits and damage to our reputation.

Third parties may claim that we are infringing their intellectual property rights, and we could suffer significant litigation or licensing expenses or be prevented from selling solutions or services.

From time to time, third parties have claimed that one or more of our solutions or services infringe their intellectual property rights. We analyze and take action in response to such claims on a case-by-case basis. Any dispute or litigation regarding patents or other intellectual property could be costly and time-consuming due to the complexity of our technology and the uncertainty of intellectual property litigation and could divert our management and key personnel from business operations. A claim of intellectual property infringement could cause us to enter into a costly or restrictive license agreement (which may not be available under acceptable terms, or at all), require us to redesign certain of our solutions (which would be costly and time-consuming) and/or subject us to significant damages or an injunction against the development and sale of certain solutions or services. In certain of our businesses, we rely on third-party intellectual property licenses, and we cannot ensure that these licenses will be available to us in the future on terms favorable to us or at all.

Third parties may infringe our intellectual property rights, and we may suffer competitive injury or expend significant resources enforcing our intellectual property rights.

Our success depends in part on our proprietary technology, including technology we obtained through acquisitions. We rely on various intellectual property rights, including patents, copyrights, trademarks and trade secrets, as well as confidentiality provisions and licensing arrangements, to establish our proprietary rights. If we do not enforce our intellectual property rights successfully, our competitive position may suffer, which could harm our operating results.

Our pending patent, copyright and trademark registration applications may not be allowed or competitors may challenge the validity or scope of our patents, copyrights or trademarks. In addition, our patents, copyrights, trademarks and other intellectual property rights may not provide us with a significant competitive advantage. In preparation for the separation and distribution, we applied for trademarks related to our global brand name in various jurisdictions worldwide. Any successful opposition to our applications in material jurisdictions could impose material costs on us or make it more difficult to protect our brand. Different jurisdictions vary widely in the level of protection and priority they give to trademark and other intellectual property rights.

We may be required to spend significant resources monitoring our intellectual property rights, and we may or may not be able to detect infringement of such rights by third parties. Our competitive position may be harmed if we cannot detect infringement and enforce our intellectual property rights in a timely manner, or at all. In some circumstances, we may choose to not pursue enforcement due to a variety of reasons. In addition, competitors may avoid infringement by designing around our intellectual property rights or by developing non-infringing competing technologies. Intellectual property rights and our ability to enforce them may be unavailable or limited in some countries, which could make it easier for competitors to capture market share and could result in lost revenues to the company. Furthermore, some of our intellectual property is licensed to others, which allows them to compete with us using that intellectual property.

If we experience a significant cybersecurity attack or disruption in our IT systems, our business, reputation, and operating results could be adversely affected.

We rely on several centralized IT systems to provide solutions and services, maintain financial records, retain sensitive data such as intellectual property, proprietary business information, and data related to customers, suppliers, and business partners, process orders, manage inventory, process shipments to customers and operate other critical functions. The ongoing maintenance and security of this information is pertinent to the success of our business operations and our strategic goals.

Despite our implementation of network security measures, our network may be vulnerable to cybersecurity attacks, computer viruses, break-ins and similar disruptions. Our network security measures include, but are not limited to, the implementation of firewalls, antivirus protection, patches, log monitors, routine backups, offsite storage, network audits, and routine updates and modifications. Despite our efforts to create these security barriers, we may not be able to keep pace as new threats emerge and it is virtually impossible for us to entirely eliminate this risk. Cybersecurity attacks are evolving and include, but are not limited to, malicious software, attempts to gain unauthorized access to data, and other electronic security breaches that could lead to disruptions in systems, unauthorized release of confidential or otherwise protected information and corruption of data. Any such event could have a material adverse effect on our business, reputation, operating results and financial condition, and no assurance can be given that our efforts to reduce the risk of such attacks will be successful.

In addition, our IT systems may be susceptible to damage, disruptions, instability, or shutdowns due to power outages, hardware failures, telecommunication failures, user errors, implementation of new operational systems or software or upgrades to existing systems and software, catastrophes or other unforeseen events. Such events could result in the disruption of business processes, network degradation and system downtime, along with the potential that a third party will exploit our critical assets

such as intellectual property, proprietary business information and data related to our customers, suppliers and business partners. Further, such events could result in loss of revenue, loss of or reduction in purchase orders, inability to report financial information, litigation, regulatory fines and penalties, and other damage that could have a material impact on our business operations. To the extent that such disruptions occur, our customers and partners may lose confidence in our solutions and we may lose business or brand reputation, resulting in a material and adverse effect on our business operating results and financial condition.

We are or will be subject to ongoing tax examinations of our tax returns by the IRS and other tax authorities. An adverse outcome of any such audit or examination by the IRS or other tax authority could have a material adverse effect on our results of operations, financial condition and liquidity.

We are or will be subject to ongoing tax examinations of our tax returns by the IRS and other tax authorities in various jurisdictions. We regularly assess the likelihood of adverse outcomes resulting from ongoing tax examinations to determine the adequacy of our provision for income taxes. These assessments can require considerable estimates and judgments. Intercompany transactions associated with the sale of inventory, services, intellectual property and cost sharing arrangements are complex and affect our tax liabilities. The calculation of our tax liabilities involves uncertainties in the application of complex tax laws and regulations in multiple jurisdictions. The outcomes of these tax examinations could have an adverse effect on our operating results and financial condition. Due to the complexity of tax contingencies, the ultimate resolution of any tax matters related to operations may result in payments greater or less than amounts accrued.

Our operations may be adversely impacted by changes in our business mix or changes in the tax legislative landscape.

Our effective tax rate may be adversely impacted by, among other things, changes in the mix of our earnings among countries with differing statutory tax rates, changes in the valuation allowance of deferred tax assets, and changes in tax laws. We cannot give any assurance as to what our effective tax rate will be in the future because, among other things, there is uncertainty regarding the tax policies of the jurisdictions where we operate. Changes in tax laws, such as tax reform in the United States or changes in tax laws resulting from the Organization for Economic Co-operation and Development's ("OECD") multi-jurisdictional plan of action to address "base erosion and profit shifting" and the taxation of the "Digital Economy" could impact our effective tax rate.

If tax laws or incentives change or cease to be in effect, our income taxes could increase significantly.

We are subject to federal, state, and local taxes in the United States and numerous foreign jurisdictions. We devote significant resources to evaluating our tax positions and our worldwide provision for taxes. Our financial results and tax treatment are susceptible to changes in tax, accounting, and other laws, regulations, principles, and interpretations in the United States and in other jurisdictions where we do business. With the existence of economic and political policies that favor domestic interests, it is possible that more countries will enact tax laws that either increase the tax rates, or reduce or change the tax incentives available to multinational companies like ours. Upon a change in tax laws in any territory where we do significant business, we may not be able to maintain our current tax rate or qualify for or maintain the benefits of any tax incentives offered, to the extent such incentives are offered.

We currently benefit from tax incentives extended to certain of our foreign subsidiaries to encourage investment or employment, the most significant of which being Singapore. The Singapore tax incentives require that specific conditions be satisfied, which include achieving thresholds of employment, ownership of certain assets, as well as specific types of investment activities within Singapore. Based on the current tax environment, we believe that we will satisfy such conditions in the future as needed, but cannot guarantee that the tax environment will not change or that such conditions will be satisfied.

Our Singapore tax incentives are due for renewal in fiscal 2024, but we cannot guarantee that Singapore will not revoke the tax incentives earlier. Our taxes could increase if the existing Singapore incentives are revoked or are not renewed upon expiration. We cannot guarantee that we will qualify for any new incentive regime that may exist in fiscal 2024. If we cannot or do not wish to satisfy all or portions of the tax incentives conditions, we may lose the related tax incentives and could be required to refund the benefits that the tax incentives previously provided. As a result, our effective tax rate could be higher than it would have been had we maintained the benefits of the tax incentives and could harm our operating results after tax.

Our business will suffer if we are not able to retain and hire key personnel.

Our future success depends partly on the continued service of our key research, engineering, sales, marketing, manufacturing, executive and administrative personnel, including personnel joining our company through acquisitions. The markets in which we operate are dynamic, and we may need to respond with reorganizations, workforce reductions and site closures from time to time. We believe our pay levels are competitive within the regions that we operate. However, there is also intense competition for certain highly technical specialties in geographic areas in which we operate, and it may become more difficult to retain key employees. If we fail to retain and hire a sufficient number of these personnel, we may not be able to meet key objectives, such as launching effective product innovations and meeting financial goals, and maintain or expand our business.

If we fail to maintain satisfactory compliance with certain regulations, we may be subject to substantial negative financial consequences and civil or criminal penalties.

We and our customers are subject to various significant international, federal, state and local regulations, including, but not limited to, health and safety including regulations related to COVID-19, packaging, data privacy, product content, environmental, labor and import/export regulations. These regulations are complex, change frequently and have tended to become more stringent over time. We have been required to incur significant expenses to comply with these regulations and to remedy violations of certain import/export regulations. Any future failure by us to comply with applicable government regulations could also result in cessation of our operations or portions of our operations, high financial penalties, product recalls or impositions of fines, and restrictions on our ability to carry on or expand our operations. If demand for our solutions is adversely affected or our costs increase, our business would suffer.

Our R&D, manufacturing and distribution operations involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health and safety and the environment. We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements. We apply strict standards for protection of the environment and occupational health and safety inside and outside the United States, even where not subject to regulation imposed by foreign governments. We believe that our properties and operations at our facilities comply in all material respects with applicable environmental and occupational health and safety laws. In spite of these efforts, no assurance can be given that we will be compliant with all applicable environmental and workplace health and safety laws and regulations and violations could result in civil or criminal sanctions, fines and penalties.

We have developed internal data handling policies and practices to comply with the General Data Protection Regulation (“GDPR”) in the European Union and data privacy regulations similar to GDPR in other jurisdictions. Our existing business strategy does not rely on aggregating or selling personally identifiable information, and as a general matter Keysight does not process personally identifiable information on behalf of our customers. We devote resources to keep up with the changing regulatory environment on data privacy in the jurisdictions where we do business. Despite our efforts, no assurance can be given that we will be compliant with data privacy regulations. New laws, amendments, or interpretations of regulations, industry standards, and contractual obligations relating to data privacy may require us to incur additional costs and restrict our business operations. If we fail to comply with GDPR or other data privacy regulation, we may be subject to significant financial fines and civil or criminal penalties, and may suffer damage to our reputation or brand, which could adversely affect our business and financial results.

In addition, our products and operations are also often subject to the rules of industrial standards bodies, like the International Standards Organization, as well as regulation by other agencies such as the U.S. Federal Communications Commission. We also must comply with work safety rules. If we fail to adequately address any of these regulations, our businesses could be harmed.

Failure to comply with anti-corruption laws could adversely affect our business and result in financial penalties.

Because we have extensive international operations, we must comply with complex foreign and U.S. laws and regulations, such as the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and other local laws prohibiting corrupt payments to governmental officials, and anti-competition regulations. Although we actively maintain policies and procedures designed to ensure ongoing compliance with these laws and regulations, there can be no assurance that our employees, contractors or agents will not violate these policies and procedures. Violations of these laws and regulations could result in fines and penalties, criminal sanctions, restrictions on our business conduct and on our ability to offer our solutions in one or more countries, and could also materially affect our brand, ability to attract and retain employees, international operations, business and operating results.

Our business and financial results may be adversely affected by various legal and regulatory proceedings.

We are subject to legal proceedings, lawsuits and other claims in the normal course of business and could become subject to additional claims in the future, some of which could be material. The outcome of existing proceedings, lawsuits and claims may differ from our expectations because the outcomes of litigation are often difficult to reliably predict. Various factors or developments can lead us to change current estimates of liabilities and related insurance receivables where applicable, or permit us to make such estimates for matters previously not susceptible to reasonable estimates, such as a significant judicial ruling or judgment, a significant settlement, significant regulatory developments or changes in applicable law. A future adverse ruling, settlement or unfavorable development could result in charges that could adversely affect our business, operating results or financial condition.

Our internal controls may be determined to be ineffective, which may adversely affect investor confidence in our company, the value of our stock, and our access to capital.

The Sarbanes-Oxley Act of 2002 requires us to furnish a report by management on the effectiveness of our internal control over financial reporting, among other things. We are devoting significant resources and time to comply with such

internal control over financial reporting requirements. However, we cannot be certain that these measures will ensure that we design, implement and maintain adequate control over our financial processes and reporting in the future, especially in the context of acquisitions of other businesses. Any difficulties in the assimilation of acquired businesses into our control system could harm our operating results or cause us to fail to meet our financial reporting obligations. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock or on our access to capital, or cause us to be subject to investigation or sanctions by the SEC.

Adverse conditions in the global banking industry and credit markets may adversely impact the value of our cash investments or impair our liquidity.

Our cash and cash equivalents are invested or held in a mix of money market funds, time deposit accounts and bank demand deposit accounts. Disruptions in the financial markets may, in some cases, result in an inability to access assets such as money market funds that traditionally have been viewed as highly liquid. Any failure of our counterparty financial institutions or funds in which we have invested may adversely impact our cash and cash equivalent positions and, in turn, our results and financial condition.

Future investment returns on pension assets may be lower than expected or interest rates may decline, requiring us to make significant additional cash contributions to our future plans.

We sponsor several defined benefit pension plans that cover many of our salaried and hourly employees. The Federal Pension Protection Act of 2006 requires that certain capitalization levels be maintained in each of the U.S. plans, and there may be similar funding requirements in the plans outside the United States. Because it is unknown what the investment return on and the fair value of our pension assets will be in future years or what interest rates and discount rates may be at any point in time, no assurances can be given that applicable law will not require us to make future material plan contributions. Any such contributions could adversely affect our financial condition.

Environmental contamination from past operations could subject us to unreimbursed costs and could harm on-site operations and the future use and value of the properties involved, and environmental contamination caused by ongoing operations could subject us to substantial liabilities in the future.

Some of our properties are undergoing remediation by HP Inc. ("HP") for subsurface contaminations that were known at the time of Agilent's separation from HP in 1999. In connection with Agilent's separation from HP, HP and Agilent entered into an agreement pursuant to which HP agreed to retain the liability for this subsurface contamination, perform the required remediation and indemnify Agilent with respect to claims arising out of that contamination. Agilent has assigned its rights and obligations under this agreement to Keysight in respect of facilities transferred to us in the separation. As a result, HP will have access to a limited number of our properties to perform remediation. Although HP agreed to minimize interference with on-site operations at such properties, remediation activities and subsurface contamination may require us to incur unreimbursed costs and could harm on-site operations and the future use and value of the properties. In connection with the separation, Agilent will indemnify us directly for any liabilities related thereto. We cannot be sure that HP will continue to fulfill its remediation obligations or that Agilent will continue to fulfill its indemnification obligations.

In connection with the separation from Agilent, Agilent also agreed to indemnify us for any liability associated with contamination from past operations at all properties transferred from Agilent to Keysight. We cannot be sure that Agilent will fulfill its indemnification obligations.

Our current manufacturing processes involve the use of substances regulated under various international, federal, state and local laws governing the environment. As a result, we may become subject to liabilities for environmental contamination, and these liabilities may be substantial. Although our policy is to apply strict standards for environmental protection at our sites inside and outside the United States, even if the sites outside the United States are not subject to regulations imposed by foreign governments, we may not be aware of all conditions that could subject us to liability.

Risks Related to Our Common Stock

Our share price may fluctuate significantly.

Our common stock is listed on the New York Stock Exchange ("NYSE") under the ticker symbol "KEYS." The market price of our common stock may fluctuate widely, depending on many factors, some of which may be beyond our control, including but not limited to:

- actual or anticipated fluctuations in our operating results due to factors related to our business;
- success or failure of our business strategy;
- our quarterly or annual earnings, or those of other companies in our industry;
- our ability to obtain third-party financing as needed;

- announcements by us or our competitors of significant acquisitions or dispositions;
- changes in accounting standards, policies, guidance, interpretations or principles;
- the failure of securities analysts to cover our common stock;
- changes in earnings estimates by securities analysts or our ability to meet those estimates;
- the operating and share price performance of other comparable companies;
- investor perception of our company;
- natural or other disasters that investors believe may affect us;
- the impact of global pandemics, such as COVID-19;
- overall market fluctuations;
- results from any material litigation or government investigations;
- changes in laws or regulations affecting our business; and
- general economic conditions and other external factors.

Stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations could adversely affect the trading price of our common stock.

In addition, when the market price of a company's shares drops significantly, shareholders often institute securities class action lawsuits against the company. A lawsuit against us could cause us to incur substantial costs and could divert the time and attention of management and other resources.

We do not currently pay dividends on our common stock.

We do not currently pay dividends on our common stock. The payment of any dividends in the future, and the timing and amount thereof, to our stockholders fall within the discretion of our board of directors. The board's decisions regarding the payment of dividends will depend on many factors, such as our financial condition, earnings, capital requirements, debt service obligations, restrictive covenants in our debt, industry practice, legal requirements, regulatory constraints and other factors that our board of directors deems relevant. We cannot guarantee that we will pay a dividend in the future or continue to pay any dividends if we commence paying dividends.

Certain provisions in our amended and restated certificate of incorporation and bylaws, and of Delaware law, may prevent or delay an acquisition of the company, which could decrease the trading price of our common stock.

Our amended and restated certificate of incorporation and amended and restated bylaws contain, and Delaware law contains, provisions that are intended to deter coercive takeover practices and inadequate takeover bids by making such practices or bids unacceptably expensive to the bidder and to encourage prospective acquirers to negotiate with our board of directors rather than to attempt a hostile takeover. These provisions include but are not limited to:

- the inability of our shareholders to call a special meeting;
- the inability of our shareholders to act without a meeting of shareholders;
- rules regarding how shareholders may present proposals or nominate directors for election at shareholder meetings;
- the right of our board of directors to issue preferred stock without shareholder approval;
- the division of our board of directors into three classes of directors, with each class serving a staggered three-year term, and this classified board provision could have the effect of making the replacement of incumbent directors more time consuming and difficult;
- a provision that shareholders may only remove directors with cause;
- the ability of our directors, and not shareholders, to fill vacancies on our board of directors; and
- the requirement that the affirmative vote of shareholders holding at least 80 percent of our voting stock is required to amend certain provisions in our amended and restated certificate of incorporation (relating to the number, term and removal of our directors, the filling of our board vacancies, the advance notice to be given for nominations for elections of directors, the calling of special meetings of shareholders, shareholder action by written consent, the ability of the board of directors to amend the bylaws, elimination of liability of directors to the extent permitted by Delaware law, exclusive forum for certain types of actions and proceedings that may be initiated by our shareholders and amendments of the certificate of incorporation) and certain provisions in our amended and restated bylaws (relating to

the calling of special meetings of shareholders, the business that may be conducted or considered at annual or special meetings, the advance notice of shareholder business and nominations, shareholder action by written consent, the number, tenure, qualifications and removal of our directors, the filling of our board vacancies, director and officer indemnification and amendments of the bylaws).

In addition, because we have not chosen to be exempt from Section 203 of the Delaware General Corporation Law (the "DGCL"), this provision could also delay or prevent a change of control that some shareholders may favor. Section 203 provides that, subject to limited exceptions, persons that acquire, or are affiliated with a person that acquires, more than 15 percent of the outstanding voting stock of a Delaware corporation (an "interested stockholder") shall not engage in any business combination with that corporation, including by merger, consolidation or acquisitions of additional shares, for a three-year period following the date on which the person became an interested stockholder, unless (i) prior to such time, the board of directors of such corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (ii) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85 percent of the voting stock of such corporation at the time the transaction commenced (excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) the voting stock owned by directors who are also officers or held in employee benefit plans in which the employees do not have a confidential right to tender or vote stock held by the plan); or (iii) on or subsequent to such time the business combination is approved by the board of directors of such corporation and authorized at a meeting of shareholders by the affirmative vote of at least two-thirds of the outstanding voting stock of such corporation not owned by the interested stockholder.

We believe these provisions will protect our shareholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our board of directors and by providing our board of directors with more time to assess any acquisition proposal. These provisions are not intended to make us immune from takeovers. However, these provisions will apply even if the offer may be considered beneficial by some shareholders and could delay or prevent an acquisition that our board of directors determines is not in the best interests of the company and our shareholders. These provisions may also prevent or discourage attempts to remove and replace incumbent directors.

Our amended and restated certificate of incorporation designates that the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our shareholders, which could discourage lawsuits against the company and our directors and officers.

Our amended and restated certificate of incorporation provide that unless the board of directors otherwise determines, the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, will be the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to the company or our shareholders, any action asserting a claim against us or any of our directors or officers arising pursuant to any provision of the DGCL or Keysight's amended and restated certificate of incorporation or bylaws, or any action asserting a claim against us or any of our directors or officers governed by the internal affairs doctrine. This exclusive forum provision may limit the ability of our shareholders to bring a claim in a judicial forum that such shareholders find favorable for disputes with us or our directors or officers, which may discourage such lawsuits against us and our directors and officers.

Item 1B. Unresolved Staff Comments

None.

Item 2. *Properties*

Our executive offices are located in the United States in an owned facility in Santa Rosa, California. We own or lease 140 operating facilities located throughout the world that handle manufacturing production, research and development ("R&D"), administration, assembly, sales, quality, assurance testing, distribution and packaging of our products. These facilities are primarily located in the following countries: United States, Malaysia, Japan, China, Germany, India, United Kingdom, Taiwan, Spain, Singapore, Italy and Romania. As of October 31, 2021, we own or lease approximately 6.2 million square feet of space worldwide, of which we own approximately 4.1 million square feet and lease approximately 2.1 million square feet. Our sales facilities occupy a total of approximately 0.3 million square feet. Our manufacturing plants, R&D facilities and warehouse and administrative facilities occupy approximately 5.1 million square feet. Our other facilities represent vacated space totaling approximately 0.8 million square feet, of which 0.7 million square feet is leased to third parties. All of these facilities are well maintained and suitable for the operations conducted in them.

Item 3. *Legal Proceedings*

On August 3, 2021, we entered into a Consent Agreement with the Directorate of Defense Trade Controls, Bureau of Political-Military Affairs, Department of State to resolve alleged violations of the Arms Export Control Act and the International Traffic in Arms Regulations ("ITAR"). Pursuant the Consent Agreement, we will pay a penalty of \$6.6 million, \$2.5 million of which is suspended, over three years and will employ a special compliance officer for three years. We are also involved in lawsuits, claims, investigations and proceedings, including, but not limited to, patent, commercial and environmental matters, which arise in the ordinary course of business. Although there are no matters pending that we currently believe are probable and reasonably possible of having a material impact to our business, consolidated financial position, results of operations or cash flows, the outcome of litigation is inherently uncertain and the outcome is difficult to predict. An adverse outcome in any outstanding lawsuit or proceeding could result in significant monetary damages or injunctive relief. If adverse results are above management's expectations or are unforeseen, management may not have accrued for the liability, which could impact our results in a financial period.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. Market for the Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common stock is listed on the New York Stock Exchange ("NYSE") with the ticker symbol "KEYS."

There were 17,858 shareholders of record of Keysight common stock as of December 13, 2021.

We have not paid any dividends, and we do not anticipate paying any cash dividends in the foreseeable future. All decisions regarding the declaration and payment of dividends and stock repurchases are at the discretion of our board of directors and will be evaluated regularly in light of our financial condition, earnings, growth prospects, funding requirements, applicable law, and any other factors that our board of directors deems relevant.

The information required by this item with respect to equity compensation plans will be included under the caption Equity Compensation Plans in our proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A, and is incorporated herein by reference.

ISSUER PURCHASES OF EQUITY SECURITIES

The table below summarizes information about the company's purchases, based on trade date, of its equity securities registered pursuant to Section 12 of the Exchange Act during the fiscal quarter ended October 31, 2021. The total number of shares of common stock purchased by the company during the fiscal year ended October 31, 2021 is 4,361,542 shares.

Period	Total Number of Shares of Common Stock Purchased ⁽¹⁾	Weighted Average Price Paid per Share of Common Stock ⁽²⁾	Total Number of Shares of Common Stock Purchased as Part of Publicly Announced Plans or Programs ⁽¹⁾	Maximum Approximate Dollar Value of Shares of Common Stock that May Yet Be Purchased Under the Program ⁽¹⁾
August 1, 2021 through August 31, 2021	—	—	—	\$ 430,286,406
September 1, 2021 through September 30, 2021	1,154,282	\$175.98	1,154,282	\$ 227,152,084
October 1, 2021 through October 31, 2021	909,660	\$164.90	909,660	\$ 77,152,103
Total	2,063,942		2,063,942	

- (1) On November 18, 2020, our board of directors approved a stock repurchase program authorizing the purchase of up to \$750 million of the company's common stock. On November 18, 2021, our board of directors approved a new stock repurchase program authorizing the purchase of up to \$1,200 million of the company's common stock, replacing the previously approved November 2020 program, under which \$77 million remained.

Under our stock repurchase program, shares may be purchased from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases, privately negotiated transactions or other means. All such shares and related costs are held as treasury stock and accounted for at trade date using the cost method.

- (2) The weighted average price paid per share of common stock does not include the cost of commissions.

Item 6. [Reserved]

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. This report contains forward-looking statements including, without limitation, statements regarding trends, seasonality, cyclicality and growth in, and drivers of, the markets we sell into, our strategic direction, earnings from our foreign subsidiaries, remediation activities, new solution and service introductions, the ability of our solutions to meet market needs, changes to our manufacturing processes, the use of contract manufacturers, the impact of local government regulations on our ability to pay vendors or conduct operations, our liquidity position, our ability to generate cash from operations, growth in our businesses, our investments, the potential impact of adopting new accounting pronouncements, our financial results, our purchase commitments, our contributions to our pension plans, the selection of discount rates and recognition of any gains or losses for our benefit plans, our cost-control activities, savings and headcount reduction recognized from our restructuring programs and other cost saving initiatives, and other regulatory approvals, the integration of our completed acquisitions and other transactions, our transition to lower-cost regions, the existence of political or economic instability, the impact of increased trade tension and tightening of export control regulations, the impact of compliance with the August 2, 2021 Consent Agreement with the Directorate of Defense Trade Controls, Bureau of Political-Military Affairs, Department of State, continued impacts to the supply chain, government mandates related to pandemic conditions such as a novel strain of coronavirus ("COVID-19") and its variants, impacts related to net zero emissions commitments, the impact of volatile weather caused by environmental conditions such as climate change, and our estimated or anticipated future results of operations, that involve risks and uncertainties. Our actual results could differ materially from the results contemplated by these forward-looking statements due to various factors, including but not limited to those risks and uncertainties discussed in Part II Item 1A and elsewhere in this Annual Report on Form 10-K.

Overview and Executive Summary

Keysight Technologies, Inc. ("we," "us," "Keysight" or the "company"), incorporated in Delaware on December 6, 2013, is a technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world by providing electronic design and test solutions that are used in the simulation, design, validation, manufacture, installation, optimization and secure operation of electronics systems in the communications, networking and electronics industries. We also offer customization, consulting and optimization services throughout the customer's product development lifecycle, including start-up assistance, asset management, up-time services, application services and instrument calibration and repair.

Our fiscal year end is October 31. Unless otherwise stated, all years and dates refer to our fiscal year.

COVID-19 pandemic and related supply chain disruptions

Our global operations have been and continue to be affected by the ongoing global pandemic of COVID-19 and the resulting volatility and uncertainty it has caused in the U.S. and international markets. During the year ended October 31, 2021, governments in many countries, including the United States, continued to issue orders and recommendations to attempt to reduce the further spread of the disease. Such orders included movement control and shelter-in-place orders, travel restrictions, limitations on public gatherings, school closures, social distancing requirements, vaccine mandates and the closure of all but critical and essential services and infrastructure. Working with local governments and health officials to implement health and safety measures at all of our locations, we have re-opened most sites worldwide and significantly ramped our production and services operations. Plans to return all employees to Keysight facilities at pre-COVID-19 levels were temporarily delayed by the emergence of the Delta variant. The pandemic has led to global supply chain challenges that have adversely impacted our ability to procure certain components, which in some cases is impacting our ability to manufacture products and causing delays in delivery of our solutions to our customers.

For discussion of risks related to COVID-19 on our operations, business results and financial condition, see "Item 1A. Risk Factors."

Years ended October 31, 2021, 2020 and 2019

We realized the most notable impacts of the COVID-19 virus control measures in the last half of the second quarter and continuing into the third quarter of fiscal 2020, with sequential improvement each quarter thereafter. During the year ended October 31, 2020, our orders, revenues and margins were adversely impacted by site closures and supply chain disruptions resulting from the global disruptions and shutdown of our production facilities, resulting in a soft prior-period compare.

Total orders for 2021 were \$5,356 million, an increase of 18 percent when compared to 2020. Foreign currency movements and acquisitions each contributed 1 percentage point to the order growth for 2021 when compared to 2020. Orders grew double-digits across all regions. Total orders for 2020 were \$4,528 million, an increase of 2 percent when compared to 2019. Foreign

currency movements had an immaterial impact on the year-over-year comparison. Orders associated with acquisitions contributed 1 percent to the order growth for 2020 when compared to 2019. Order growth in Asia Pacific was partially offset by a decline in Europe, while the Americas remained flat.

Revenue of \$4,941 million for 2021 increased 17 percent when compared to 2020. Foreign currency movements and acquisitions each contributed 1 percentage point to the revenue growth for 2021 as compared to 2020. Revenue for both the Communications Solutions Group and the Electronic Industrial Solutions Group grew as compared to 2020, driven by strong demand across all the regions and markets. Revenue from the Communications Solutions Group and the Electronic Industrial Solutions Group represented approximately 71 percent and 29 percent, respectively, of total revenue for 2021. Revenue of \$4,221 million for 2020 decreased 2 percent when compared to 2019. Foreign currency movements had an immaterial impact on the year-over-year comparison. Revenue associated with acquisitions had a 1 percentage point favorable impact on revenue for 2020 when compared to 2019. Revenue for both the Communications Solutions Group and Electronic Industrial Solutions Group declined as compared to 2019 due to the impact of site closures and supply chain disruptions related to the COVID-19 pandemic. Revenue from the Communications Solutions Group and the Electronic Industrial Solutions Group represented approximately 74 percent and 26 percent, respectively, of total revenue for 2020.

Net income was \$894 million in 2021 compared to net income of \$627 million and \$621 million in 2020 and 2019, respectively. The increase in net income for 2021 when compared to 2020 was primarily driven by higher revenue volume, lower amortization of acquisition-related balances and lower income tax expense, partially offset by an increase in variable people-related costs, higher R&D investments, lower operating income due to a one-time prior-period gain related to an insurance settlement, a loss on a partial settlement of our Netherlands defined benefit plan and the incremental costs of acquired businesses. The increase in net income for 2020 when compared to 2019 was driven by favorable mix, a decline in variable compensation and a reduction in discretionary spending, partially offset by lower revenue volume due to the impact of site closures and supply chain disruptions as well as higher income tax expense. In 2021, 2020 and 2019, we generated operating cash flows of \$1,322 million, \$1,016 million and \$998 million, respectively.

Outlook

Our strategy of bringing first-to-market solutions that help customers develop new technologies and accelerate innovation provides a platform for long-term growth. We expect our customers to continue to make R&D investments in certain next-generation technologies. We are still in the early market stages for technologies such as 5G/6G, next-generation automotive, internet of things ("IoT") and defense modernization and expect technology investments to continue. We continue to closely monitor the current macro environment related to trade, tariffs, monetary and fiscal policies, pandemics or epidemics, such as the COVID-19 outbreak, and the related global supply chain challenges. We remain confident in our long-term secular market growth trends and the strength of our operating model.

Currency Exchange Rate Exposure

Our revenues, costs and expenses, and monetary assets and liabilities are exposed to changes in foreign currency exchange rates as a result of our global operating and financing activities. We hedge revenues, expenses and balance sheet exposures that are not denominated in the functional currencies of our subsidiaries on a short-term and anticipated basis. The result of the hedging has been included in our consolidated statement of operations. We experience some fluctuations within individual lines of the consolidated balance sheet and consolidated statement of operations because our hedging program is not designed to offset the currency movements in each category of revenues, expenses, monetary assets and liabilities. Our hedging program is designed to hedge short-term currency movements based on a rolling period of up to twelve months. Therefore, we are exposed to currency fluctuations over the longer term. To the extent that we are required to pay for all, or portions, of an acquisition price in foreign currencies, we may enter into foreign exchange contracts to reduce the risk that currency movements will impact the U.S. dollar cost of the transaction.

Results from Operations - Years ended October 31, 2021, 2020 and 2019

Revenue

Revenue is recognized upon transfer of control of the promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. Returns are recorded in the period received from the customer and historically have not been material.

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
	(in millions)				
Revenue:					
Products	\$ 4,050	\$ 3,432	\$ 3,554	18%	(3)%
Services and other	891	789	749	13%	5%
Total revenue	<u>\$ 4,941</u>	<u>\$ 4,221</u>	<u>\$ 4,303</u>	17%	(2)%
	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
% of total revenue:					
Products	82 %	81 %	83 %	1%	(2)%
Services and other	18 %	19 %	17 %	(1)%	2%
Total	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>		

The following table provides the percent change in revenue for the years ended October 31, 2021 and 2020 by geographic region, including and excluding the impact of foreign currency movements, as compared to the respective prior year.

Geographic Region	Year over Year % Change			
	2021 over 2020		2020 over 2019	
	actual	currency adjusted	actual	currency adjusted
Americas	22 %	22 %	(5) %	(5) %
Europe	18 %	14 %	(5) %	(6) %
Asia Pacific	13 %	12 %	2 %	2 %
Total revenue	17 %	16 %	(2) %	(2) %

For the year ended October 31, 2021, revenue grew across all the regions. Foreign currency movements had a favorable impact of 1 percentage point on total revenue growth in 2021, with a favorable impact of 4 percentage points in Europe and 1 percentage point in Asia Pacific. For the year ended October 31, 2020, revenue declined in the Americas and Europe, partially offset by growth in Asia Pacific, due to the impact of temporary site closures and supply chain disruptions related to the COVID-19 pandemic. Foreign currency movements had an immaterial impact on total revenue in 2020, with a favorable impact of 1 percentage point in Europe.

Backlog

Backlog represents the amount of revenue expected from orders that have already been booked, including orders for goods and services that have not been delivered to customers, orders invoiced but not yet recognized as revenue, and orders for goods that were shipped but not invoiced, awaiting acceptance by customers and/or completion of a commitment to a customer. At October 31, 2021, our unfilled backlog was approximately \$2,115 million as compared to approximately \$1,709 million at October 31, 2020, primarily driven by strong order growth and an increase in solutions sales with a longer order-to-revenue cycle. We expect the majority of unfilled backlog to be recognized as revenue within six months. While backlog on any particular date can be an indicator of short-term revenue performance, it is not necessarily a reliable indicator of medium or long-term revenue performance.

Costs and Expenses

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
Gross margin on products	62.4 %	60.0 %	59.5 %	2 pts	1 ppt
Gross margin on services and other	60.7 %	60.0 %	56.0 %	1 ppt	4 pts
Total gross margin	62.1 %	60.0 %	58.9 %	2 pts	1 ppt
Operating margin	21.9 %	18.1 %	16.5 %	4 pts	2 pts
(in millions)					
Research and development	\$ 811	\$ 715	\$ 688	13%	4%
Selling, general and administrative	\$ 1,195	\$ 1,097	\$ 1,155	9%	(5)%
Other operating expense (income), net	\$ (17)	\$ (44)	\$ (20)	(61)%	118%

Gross margin increased 2 percentage points in 2021 compared to 2020, primarily driven by lower amortization of acquisition-related balances and higher revenue volume, partially offset by higher variable people-related costs. Gross margin increased 1 percentage point in 2020 compared to 2019, primarily driven by favorable mix and lower variable compensation, partially offset by lower revenue volume due to the impact of site closures and supply chain disruptions.

Excess and obsolete inventory charges were \$27 million in 2021, \$29 million in 2020 and \$27 million in 2019.

Research and development expense increased 13 percent in 2021 compared to 2020, primarily driven by greater investments in key growth opportunities in our end markets and leading-edge technologies, increase in variable people-related costs and incremental costs of acquired businesses. Research and development expense increased 4 percent in 2020 compared to 2019, primarily driven by greater investments in key growth opportunities in our end markets and leading-edge technologies, and incremental costs of acquired businesses, partially offset by declines in variable compensation and a reduction in discretionary spending due to COVID-19 related disruptions.

Selling, general and administrative expenses increased 9 percent in 2021 compared to 2020, primarily driven by increases in variable and other people-related costs, infrastructure-related costs and incremental costs of acquired businesses, partially offset by reductions in travel and marketing-related costs due to COVID-19 related disruptions. Selling, general and administrative expenses decreased 5 percent in 2020 compared to 2019, primarily driven by declines in travel and marketing-related costs due to COVID-19 related disruptions, and variable and other people-related costs, partially offset by incremental costs of acquired businesses.

Other operating expense (income), net was income of \$17 million, \$44 million and \$20 million for 2021, 2020 and 2019, respectively. Other operating expense (income), net for 2020 includes a one-time gain of \$32 million on an insurance settlement.

Operating margin increased 4 percentage points in 2021 when compared to 2020, primarily driven by gross margin gains and lower operating expenses as a percentage of sales. Operating margin increased 2 percentage points in 2020 when compared to 2019, primarily driven by favorable revenue mix, declines in travel and marketing-related costs due to COVID-19 related disruptions, and variable compensation, partially offset by lower revenue volume.

Our headcount was approximately 14,300 at October 31, 2021 compared to approximately 13,900 at October 31, 2020.

Interest Income and Expense

Interest income for 2021, 2020 and 2019 was \$3 million, \$11 million and \$23 million, respectively, and primarily relates to interest earned on our cash balances. Interest expense for 2021, 2020 and 2019 was \$79 million, \$78 million and \$80 million, respectively, and primarily relates to interest on our senior notes.

Other income (expense), net

Other income (expense), net for 2021, 2020 and 2019 was income of \$6 million, \$63 million and \$61 million, respectively, and primarily includes income related to our defined benefit and post-retirement benefit plans (interest cost, expected return on assets, amortization of net actuarial loss and prior service credits, and gains (losses) on settlements and curtailments) and the change in fair value of our equity investments. The decrease in net other income for 2021 when compared to 2020 was driven by a \$16 million loss on partial settlement of our Netherlands defined benefit plan and higher amortization of net actuarial

losses. We also recognized gains from insurance proceeds of \$9 million and \$15 million for the years ended October 31, 2020 and 2019, respectively.

Income Taxes

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Provision for income taxes	\$ 116	\$ 134	\$ 94
Effective tax rate	11 %	18 %	13 %

The effective tax rate was 11 percent, 18 percent, and 13 percent for 2021, 2020 and 2019, respectively. The tax rate in each of these years was lower than the U.S. statutory rate primarily due to the proportion of worldwide earnings that are taxed at lower statutory tax rates in non-U.S. jurisdictions. The decrease in the effective tax rate from 2020 to 2021 is due to a change in the jurisdictional mix of non-U.S. earnings offset by an increase in U.S. taxes on non-U.S. earnings, a decrease due to the release of valuation allowance on Netherlands net operating losses in 2021, and a decrease due to the 2021 actual tax impact of acquired entity integration as compared to the estimate at acquisition based on the finalization of the integration plan. The increase in the effective tax rate from 2019 to 2020 is primarily due to the 2019 benefit from a release of tax reserves.

Keysight benefits from tax incentives in several jurisdictions, most significantly in Singapore and Malaysia, that have granted us tax incentives that require renewal at various times in the future. The tax incentives provide lower rates of taxation on certain classes of income and require thresholds of investments and employment or specific types of income in those jurisdictions. The Singapore tax incentive is due for renewal in 2024, and the Malaysia incentive is due for renewal in 2025. The impact of the tax incentives decreased income taxes by \$70 million, \$53 million and \$47 million in 2021, 2020 and 2019, respectively. The increase in tax benefit from 2020 to 2021 is primarily due to a change in the jurisdictional mix of non-U.S. earnings, which increased the earnings taxed at incentive tax rates in 2021.

The calculation of our tax liabilities involves uncertainties in the application of complex tax law and regulations in a multitude of jurisdictions. Although the guidance on the accounting for uncertainty in income taxes prescribes the use of a recognition and measurement model, the determination of whether an uncertain tax position has met those thresholds will continue to require significant judgment by management. In accordance with the guidance on the accounting for uncertainty in income taxes, for all U.S. and other tax jurisdictions, we recognize potential liabilities for anticipated tax audit issues based on our estimate of whether, and the extent to which, additional taxes and interest will be due. We include interest and penalties related to unrecognized tax benefits within the provision for income taxes in the consolidated statements of operations. Accrued interest and penalties are included on the related tax liability line in the consolidated balance sheet.

At this time, management does not believe that the outcome of any future or currently ongoing examination will have a material impact on our consolidated financial statements. We believe that we have an adequate provision for any adjustments that may result from tax examinations. However, the outcome of tax examinations cannot be predicted with certainty. If the resolution of any tax issues that arise in any future or currently ongoing examinations are inconsistent with management's expectations, we may be required to adjust our tax provision for income taxes in the period in which such resolution occurs.

The open tax years for the U.S. federal income tax return and most state income tax returns are from November 1, 2017 through the current tax year. For the majority of our foreign entities, the open tax years are from November 1, 2015 through the current tax year. For certain foreign entities, the tax years remain open, at most, back to the year 2008. Given the number of years and numerous matters that remain subject to examination in various tax jurisdictions, we are unable to estimate the range of possible changes to the balance of our unrecognized tax benefits.

Keysight's fiscal year 2018 U.S. federal income tax return is currently under examination by the Internal Revenue Service. The Tax Cuts and Jobs Act was enacted in December 2017 and imposed a one-time U.S. tax on foreign earnings not previously repatriated to the U.S., known as the Transition Tax, which was reported in Keysight's 2018 U.S. federal income tax return.

The company is being audited in Malaysia for the 2008 tax year. This tax year predates our separation from Agilent. However, pursuant to the agreement between Agilent and Keysight pertaining to tax matters, as finalized at the time of separation, for certain entities, including Malaysia, any historical tax liability is the responsibility of Keysight. In the fourth quarter of 2017, Keysight paid income taxes and penalties of \$68 million on gains related to intellectual property rights. Our appeals to both the Special Commissioners of Income Tax and the High Court in Malaysia have been unsuccessful. We have filed a Notice of Appeal with the Court of Appeal. The company believes there are numerous defenses to the current assessment; the statute of limitations for the 2008 tax year in Malaysia was closed, and the income in question is exempt from tax in Malaysia. The company is disputing this assessment and pursuing all avenues to resolve this issue favorably for the company.

Segment Overview

We have two reportable operating segments, the Communications Solutions Group and the Electronic Industrial Solutions Group. The profitability of each of the segments is measured after excluding share-based compensation expense, amortization of acquisition-related balances, acquisition and integration costs, a gain on an insurance settlement related to northern California wildfires, restructuring costs, interest income, interest expense and other items.

Communications Solutions Group

The Communications Solutions Group serves customers spanning the worldwide commercial communications and aerospace, defense, and government end markets. The group's solutions consist of electronic design and test software, electronic measurement instruments, systems and related services. These solutions are used in the simulation, design, validation, manufacturing, installation, and optimization of electronic equipment and networks.

Revenue

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
	(in millions)				
Total revenue	\$ 3,523	\$ 3,132	\$ 3,177	12%	(1)%

Communications Solutions Group revenue for 2021 increased 12 percent when compared to 2020. Foreign currency movements and acquisitions each contributed 1 percentage point to the revenue growth for 2021 when compared to 2020. Revenue grew in both the aerospace, defense and government and the commercial communications markets driven by strong demand for our products and differentiated solutions. Revenue grew across all regions driven by strength in the Americas and Europe. Communications Solutions Group revenue for 2020 decreased 1 percent when compared to 2019. Foreign currency movements had an immaterial impact on the year-over-year comparison. Revenue associated with acquisitions had a 1 percentage point favorable impact on revenue for 2020 when compared to 2019. Revenue declined in the aerospace, defense and government market, while remaining flat in the commercial communications market, primarily driven by temporary site closures and supply chain disruptions due to the impact of the COVID-19 pandemic. Revenue decline in the Americas and Europe was partially offset by growth in Asia Pacific.

Revenue from the commercial communications market represented approximately 68 percent of total Communications Solutions Group revenue in 2021 and increased 8 percent as compared to 2020, with growth in the Americas and Europe, partially offset by a decline in Asia Pacific. The revenue growth was driven by improved economic conditions across the communications ecosystem, partially offset by the impact of China trade restrictions. In 2021, we continue to see investments in 5G, fueled by the ongoing redesign of every aspect of communications systems, including wireless access, infrastructure, wireline technologies, data centers and the cloud. Revenue from the commercial communications market represented approximately 70 percent of total Communications Solutions Group revenue in 2020 and was flat as compared to 2019, with growth in Asia Pacific offset by declines in the Americas and Europe. In 2020, revenue remained flat, primarily driven by continued investments in 5G across the design lifecycle from development to deployment, offset by COVID-19 related site closures and supply chain disruptions.

Revenue from the aerospace, defense and government market represented approximately 32 percent of total Communications Solutions Group revenue in 2021 and increased 23 percent as compared to 2020, with revenue growing across all regions. The strong revenue growth was driven by increased customer demand and continued investment in space, satellite, electromagnetic spectrum operations, and new commercial technologies like 5G and early 6G research applications. Revenue from the aerospace, defense and government market represented approximately 30 percent of total Communications Solutions Group revenue in 2020 and declined 5 percent as compared to 2019, with revenue declining across all regions. The revenue decline was primarily driven by COVID-19 related site closures and supply chain disruptions, and by lower investment in

Europe and Asia. We continue to see strength for our electromagnetic spectrum simulation platform, as well as solutions for radar, space, satellite and 5G.

Gross Margin and Operating Margin

The following table provides Communications Solutions Group margins, expenses and income from operations for 2021 versus 2020, and 2020 versus 2019.

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
Total gross margin	65.3 %	65.2 %	64.0 %	—	1 ppt
Operating margin	26.5 %	24.7 %	23.4 %	2 ppts	1 ppt
(in millions)					
Research and development	\$ 589	\$ 530	\$ 511	11%	4%
Selling, general and administrative	\$ 791	\$ 749	\$ 790	6%	(5)%
Other operating expense (income), net	\$ (12)	\$ (9)	\$ (11)	34%	(15)%
Income from operations	\$ 932	\$ 773	\$ 743	20%	4%

Gross margin for the Communications Solutions Group in 2021 was flat as compared to 2020, as gains driven by higher revenue volume were offset by higher variable people-related costs. Gross margin for the Communications Solutions Group in 2020 increased 1 percentage point compared to 2019, primarily driven by favorable revenue mix and highly differentiated solutions, partially offset by lower revenue volume due to COVID-19 related site closures and supply chain disruptions.

Research and development expense in 2021 increased 11 percent when compared to 2020, driven by greater investments in key growth opportunities in our end markets and leading-edge technologies, higher variable people-related costs, infrastructure-related costs and incremental costs of acquired businesses. Research and development expense in 2020 increased 4 percent when compared to 2019, primarily driven by greater investment in key growth opportunities in our end markets and leading-edge technologies, incremental costs of acquired businesses and increases in infrastructure-related costs, partially offset by declines in variable compensation and travel costs due to COVID-19 related disruptions.

Selling, general and administrative expense in 2021 increased 6 percent when compared to 2020, primarily driven by higher infrastructure-related, selling and variable people-related costs. Selling, general and administrative expense in 2020 decreased 5 percent when compared to 2019, driven by declines in variable compensation and a reduction in discretionary spending due to COVID-19 related disruptions, lower infrastructure-related costs and lower marketing costs, partially offset by incremental costs of acquired businesses.

Other operating expense (income), net, primarily includes property rental income and was income of \$12 million in 2021, \$9 million in 2020 and \$11 million in 2019.

Income from Operations

Income from operations for 2021 increased \$159 million on a corresponding revenue increase of \$391 million. Income from operations for 2020 increased \$30 million on a corresponding revenue decline of \$45 million.

Operating margin in 2021 increased 2 percentage points when compared to 2020, driven by gross margin gains from higher revenue volume and lower selling, general and administrative expenses as a percentage of sales. Operating margin in 2020 increased 1 percentage point when compared to 2019, driven by favorable mix and highly differentiated solutions, while selling, general and administrative expense declined.

Electronic Industrial Solutions Group

The Electronic Industrial Solutions Group provides test and measurement solutions and related services across a broad set of electronic industrial end markets, focusing on high-value applications in the automotive and energy industries and measurement solutions for consumer electronics, education, general electronics design and manufacturing, and semiconductor design and manufacturing. The group provides electronic measurement instruments, design and test software and systems and related services used in the simulation, design, validation, manufacturing, installation and optimization of electronic equipment, and automated test software that uses artificial intelligence and machine learning to automate test creation and test execution.

Revenue

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
	(in millions)				
Total revenue	\$ 1,418	\$ 1,089	\$ 1,135	30%	(4)%

Electronic Industrial Solutions Group revenue for 2021 increased 30 percent when compared to 2020. Foreign currency movements had a favorable impact of 1 percentage point on revenue. Revenue associated with acquisitions contributed 2 percentage points to the revenue growth for 2021 when compared to 2020. The revenue increase was driven by growth in semiconductor measurement solutions, general electronics measurement and automotive and energy, led by ongoing investments in advanced technology nodes, EV and AV technologies and capacity expansions to address demand. We continue to see investments in next-generation semiconductor and new mobility technologies and growth in general electronics measurement. Revenue grew across all regions for 2021 as compared to 2020.

Electronic Industrial Solutions Group revenue for 2020 decreased 4 percent when compared to 2019. For 2020, foreign currency movements had an immaterial impact on revenue. Revenue associated with acquisitions had a favorable impact of 1 percentage point on the year-over-year growth. The revenue decline was primarily driven by temporary site closures and supply chain disruptions due to the impact of the COVID-19 pandemic. Declines in automotive and energy and general electronics measurement were partially offset by growth in semiconductor measurement solutions, driven by continued investments in next-generation technologies. Revenue declined across all regions for 2020 compared to 2019.

Gross Margin and Operating Margin

The following table provides Electronic Industrial Solutions Group margins, expenses and income from operations for 2021 versus 2020, and 2020 versus 2019.

	Year Ended October 31,			2021 over 2020 % Change	2020 over 2019 % Change
	2021	2020	2019		
Total gross margin	64.2 %	62.7 %	61.1 %	2 pts	2 pts
Operating margin	31.3 %	27.1 %	25.9 %	4 pts	1 ppt
(in millions)					
Research and development	\$ 199	\$ 167	\$ 159	20%	4%
Selling, general and administrative	\$ 272	\$ 224	\$ 244	21%	(8)%
Other operating expense (income), net	\$ (5)	\$ (4)	\$ (4)	20%	6%
Income from operations	\$ 444	\$ 296	\$ 294	50%	1%

Gross margin in 2021 increased 2 percentage points as compared to 2020, primarily driven by higher revenue volume and favorable mix. Gross margin in 2020 increased 2 percentage points as compared to 2019, primarily driven by favorable mix, partially offset by lower revenue volume due to temporary COVID-19 related site closures and supply chain disruptions.

Research and development expense in 2021 increased 20 percent when compared to 2020, primarily driven by greater investments in key growth opportunities in our end markets and leading-edge technologies, incremental costs of an acquired business and higher variable people-related costs. Research and development expense in 2020 increased 4 percent when compared to 2019, primarily driven by greater investment in key growth opportunities in our end markets and leading-edge technologies and addition of incremental costs of acquired businesses, partially offset by declines in variable compensation and travel costs due to COVID-19 related disruptions.

Selling, general and administrative expense in 2021 increased 21 percent when compared to 2020, primarily due to incremental costs of an acquired business, higher selling costs, higher infrastructure-related costs and variable people-related costs. Selling, general and administrative expense in 2020 decreased 8 percent when compared to 2019, primarily due to lower selling, infrastructure-related and marketing-related costs and reduced travel costs due to COVID-19 related disruptions, partially offset by incremental costs of acquired businesses.

Other operating expense (income), net primarily includes property rental income and was income of \$5 million in 2021 and \$4 million in both 2020 and 2019.

Income from Operations

Income from operations for 2021 increased \$148 million on a corresponding revenue increase of \$329 million. Income from operations for 2020 increased \$2 million on a corresponding revenue decline of \$46 million.

Operating margin increased 4 percentage points in 2021 compared to 2020, primarily driven by gross margin gains from higher revenue volume and favorable mix and lower operating expenses as a percentage of sales. Operating margin increased 1 percentage point in 2020 compared to 2019, primarily driven by favorable mix and lower operating expenses due to COVID-19 related disruptions, partially offset by a decline in revenue volume.

Financial Condition

Liquidity and Capital Resources

Our liquidity is affected by many factors, some of which are based on normal ongoing operations of our business and some of which arise from fluctuations related to global economics and markets. Our cash balances are generated and held in many locations throughout the world. Under certain circumstances, local government regulations may limit our ability to move cash balances to meet cash needs. We do not currently expect such regulations and restrictions to impact our ability to pay vendors and conduct operations throughout our global organization.

Overview of Cash Flows

Our key cash flow activities were as follows:

	Year Ended October 31		
	2021	2020	2019
	(in millions)		
Net cash provided by operating activities	\$ 1,322	\$ 1,016	\$ 998
Net cash used in investing activities	\$ (353)	\$ (442)	\$ (196)
Net cash used in financing activities	\$ (671)	\$ (413)	\$ (122)

Operating Activities

Cash flows from operating activities can fluctuate significantly from period to period as working capital needs, the timing of payments for income taxes, variable pay, pension funding, and other items impact reported cash flows.

Net cash provided by operating activities increased by \$306 million in 2021 as compared to 2020 and increased \$18 million in 2020 as compared to 2019.

- Net income in 2021 increased \$267 million as compared to 2020. Non-cash adjustments to net income were lower by \$54 million, primarily due to a \$94 million increase in deferred tax benefits and a \$46 million decrease in amortization, partially offset by a one-time prior-period gain of \$32 million related to an insurance recovery of property, plant and equipment reflected as cash from investing activity, a \$16 million loss on a partial settlement of our Netherlands defined benefit plan, a \$13 million increase in depreciation, a \$11 million increase in share-based compensation expense, and a \$14 million increase from other miscellaneous non-cash activities.

Net income in 2020 increased by \$6 million as compared to 2019. Non-cash adjustments in 2020 increased \$34 million compared to 2019, primarily due to a \$43 million increase in deferred tax expense, a \$10 million increase in share-based compensation expense, a \$10 million increase in amortization expense and an \$8 million increase in depreciation expense, partially offset by an adjustment for a \$32 million gain from an insurance settlement related to damage from the 2017 northern California wildfires, which is reflected in investing activities, and a \$7 million decrease from other miscellaneous non-cash activities.

- The aggregate of accounts receivable, inventory and accounts payable used net cash of \$112 million during 2021, compared to net cash used of \$31 million in 2020 and \$105 million in 2019. The amount of cash flow generated from or used by the aggregate of accounts receivable, inventory and accounts payable depends on the cash conversion cycle, which represents the number of days that elapse from the day we pay for the purchase of raw materials and components to the collection of cash from our customers and can be significantly impacted by the timing of shipments and purchases, as well as collections and payments in a period.
- Net cash provided for retirement and post-retirement benefits was \$7 million in 2021, compared to net cash used of \$108 million and \$37 million in 2020 and 2019, respectively. The company's contributions to our U.S. Defined Benefit

Plan were zero, \$100 million and zero in 2021, 2020 and 2019, respectively. The company's contributions to our non-U.S. defined benefit plans were \$8 million, \$10 million and \$26 million in 2021, 2020 and 2019, respectively. We did not contribute to the Keysight Technologies, Inc. Health Plan for Retirees ("U.S. Post-Retirement Benefit Plan") in 2021, 2020 and 2019.

- The aggregate other movements in assets and liabilities provided net cash of \$141 million during 2021, compared to net cash provided of \$82 million in 2020 and \$107 million in 2019. The difference between 2021 and 2020 activities is primarily due to higher variable compensation accruals, net of payments, and higher cash inflow from deferred revenue, partially offset by an increase in prepaid current assets as compared to the same period last year. The difference between 2020 and 2019 activities is primarily due to lower cash inflow from deferred revenue, partially offset by an increase in deferred payroll taxes of \$21 million and increase in cash from income taxes payable as compared to the same period last year. In 2020 and 2019, we received insurance proceeds of \$5 million and \$37 million, respectively, associated with recovery from the 2017 northern California wildfires and a 2016 Singapore warehouse fire.

Investing Activities

Net cash changes in investing activities primarily relates to investments in property, plant and equipment and acquisitions of businesses to support our growth.

Net cash used in investing activities decreased by \$89 million in 2021 as compared to 2020 and increased by \$246 million in 2020 as compared to 2019. Investments in property, plant and equipment increased \$57 million as compared to 2020 and decreased \$3 million in 2020 as compared to 2019. The increase in capital spending in 2021 was driven by capital investments to increase the resiliency of our supply chains.

In 2021, we used \$353 million for investing activities, including \$174 million for purchases of property, plant and equipment; \$102 million, net of \$11 million of cash acquired, for the acquisition of Sanjole Inc., a leader in wireless test and measurement solutions for protocol decoding and interoperability; and \$76 million, net of cash acquired, for other acquisition activities.

In 2020, we used \$442 million for investing activities, including \$117 million for purchases of property, plant and equipment; \$319 million, net of \$11 million of cash acquired, for the acquisition of Eggplant Topco Limited ("Eggplant"), a software test automation platform provider that uses artificial intelligence and machine learning to automate test creation and test execution; and \$38 million, net of cash acquired, for other acquisition activities; partially offset by receipt of insurance proceeds of \$32 million for property, plant and equipment damaged in the 2017 northern California wildfires.

In 2019, we used \$196 million for investing activities, including \$120 million for purchases of property, plant and equipment; \$88 million, net of \$56 million of cash acquired, for the acquisition of Prisma Telecom Testing, a global provider of radio access network test solutions; partially offset by receipt of \$7 million from the sale of investments and \$2 million from divestitures.

Financing Activities

Net cash changes in financing activities primarily relates to proceeds from issuance of common stock under employee stock plans, tax payments related to net share settlement of equity awards and treasury stock repurchases.

Net cash used in financing activities increased by \$258 million in 2021 as compared to 2020 and increased by \$291 million in 2020 as compared to 2019. The incremental increases were primarily due to high treasury stock repurchases.

In 2021, we used \$671 million for financing activities, primarily due to \$673 million of treasury stock repurchases and \$53 million of tax payments related to net share settlement of equity awards, partially offset by \$59 million of proceeds from issuance of common stock under employee stock plans.

In 2020, we used \$413 million for financing activities, primarily due to \$411 million of treasury stock repurchases and \$53 million of tax payments related to net share settlement of equity awards and \$7 million of payments on short-term debt, partially offset by \$58 million of proceeds from issuance of common stock under employee stock plans.

In 2019, we used \$122 million for financing activities, primarily due to \$500 million of payments on short-term debt, \$159 million of treasury stock repurchases and \$26 million of tax payments related to net share settlement of equity awards, partially offset by \$496 million of proceeds from issuance of long-term debt, net of issuance costs, and \$67 million from issuance of common stock under employee stock plans.

Treasury stock repurchases

On November 18, 2020, our board of directors approved a stock repurchase program authorizing the purchase of up to \$750 million of the company's common stock. On November 18, 2021, our board of directors approved a new stock repurchase program authorizing the purchase of up to \$1,200 million of the company's common stock, replacing the previously approved November 2020 program, under which \$77 million remained. The stock repurchase program may be commenced, suspended or discontinued at any time at the company's discretion and does not have an expiration date. See "Issuer Purchases of Equity Securities" under Part II Item 2 for additional information.

Debt

	October 31, 2021		October 31, 2020	
	(in millions)			
Total debt (par value)	\$	1,800	\$	1,800
Revolving credit facility	\$	750	\$	450

On July 30, 2021, we entered into a new credit agreement that amended and restated our existing credit agreement dated February 15, 2017 in its entirety, and provides for a \$750 million five-year unsecured revolving credit facility (the "Revolving Credit Facility") that will expire on July 30, 2026 and bears interest at an annual rate of LIBOR + 1 percent along with a facility fee of 0.125 percent per annum. In addition, the new credit agreement permits the company, subject to certain customary conditions, on one or more occasions to request to increase the total commitments under the Revolving Credit Facility by up to \$250 million in the aggregate. We may use amounts borrowed under the facility for general corporate purposes. As of October 31, 2021 and October 31, 2020, we had no borrowings outstanding under the Revolving Credit Facility. We were in compliance with the covenants of the Revolving Credit Facility during the year ended October 31, 2021. See note 11, "Debt" for additional information.

Cash and cash requirements

Cash

	October 31, 2021		October 31, 2020	
	(in millions)			
Cash, cash equivalents and restricted cash	\$	2,068	\$	1,767
U.S.	\$	427	\$	713
Non-U.S.	\$	1,641	\$	1,054

Our cash and cash equivalents mainly consist of investments in institutional money market funds, short-term deposits held at major global financial institutions and similar short duration instruments with original maturities of 90 days or less. We continuously monitor the creditworthiness of the financial institutions and money market fund asset managers with whom we invest our funds. We utilize a variety of funding strategies in an effort to ensure that our worldwide cash is available in the locations in which it is needed. Most significant international locations have access to internal funding through an offshore cash pool for working capital needs. In addition, a few locations that are unable to access internal funding have access to temporary local overdraft and short-term working capital lines of credit.

Cash requirements

We have cash requirements to support working capital needs, capital expenditures, business acquisitions, contractual obligations, commitments, principal and interest payments on debt, and other liquidity requirements associated with our operations. We generally intend to use available cash and funds generated from our operations to meet these cash requirements, but in the event that additional liquidity is required, we may also borrow under our revolving credit facility.

The following table summarizes our short and long-term cash requirements as of October 31, 2021:

	Total	Due within one year of October 31, 2021 (in millions)	Due later than one year of October 31, 2021
Senior notes obligations	\$ 1,800	\$ —	\$ 1,800
Interest payments on senior notes	379	75	304
Operating lease commitments	260	45	215
Commitments to contract manufacturers and suppliers	506	489	17
Other purchase commitments	60	60	—
Other liabilities reflected on our consolidated balance sheet	1,664	958	706
Total	<u>\$ 4,669</u>	<u>\$ 1,627</u>	<u>\$ 3,042</u>

Senior notes obligations and interest payments on senior notes. We have contractual obligations for principal and interest payments on our senior notes. See note 11, "Debt" for additional information.

Operating lease commitments. Commitments under operating leases primarily relates to leasehold properties. See Note 10, "Leases" for additional information.

Commitments to contract manufacturers and suppliers. We purchase components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. See note 14, "Commitments and contingencies." As of October 31, 2021, we had non-cancellable purchase commitments that aggregated to approximately \$444 million, of which the majority is for less than one year.

Other purchase commitments. Other purchase commitments relate to contracts with professional services suppliers. See note 14, "Commitments and Contingencies."

Other liabilities. Other liabilities primarily includes contract liabilities, net pensions and post-retirement benefit obligations, employee compensation and benefits, net tax liabilities, standard warranties and other accrued liabilities. The timing of cash flows associated with these obligations is based upon management's estimates over the terms of these arrangements and is largely based upon historical experience.

Of the tax liabilities included in the above table, \$66 million relates to a U.S. transition tax liability and \$160 million for uncertain tax positions. The U.S. transition tax liability, which Keysight has elected to pay over 8 years, relates to a one-time U.S. tax on those earnings that have not been previously repatriated to the U.S. With regard to the \$160 million of long-term liabilities for uncertain tax positions, we are unable to accurately predict when these amounts will be realized or released. However, it is reasonably possible that there could be significant changes to our unrecognized tax benefits in the next twelve months due to a tax audit settlement or some other unforeseeable event. See note 5 "Income taxes" for additional information.

In addition to the obligations noted above, as of October 31, 2021 we had \$40 million of outstanding letters of credit and surety bonds unrelated to the credit facility that were issued by various lenders.

For the next twelve months, we do not expect to contribute to our U.S. defined benefit plan and U.S. post-retirement benefit plan, and we expect to contribute \$12 million to our non-U.S. defined benefit plans. The ultimate amounts we will contribute depend upon, among other things, legal requirements, underlying asset returns, the plan's funded status, the anticipated tax deductibility of the contribution, local practices, market conditions, interest rates and other factors. See note 12, "Retirements plans and post-retirements benefits."

Additionally, we expect capital spending to be between approximately \$240 million and \$260 million in 2022, with increasing capacity and technology investments.

As of October 31, 2021, we believe our cash and cash equivalents, cash generated from operations, and our ability to access capital markets and credit lines will satisfy our cash needs for the foreseeable future both globally and domestically.

Critical Accounting Policies and Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. Management bases its estimates on historical experience and various other assumptions believed to be reasonable. Although these estimates are based on management's best knowledge of current events and actions that may impact the company in the future, actual results may be different from the estimates. Due to the COVID-19 pandemic,

there has been uncertainty and disruption in the global economy and our markets. We are not aware of any specific event or circumstance that would require an update to our estimates or judgments or a revision of the carrying value of our assets or liabilities as of October 31, 2021. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used or changes in the accounting estimate that are reasonably likely to occur could materially change the financial statements. Our critical accounting policies are those that affect our financial statements materially and involve difficult, subjective or complex judgments by management. Those policies are revenue recognition, inventory valuation, share-based compensation, retirement and post-retirement plan assumptions, valuation of goodwill and other intangible assets, warranty, loss contingencies, restructuring and accounting for income taxes.

Revenue recognition. Revenue is recognized upon transfer of control of the promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. We primarily generate revenue from the sale of products (hardware and/or software), services, or a combination thereof. We enter into contracts that may involve multiple performance obligations, and we allocate the transaction price between each performance obligation on the basis of relative standalone selling price (“SSP”). We recognize revenue following the five-step model.

1. *Identify the contract with a customer:* Generally, we consider customer purchase orders, which in some cases are governed by master sales or other purchase agreements, to be the customer contract. All of the following criteria must be met before we consider an agreement to qualify as a contract with a customer under the revenue standard: (i) it must be approved by all parties; (ii) each party’s rights regarding the goods and services to be transferred can be identified; (iii) the payment terms for the goods and services can be identified; (iv) the agreement has commercial substance; and, (v) the customer has the ability and intent to pay and collection of substantially all of the consideration is probable. We exercise reasonable judgment to determine the customer’s ability and intent to pay, which is based upon various factors including the customer’s historical payment experience or credit and financial information and credit risk management measures that we implement.
2. *Identify the performance obligations in the contract:* We assess whether each promised good or service is distinct for the purpose of identifying the various performance obligations in each contract. Promised goods and services are considered distinct provided that: (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer; and, (ii) our promise to transfer the good or service to the customer is separately identifiable or distinct from other promises in the contract.
3. *Determine the transaction price:* Transaction price reflects the amount of consideration to which we expect to be entitled in exchange for transferring goods or services. Our contracts may include terms that could cause variability in the transaction price including rebates, rights of return, trade-in credits, and discounts. Variable consideration is generally accounted for at the portfolio level and estimated based on historical information.
4. *Allocate the transaction price to performance obligations in the contract:* If the contract contains a single performance obligation, the entire transaction price is allocated to that performance obligation. Many of our contracts include multiple performance obligations with a combination of distinct products and services, maintenance and support, professional services and/or training. For contracts with multiple performance obligations, we allocate the total transaction value to each distinct performance obligation based on relative SSP. Judgment is required to determine the SSP for each distinct performance obligation. The best evidence of SSP is the observable price of a good or service when we sell that good or service separately under similar circumstances to similar customers. Since most contracts contain multiple performance obligations, we use information that may include market conditions and other observable inputs to estimate SSP when we don’t have standalone transactions.
5. *Recognize revenue when (or as) performance obligations are satisfied:* Revenue is recognized at the point in time control is transferred to the customer. For hardware sales, transfer of control to the customer typically occurs at the point the product is shipped or delivered to the customer’s designated location. For software license sales transfer of control to the customer typically occurs upon shipment, electronic delivery, or when the software is available for download by the customer. For sales of implementation service and custom solutions or in instances where products are sold along with essential installation services, transfer of control occurs and revenue is typically recognized upon customer acceptance. For fixed-price support and extended warranty contracts, or certain software arrangements that provide customers with a right to access over a discrete period, control is deemed to transfer over time and revenue is recognized on a straight-line basis over the contract term due to the stand-ready nature of the performance obligation. Revenue from hardware repairs and calibration services outside of an extended warranty or support contract is recognized at the time of completion of the related service. For other professional services or time-based labor contracts, revenue is recognized as we perform the services and the customers receive and/or consume the benefits.

Inventory valuation. We assess the valuation of our inventory on a periodic basis and make adjustments to the value for estimated excess and obsolete inventory based upon estimates about future demand and actual usage. Such estimates are difficult to make under most economic conditions. The excess balance determined by this analysis becomes the basis for our excess inventory charge. Our excess inventory review process includes analysis of sales forecasts, managing product rollovers and working with manufacturing to maximize recovery of excess inventory. If actual market conditions are less favorable than those projected by management, additional write-downs may be required. If actual market conditions are more favorable than anticipated, inventory previously written down may be sold to customers, resulting in lower cost of sales and higher income from operations than expected in that period.

Share-based compensation. We account for share-based awards in accordance with the provisions of the authoritative accounting guidance, which requires the measurement and recognition of compensation expense for all share-based payment awards made to our employees and directors. Awards granted under the Keysight Technologies, Inc. Long-Term Performance ("LTP") Program are based on a variety of targets, such as total shareholder return ("TSR") or financial metrics such as operating margin. The awards based on TSR were valued using a Monte Carlo simulation model and those based on financial metrics were valued based on the market price of Keysight's common stock on the date of grant. The compensation cost for financial metrics-based performance awards reflect the cost of awards that are probable to vest at the end of the performance period. The Monte Carlo simulation fair value model requires the use of highly subjective and complex assumptions, including the price volatility of the underlying stock. For additional information on valuation assumptions, see Note 4, "Share-Based Compensation." The estimated fair value of restricted stock awards is determined based on the market price of Keysight's common stock on the date of grant. We did not grant any option awards in 2021, 2020 and 2019.

Retirement and post-retirement benefit plan assumptions. Retirement and post-retirement benefit plan costs are a significant cost of doing business. They represent obligations that will ultimately be settled sometime in the future and therefore are subject to estimation. Defined benefit plan obligations are remeasured at least annually as of October 31, based on the present value of future benefit payments to reflect the future benefit costs over the employees' average expected future service to Keysight based on the terms of the plans. To estimate the present value of these future payments, we are required to make assumptions using actuarial concepts within the framework of GAAP. Two critical assumptions are the discount rate and the expected long-term return on plan assets. Other important assumptions include, expected future salary increases, expected future increases to benefit payments, expected retirement dates, employee turnover, retiree mortality rates, and investment portfolio composition. We evaluate these assumptions at least annually. See Note 12, "Retirement Plans and Post-Retirement Benefit Plans."

The discount rate is used to determine the present value of future benefit payments at the measurement date, which is October 31 for both U.S. and non-U.S. plans. The U.S. discount rates as of October 31, 2021 and 2020 were determined based on the results of matching expected plan benefit payments with cash flows from a hypothetically constructed bond portfolio. The non-U.S. discount rates as of October 31, 2021 and 2020 were determined using spot rates along the yield curve to calculate disaggregated discount rates. In addition, we used this method to calculate two components of the periodic benefit cost: service cost and interest cost. If we changed our discount rate by 1 percent, the impact would be \$7 million on U.S. net periodic benefit cost and \$12 million on non-U.S. net periodic benefit cost. Lower discount rates increase the present value of the liability and subsequent year pension expense; higher discount rates decrease the present value of the liability and subsequent year pension expense.

The company uses alternate methods of amortization, as allowed by the authoritative guidance, that amortizes the actuarial gains and losses on a consistent basis for the years presented. For U.S. plans, gains and losses are amortized over the average future working lifetime. For most non-U.S. plans and U.S. post-retirement benefit plans, gains and losses are amortized using a separate layer for each year's gains and losses. The expected long-term return on plan assets is estimated using current and expected asset allocations as well as historical and expected returns. Plan assets are valued at fair value. If we changed our estimated return on assets by 1 percent, the impact would be \$9 million on U.S. net periodic benefit cost and \$15 million on non-U.S. net periodic benefit cost.

Goodwill and other intangible assets. We review goodwill for impairment annually during our fourth fiscal quarter and whenever events or changes in circumstances indicate the carrying value may not be recoverable. As defined in the authoritative guidance, a reporting unit is an operating segment, or one level below an operating segment. At the time of an acquisition, we assign goodwill to the reporting unit that is expected to benefit from the synergies of the combination.

Companies have the option to perform a qualitative assessment to determine whether performing a quantitative test is necessary. If an entity believes, as a result of its qualitative assessment, that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test will be required. Otherwise, no further testing will be required.

The quantitative impairment test involves a comparison of the estimated fair value of a reporting unit to its carrying amount, including goodwill. We determine the fair value of a reporting unit using the results derived using the market approach, when available and appropriate, or the income approach, or a combination of both. If multiple valuation methodologies are used, the results are weighted accordingly. The income approach is estimated through the discounted cash flow ("DCF") analysis. Determining fair value requires the exercise of significant judgment, including judgments about appropriate discount rates, revenue growth rates, and the amount and timing of expected future cash flows. Discount rates are based on a weighted average cost of capital ("WACC"), which represents the average rate a business must pay its providers of debt and equity, plus a risk premium. The WACC used to test goodwill is derived from a group of comparable companies. The cash flows employed in the DCF analysis are derived from internal forecasts and external market forecasts. The market approach estimates the fair value of the reporting unit by utilizing the market comparable method, which is based on revenue and earnings multiples from comparable companies. If the estimated fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is not impaired. If the carrying amount of a reporting unit exceeds its estimated fair value, then an impairment charge is recorded for the amount by which the carrying amount exceeds the reporting unit's fair value up to a maximum amount of the goodwill balance for the reporting unit.

During the fourth quarter of 2021, we performed our annual impairment test of goodwill for all our reporting units using a qualitative approach, except for our Eggplant reporting unit, which is included in our EISG reportable segment, for which the test was performed using a quantitative approach. The income and market approaches were used to determine the fair value of the Eggplant reporting unit. With respect to the income approach, the discounted cash flow method was used, which included a forecasted cash flow projection and an estimated terminal value. The market approach used revenue, gross margin and EBITDA multiples to develop an estimate of fair value. A weighting of 75 percent and 25 percent was applied to the income and market approaches, respectively, to determine the fair value of the Eggplant reporting unit. The income approach was given a larger weighting based on the underlying detailed financial projections prepared during the strategic planning cycle that reflect the financial and operational facts and circumstances specific to Eggplant as of the valuation date. Based on the results of our annual impairment tests, the fair value of each of our reporting units exceeded the carrying value.

Other intangible assets consist primarily of developed technologies, proprietary know-how, trademarks, customer relationships, non-compete agreements, and backlog and are amortized using the straight-line method over estimated useful lives ranging from 6 months to 12 years. We review other intangible assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. We performed an impairment test of Eggplant and our previous Ixia Solutions Group's long-lived assets in 2021 and 2019, respectively, which preceded the quantitative test of goodwill in accordance with the guidance, and concluded that no impairment charge was required. No impairments of purchased intangible assets were recorded during the years ended October 31, 2021, 2020 and 2019.

We review indefinite-lived intangible assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. The authoritative accounting guidance allows a qualitative approach for testing indefinite-lived intangible assets for impairment, similar to the impairment testing guidance for goodwill. It allows the option to first assess qualitative factors (events and circumstances) that could have affected the significant inputs used in determining the fair value of the indefinite-lived intangible asset. The qualitative factors assist in determining whether it is more-likely-than-not that the indefinite-lived intangible asset is impaired. An organization may choose to bypass the qualitative assessment for any indefinite-lived intangible asset in any period and proceed directly to calculating its fair value. Our indefinite-lived intangible assets are in-process research and development ("IPR&D") intangible assets. In 2021, 2020 and 2019, we assessed impairment by performing a qualitative test. No material impairments of indefinite-lived intangible assets were recorded in 2021, 2020 and 2019.

Warranty. Keysight warranties on products sold through direct sales channels are primarily for one year. Warranties for products sold through distribution channels are primarily for three years. We accrue for standard warranty costs based on historical trends in warranty charges. The accrual is reviewed regularly and periodically adjusted to reflect changes in warranty cost estimates. Estimated warranty charges are recorded within cost of products at the time related product revenue is recognized.

We also sell extended warranties that provide warranty coverage beyond the standard warranty term. Revenue associated with extended warranties is deferred and recognized over the extended coverage period.

Loss Contingencies. As discussed in Note 13 and 14 to the consolidated financial statements, we are, from time to time, subject to a variety of litigation and similar contingent liabilities incidental to our business (or the business operations of previously owned entities). We recognize a liability for any contingency that is known or probable of occurrence and reasonably estimable. These assessments require judgments concerning matters such as litigation developments and outcomes, the anticipated outcome of negotiations, the number of future claims and the cost of both pending and future claims. In addition,

because most contingencies are resolved over long periods of time, liabilities may change in the future due to various factors. Changes in these factors could materially impact our financial position or our results of operation.

Restructuring. The main component of our restructuring plan is related to workforce reductions and site restructuring. Workforce reduction charges are accrued when payment of benefits becomes probable and the amounts can be estimated. If the amounts and timing of cash flows from restructuring activities are significantly different from what we have estimated, the actual amount of restructuring and other related charges could be materially different, either higher or lower, than those we have recorded.

Accounting for income taxes. We must make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of tax benefits, credits and deductions, and in the calculation of certain tax assets and liabilities that arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

Significant management judgment is also required in determining whether deferred tax assets will be realized in full or in part. When it is more-likely-than-not that all or some portion of specific deferred tax assets such as net operating losses or foreign tax credit carryforwards will not be realized, a valuation allowance must be established for the amount of the deferred tax assets that cannot be realized. We consider all available positive and negative evidence on a jurisdiction-by-jurisdiction basis when assessing whether it is more likely than not that deferred tax assets are recoverable. We consider evidence such as our past operating results, the existence of losses in recent years and our forecast of future taxable income. At October 31, 2021, the company maintains a valuation allowance mainly related to net operating losses in Luxembourg and the U.K., capital losses in the U.K., and California research credits. We intend to maintain a valuation allowance in these jurisdictions until sufficient positive evidence exists to support their reversal.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax law and regulations in a multitude of jurisdictions. Although the guidance on the accounting for uncertainty in income taxes prescribes the use of a recognition and measurement model, the determination of whether an uncertain tax position has met those thresholds will continue to require significant judgment by management. In accordance with the guidance on the accounting for uncertainty in income taxes, for all U.S. and other tax jurisdictions, we recognize potential liabilities for anticipated tax audit issues based on our estimate of whether, and the extent to which, additional taxes and interest will be due. The ultimate resolution of tax uncertainties may differ from what is currently estimated, which could result in a material impact on income tax expense. If our estimate of income tax liabilities proves to be less than the ultimate assessment, a further charge to expense would be required. If events occur and the payment of these amounts ultimately proves to be unnecessary, the reversal of the liabilities would result in tax benefits being recognized in the period when we determine the liabilities are no longer necessary. We include interest and penalties related to unrecognized tax benefits within the provision for income taxes in the consolidated statements of operations.

New Accounting Standards

See Note 1, "Overview and summary of significant accounting policies," to the consolidated financial statements for a description of new accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

At various times, we use derivative financial instruments to limit exposure to changes in foreign currency exchange rates and interest rates. Because derivative instruments are used solely as hedges and not for speculative trading purposes, fluctuations in the market values of such derivative instruments are generally offset by reciprocal changes in the underlying economic exposures that the instruments are intended to hedge. For further discussion of derivative financial instruments, see Note 9, "Derivatives."

Currency exchange rate risk

We are exposed to foreign currency exchange rate risks inherent in our sales commitments, anticipated sales, expenses and assets and liabilities denominated in currencies other than the functional currency of our subsidiaries. We hedge future cash flows denominated in currencies other than the functional currency using sales and expense forecasts on a rolling period of up to twelve months. Our exposure to exchange rate risks is managed on an enterprise-wide basis. This strategy utilizes derivative financial instruments, primarily forward contracts, to hedge certain foreign currency exposures with the intent of offsetting gains and losses that occur on the underlying exposures with gains and losses on the derivative contracts hedging them. We do not currently and do not intend to utilize derivative financial instruments for speculative trading purposes. To the extent that we are required to pay for all, or portions, of an acquisition price in foreign currencies, we may enter into foreign exchange contracts to reduce the risk that currency movements will impact the cost of the transaction.

Our operations generate non-functional currency cash flows such as revenue, third-party vendor payments and inter-company payments. In anticipation of these foreign currency cash flows and in view of the volatility of the currency market, we enter into foreign exchange contracts as described above to substantially mitigate our currency risk. In 2021, 2020 and 2019, approximately 77 percent, 76 percent and 74 percent of our revenues were generated in U.S. dollars.

The unfavorable effects of changes in foreign currency exchange rates, principally as a result of the strength of the U.S. dollar, had an immaterial impact on our revenue in the year ended October 31, 2021. We calculate the impact of foreign currency exchange rates movements by applying the actual foreign currency exchange rates in effect during the last month of each quarter to the current year to both the applicable current and prior year periods. We also performed a sensitivity analysis assuming a hypothetical 10 percent adverse movement in foreign exchange rates to the hedging contracts and the underlying exposures described above. As of October 31, 2021 and 2020, the analysis indicated that these hypothetical market movements would not have a material effect on our consolidated financial position, results of operations or cash flows.

Interest rate risk

A change in interest rates on long-term debt impacts the fair value of the company's fixed-rate long-term debt but not the company's earnings or cash flow because the interest on such debt is fixed. Generally, the fair market value of fixed-rate debt will increase as interest rates fall and decrease as interest rates rise.

As of October 31, 2021, a hypothetical 10 percent increase in interest rates would have decreased the fair value of the company's fixed-rate long-term debt by approximately \$17 million. However, since the company currently has no plans to repurchase its outstanding fixed-rate instruments before their maturity nor do the investors in our fixed-rate debt obligations have the right to demand we pay off these obligations prior to maturity, the impact of market interest rate fluctuations on the company's fixed-rate long-term debt does not affect the company's results of operations or stockholders' equity.

Item 8. *Financial Statements and Supplementary Data*

Index to Consolidated Financial Statements

	Page
Consolidated Financial Statements:	
Report of Independent Registered Public Accounting Firm	55
Consolidated Statement of Operations for each of the three years in the period ended October 31, 2021	57
Consolidated Statement of Comprehensive Income for each of the three years in the period ended October 31, 2021	58
Consolidated Balance Sheet at October 31, 2021 and 2020	59
Consolidated Statement of Cash Flows for each of the three years in the period ended October 31, 2021	60
Consolidated Statement of Equity for each of the three years in the period ended October 31, 2021	61
Notes to Consolidated Financial Statements	62

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Keysight Technologies, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Keysight Technologies, Inc. and its subsidiaries (the “Company”) as of October 31, 2021 and 2020, and the related consolidated statements of operations, of comprehensive income, of equity and of cash flows for each of the three years in the period ended October 31, 2021, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended October 31, 2021 appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of October 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of October 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended October 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases on November 1, 2019 and the manner in which it accounts for revenues from contracts with customers on November 1, 2018.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide

reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

U.S. and Certain Non-U.S. Defined Benefit Plan Obligations

As described in Notes 1 and 12 to the consolidated financial statements, the Company has defined benefit plan obligations of \$881 million and \$1,465 million for its U.S. plans and non-U.S. plans, respectively, as of October 31, 2021. Management remeasures the defined benefit plan obligations at least annually based on the present value of future benefit payments to reflect the future benefit costs over the employees' average expected future service to Keysight based on the terms of the plans. Management estimates the present value of the future payments using actuarial concepts and assumptions. Two critical assumptions used by management to estimate the defined benefit plan obligations are the discount rate and the expected long-term return on plan assets.

The principal considerations for our determination that performing procedures relating to the Company's U.S. and certain non-U.S. defined benefit plan obligations is a critical audit matter are (i) the significant judgment by management in determining the present value of the defined benefit plan obligations; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating the significant assumption related to the discount rates used in determining the present value of the defined benefit plan obligations; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the determination of the present value of the defined benefit plan obligations, including controls over the Company's methods, significant assumptions, and data. These procedures also included, among others, testing the completeness and accuracy of the underlying data used in the estimate and the involvement of professionals with specialized skill and knowledge to assist in (i) evaluating the appropriateness of the actuarial concepts used to estimate the present value of the defined benefit plan obligations, (ii) developing an independent range of discount rates and (iii) comparing management's selected discount rates to the independently developed ranges to evaluate the reasonableness of management's discount rate assumption. Developing the independent estimate involved developing a range of independent discount rates for each benefit plan based on publicly available market data for high quality corporate bonds.

/s/ PricewaterhouseCoopers LLP

San Francisco, California
December 17, 2021

We have served as the Company's auditor since 2013.

KEYSIGHT TECHNOLOGIES, INC.
CONSOLIDATED STATEMENT OF OPERATIONS
(in millions, except per share data)

	Year Ended October 31,		
	2021	2020	2019
Revenue:			
Products	\$ 4,050	\$ 3,432	\$ 3,554
Services and other	891	789	749
Total revenue	4,941	4,221	4,303
Costs and expenses:			
Cost of products	1,522	1,373	1,439
Cost of services and other	350	315	330
Total costs	1,872	1,688	1,769
Research and development	811	715	688
Selling, general and administrative	1,195	1,097	1,155
Other operating expense (income), net	(17)	(44)	(20)
Total costs and expenses	3,861	3,456	3,592
Income from operations	1,080	765	711
Interest income	3	11	23
Interest expense	(79)	(78)	(80)
Other income (expense), net	6	63	61
Income before taxes	1,010	761	715
Provision for income taxes	116	134	94
Net income	\$ 894	\$ 627	\$ 621
Net income per share:			
Basic	\$ 4.84	\$ 3.35	\$ 3.31
Diluted	\$ 4.78	\$ 3.31	\$ 3.25
Weighted average shares used in computing net income per share:			
Basic	185	187	188
Diluted	187	189	191

The accompanying notes are an integral part of these consolidated financial statements.

KEYSIGHT TECHNOLOGIES, INC.
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
(in millions)

	Year Ended October 31,		
	2021	2020	2019
Net income	\$ 894	\$ 627	\$ 621
Other comprehensive income (loss):			
Unrealized gain (loss) on derivative instruments, net of tax benefit (expense) of \$(6), \$(4) and \$1	26	16	(4)
Amounts reclassified into earnings related to derivative instruments, net of tax benefit (expense) of zero, \$(1) and zero	(2)	3	3
Foreign currency translation, net of tax benefit (expense) of zero	(10)	33	17
Net defined benefit pension cost and post retirement plan costs:			
Change in actuarial net gain (loss), net of tax benefit (expense) of \$(55), \$23 and \$28	144	(64)	(91)
Change in net prior service credit, net of tax benefit of zero, \$3 and \$4	(1)	(9)	(15)
Other comprehensive income (loss)	157	(21)	(90)
Total comprehensive income	<u>\$ 1,051</u>	<u>\$ 606</u>	<u>\$ 531</u>

The accompanying notes are an integral part of these consolidated financial statements.

KEYSIGHT TECHNOLOGIES, INC.
CONSOLIDATED BALANCE SHEET
(in millions, except par value and share data)

	October 31,	
	2021	2020
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 2,052	\$ 1,756
Accounts receivable, net	735	606
Inventory	777	757
Other current assets	270	255
Total current assets	3,834	3,374
Property, plant and equipment, net	650	595
Operating lease right-of-use assets	227	182
Goodwill	1,628	1,537
Other intangible assets, net	272	361
Long-term investments	70	61
Long-term deferred tax assets	711	740
Other assets	389	368
Total assets	\$ 7,781	\$ 7,218
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	\$ 287	\$ 224
Employee compensation and benefits	355	289
Deferred revenue	478	391
Income and other taxes payable	74	64
Operating lease liabilities	41	43
Other accrued liabilities	74	70
Total current liabilities	1,309	1,081
Long-term debt	1,791	1,789
Retirement and post-retirement benefits	167	362
Long-term deferred revenue	187	175
Long-term operating lease liabilities	191	149
Other long-term liabilities	352	365
Total liabilities	3,997	3,921
Commitments and contingencies (Note 14)		
Stockholders' equity:		
Preferred stock; \$0.01 par value; 100 million shares authorized; none issued and outstanding	—	—
Common stock; \$0.01 par value; 1 billion shares authorized; 197 million shares at October 31, 2021, and 196 million shares at October 31, 2020 issued	2	2
Treasury stock at cost; 15.1 million shares at October 31, 2021 and 10.7 million shares at October 31, 2020	(1,425)	(752)
Additional paid-in-capital	2,219	2,110
Retained earnings	3,430	2,536
Accumulated other comprehensive loss	(442)	(599)
Total stockholders' equity	3,784	3,297
Total liabilities and equity	\$ 7,781	\$ 7,218

The accompanying notes are an integral part of these consolidated financial statements.

KEYSIGHT TECHNOLOGIES, INC.
CONSOLIDATED STATEMENT OF CASH FLOWS
(in millions)

	Year Ended October 31,		
	2021	2020	2019
Cash flows from operating activities:			
Net income	\$ 894	\$ 627	\$ 621
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	117	104	96
Amortization	176	222	212
Share-based compensation	103	92	82
Deferred tax expense (benefit)	(53)	41	(2)
Excess and obsolete inventory-related charges	27	29	27
Loss on settlement of pension plan	16	—	—
Gain on insurance proceeds received for damage to property, plant and equipment	—	(32)	—
Other non-cash expenses (income), net	6	(10)	(3)
Changes in assets and liabilities:			
Accounts receivable	(122)	75	(26)
Inventory	(43)	(73)	(92)
Accounts payable	53	(33)	13
Employee compensation and benefits	50	2	—
Deferred revenue	96	41	112
Income taxes payable	34	5	(16)
Retirement and post-retirement benefits	7	(108)	(37)
Other assets and liabilities	(39)	34	11
Net cash provided by operating activities	1,322	1,016	998
Cash flows from investing activities:			
Investments in property, plant and equipment	(174)	(117)	(120)
Acquisitions of businesses and intangible assets, net of cash acquired	(178)	(357)	(88)
Insurance proceeds received for damage to property, plant and equipment	—	32	—
Proceeds from sale of investments	—	—	7
Other investing activities	(1)	—	5
Net cash used in investing activities	(353)	(442)	(196)
Cash flows from financing activities:			
Proceeds from issuance of common stock under employee stock plans	59	58	67
Payment of taxes related to net share settlement of equity awards	(53)	(53)	(26)
Treasury stock repurchases	(673)	(411)	(159)
Proceeds from issuance of long-term debt	—	—	500
Repayment of debt	—	(7)	(500)
Payment of acquisition-related contingent consideration	(2)	—	—
Other financing activities	(2)	—	(4)
Net cash used in financing activities	(671)	(413)	(122)
Effect of exchange rate movements	3	6	3
Net increase in cash, cash equivalents, and restricted cash	301	167	683
Cash, cash equivalents, and restricted cash at beginning of year	1,767	1,600	917
Cash, cash equivalents, and restricted cash at end of year	\$ 2,068	\$ 1,767	\$ 1,600
Supplemental cash flow information:			
Interest payments	\$ 75	\$ 75	\$ 76
Income tax paid, net	\$ 130	\$ 84	\$ 103
Investments in property, plant and equipment included in accounts payable	\$ 22	\$ 14	\$ 14

The accompanying notes are an integral part of these consolidated financial statements.

KEYSIGHT TECHNOLOGIES, INC.
CONSOLIDATED STATEMENT OF EQUITY
(in millions, except number of shares in thousands)

	Common Stock			Treasury Stock		Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Number of Shares	Par Value	Additional Paid-in Capital	Number of Shares	Treasury Stock at Cost			
Balance as of October 31, 2018	191,204	\$ 2	\$ 1,889	(4,364)	\$ (182)	\$ 1,212	\$ (488)	\$ 2,433
Adjustment due to adoption of new accounting standards	—	—	—	—	—	76	—	76
Net income	—	—	—	—	—	621	—	621
Other comprehensive loss, net of tax	—	—	—	—	—	—	(90)	(90)
Issuance of common stock	2,565	—	68	—	—	—	—	68
Taxes related to net share settlement of equity awards	—	—	(26)	—	—	—	—	(26)
Share-based compensation	—	—	82	—	—	—	—	82
Repurchase of common stock	—	—	—	(2,094)	(160)	—	—	(160)
Balance as of October 31, 2019	193,769	2	2,013	(6,458)	(342)	1,909	(578)	3,004
Net income	—	—	—	—	—	627	—	627
Other comprehensive loss, net of tax	—	—	—	—	—	—	(21)	(21)
Issuance of common stock	1,892	—	58	—	—	—	—	58
Taxes related to net share settlement of equity awards	—	—	(53)	—	—	—	—	(53)
Share-based compensation	—	—	92	—	—	—	—	92
Repurchase of common stock	—	—	—	(4,274)	(410)	—	—	(410)
Balance as of October 31, 2020	195,661	2	2,110	(10,732)	(752)	2,536	(599)	3,297
Net income	—	—	—	—	—	894	—	894
Other comprehensive income, net of tax	—	—	—	—	—	—	157	157
Issuance of common stock	1,587	—	59	—	—	—	—	59
Taxes related to net share settlement of equity awards	—	—	(53)	—	—	—	—	(53)
Share-based compensation	—	—	103	—	—	—	—	103
Repurchase of common stock	—	—	—	(4,362)	(673)	—	—	(673)
Balance as of October 31, 2021	197,248	\$ 2	\$ 2,219	(15,094)	\$ (1,425)	\$ 3,430	\$ (442)	\$ 3,784

The accompanying notes are an integral part of these consolidated financial statements.

KEYSIGHT TECHNOLOGIES, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. OVERVIEW, BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Overview. Keysight Technologies, Inc. ("we," "us," "Keysight" or the "company"), incorporated in Delaware on December 6, 2013, is a technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world by providing electronic design and test solutions that are used in the simulation, design, validation, manufacture, installation, optimization and secure operation of electronics systems in the communications, networking and electronics industries. We also offer customization, consulting and optimization services throughout the customer's product development lifecycle, including start-up assistance, asset management, up-time services, application services and instrument calibration and repair.

Basis of Presentation. We have prepared the accompanying financial statements pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC") and in conformity with generally accepted accounting principles in the U.S. ("GAAP"). Our fiscal year end is October 31. Unless otherwise stated, all years and dates refer to our fiscal year.

Management is responsible for the fair presentation of the accompanying consolidated financial statements, prepared in accordance with GAAP, and has full responsibility for their integrity and accuracy. In the opinion of management, the accompanying consolidated financial statements contain all normal and recurring adjustments necessary to present fairly our consolidated balance sheet and our consolidated statement of operations, statement of comprehensive income, statement of cash flows and statement of equity.

Principles of consolidation. The consolidated financial statements include the accounts of the company and our wholly- and majority-owned subsidiaries. All significant inter-company transactions have been eliminated.

Use of Estimates. The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. Management bases its estimates on historical experience and various other assumptions believed to be reasonable. Although these estimates are based on management's knowledge of current events and actions that may impact the company in the future, actual results may be different from the estimates. Due to the COVID-19 pandemic, there has been uncertainty and disruption in the global economy and our markets. We are not aware of any specific event or circumstance that would require an update to our estimates or judgments or a revision of the carrying value of our assets or liabilities as of October 31, 2021. Our critical accounting policies are those that affect our financial statements materially and involve difficult, subjective or complex judgments by management. Those policies are revenue recognition, inventory valuation, share-based compensation, retirement and post-retirement plan assumptions, valuation of goodwill and other intangible assets, warranty, loss contingencies, restructuring and accounting for income taxes.

Revenue recognition

Revenue is recognized upon transfer of control of the promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. We primarily generate revenue from the sale of products (hardware and/or software), services, or a combination thereof. We enter into contracts that may involve multiple performance obligations, and we allocate the transaction price between each performance obligation on the basis of relative standalone selling price. Revenue is recognized net of allowances for returns and any taxes collected from customers, which are subsequently remitted to governmental authorities.

Nature of Goods and Services

Product revenues are generated predominantly from the sale of various types of design and test software and hardware. Products consist of standalone software and hardware generally installed with software applications that are licensed on a perpetual and term basis. Our hardware products generally do not have any substantive acceptance terms that would otherwise preclude the transfer of control. Performance obligations related to our software licenses, including the license portion of our software subscriptions, grant the customer the right to use our software via electronic delivery.

Service revenues consist of repair and calibration services, extended warranties, technical support for hardware and software, when-and-if available software updates and upgrades, and professional services, including installation and implementation, consulting, and training. Services include both hardware and software services. Repair and calibration services for hardware products are sold both as per-incident customer services and as customer agreements to provide such services over the contractual period. Extended warranties are optional to the customer and provide warranty on hardware products for additional years beyond the standard one-year warranty. Technical support for software and when-and-if available software updates and upgrades are sold either together with our software licenses and software subscriptions, or separately as part of our customer support programs. These are considered stand-ready performance obligations where customers benefit from the services evenly throughout the license or service period. These performance obligations provide the customer access evenly over the contract period. Our professional services may be sold on a time and material basis (e.g., consulting) or on a fixed-fee basis (e.g., non-recurring engineering).

We also generate revenues from a combination of products and services ("custom solutions"), including combinations of hardware, software, software subscriptions, installation, professional services, and other support services. Custom solutions provide the customer with a combination of hardware, software and professional services to meet customers' unique specifications and are accounted for as one performance obligation.

For our contracts with customers, we account for individual performance obligations separately if they are distinct. Our standard payment terms are net 30 to 90 days, and we generally do not offer extended payment terms beyond one year. Our contracts typically contain various forms of variable consideration, including trade discounts, trade-in credits, rebates, and rights of return. The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. Standalone selling prices ("SSPs") for a majority of our products and services are estimated based on our established pricing practices and maximize the use of observable inputs. An observable input is the price of the good or service when it is sold as a separate item in a similar circumstance and to a similar customer as in the contract for which SSPs are being determined. We have elected to exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction and collected by Keysight from a customer (e.g., sales, use, value added, and some excise taxes). We have also elected to account for shipping and handling activities that occur after control of the related good transfers as fulfillment activities instead of assessing such activities as performance obligations.

Our typical performance obligations include the following:

Performance obligation	When performance obligation is typically satisfied	When payment is typically due	How standalone selling price is typically determined
<u>Product Revenues</u>			
Hardware	When customer obtains control of the product, typically at delivery (point in time)	Within 30-90 days of shipment	Estimated based on established pricing practices or observable based on standalone sales for certain hardware products
Software licenses	Upon electronic delivery of the software, and the applicable license period has begun (point in time)	Within 30-90 days of the beginning of license period	Estimated based on established pricing practices or observable based on standalone sales for certain software products
Threat intelligence solutions	Ratably over the subscription period (over time)	Within 30-90 days of the beginning of subscription period	Estimated based on established pricing practices
<u>Service Revenues</u>			
Calibration contracts	Ratably over the service contract period (over time)	Within 30-90 days of the beginning of service contract period	Estimated based on established pricing practices
Repair and calibration (per-incident)	As services are performed (point in time)	Within 30-90 days of invoicing for services rendered	Estimated based on established pricing practices
Extended hardware warranty	Ratably over the warranty period (over time)	Within 30-90 days of invoicing	Estimated based on established pricing practices or observable based on standalone sales of certain hardware warranty contracts
Technical support and when-and-if-available software updates	Ratably over the license service contract period (over time)	Within 30-90 days of the beginning of license or service contract period	Estimated based on established pricing practices or observable based on standalone sales for certain support contracts
Professional services	As services are performed based on measures of progress (over time) or at a point in time	Within 30-90 days of invoicing for services rendered	Estimated based on established pricing practices
<u>Custom Solutions</u>			
Custom solutions (milestone-based)	As milestones are achieved based on transfer of control to customer (over time)	Within 30-90 days of milestone achievement	Transaction price, as pricing is custom and can vary significantly from contract to contract
Custom solutions (point in time)	When customer obtains control of the solution, typically at delivery or customer acceptance, as defined by the contract (point in time)	Within 30-90 days of delivery of solution	Transaction price, as pricing is custom and can vary significantly from contract to contract

Significant Judgments

Judgment is required to determine the standalone selling price for each distinct performance obligation. As most of our products and services are not sold on a standalone basis, we typically estimate the standalone selling price. In doing so, we consider our internal price list for each product and service, which reflects our desired profitability, based on an expected level of sales, and adjust for factors such as competition, customer relationship, discount provided in the contract, geographic location, and the products and services purchased in the arrangement. We use a range based on actual historical sales to determine whether the calculated standalone selling price for a product or service is a fair representation of the standalone selling price.

For capitalized contract costs, we use judgment in determining the capitalized amount and amortization period.

Our products are generally sold with a right of return and we may provide other credits, discounts, or incentives, which are accounted for as variable consideration at the portfolio level and estimated based on historical information. Returns, credits, and discounts are estimated at contract inception and updated at the end of each reporting period as additional information becomes available to the extent that it is probable a significant reversal of the cumulative amount of revenue recognized will not occur once the variability is subsequently resolved.

Shipping and handling costs. Our shipping and handling costs charged to customers are included in revenue, and the associated expense is recorded in cost of products for all periods presented.

Deferred revenue. We recognize contract liabilities in our consolidated balance sheet as deferred revenue, which represents the amount of service and software revenue deferred and recognized over the contractual period or as services are rendered and accepted by the customer. In addition, it includes the amount allocated to undelivered performance obligations.

Accounts receivable, net. Trade accounts receivable are recorded at the invoiced amount and do not bear interest. Such accounts receivable have been reduced by an allowance for doubtful accounts, which is our best estimate of the amount of probable credit losses in our existing accounts receivable. We determine the allowance based on customer specific experience and the aging of such receivables, among other factors. The allowance for doubtful accounts was approximately \$4 million and \$3 million as of October 31, 2021 and 2020, respectively. We do not have any off-balance-sheet credit exposure related to our customers.

Share-based compensation. We account for share-based awards made to our employees and directors, including restricted stock units ("RSUs"), employee stock purchases made under Keysight's employee stock purchase plan under Section 423(b) of the Internal Revenue Code ("ESPP"), employee stock option awards, and performance share awards under Keysight Technologies, Inc. Long-Term Performance ("the LTP") Program, using the estimated grant date fair value method of accounting. We recorded compensation expense for all share-based awards of \$104 million in 2021, \$93 million in 2020 and \$82 million in 2019.

Inventory. Inventory is valued at standard cost, which approximates actual cost computed on a first-in, first-out basis, not in excess of market value. We assess the valuation of our inventory on a periodic basis and make adjustments to the value for estimated excess and obsolete inventory based on estimates about future demand and actual usage. The excess balance determined by this analysis becomes the basis for our excess inventory charge. Our excess inventory review process includes analysis of sales unit forecasts, managing product rollovers and working with manufacturing to maximize recovery of excess inventory.

Warranty. Keysight warranties on products sold through direct sales channels are primarily for one year. Warranties for products sold through distribution channels are primarily for three years. We accrue for standard warranty costs based on historical trends in warranty charges. The accrual is reviewed regularly and periodically adjusted to reflect changes in warranty cost estimates. Estimated warranty charges are recorded within cost of products at the time related product revenue is recognized. See Note 13, "Supplemental financial information".

We also sell extended warranties that provide warranty coverage beyond the standard warranty term. Revenue associated with extended warranties is deferred and recognized over the extended coverage period.

Loss contingencies. We accrue for probable losses from contingencies, including legal settlement costs, on an undiscounted basis when such costs are considered probable of being incurred and are reasonably estimable. We periodically evaluate available information, both internal and external, relative to such contingencies and adjust this accrual as necessary.

Taxes on income. Income tax expense is based on income or loss before taxes. Deferred income taxes reflect the effect of temporary differences between asset and liability amounts that are recognized for financial reporting purposes and the amounts that are recognized for income tax purposes. These deferred taxes are measured by applying currently enacted tax laws. Valuation allowances are recognized to reduce deferred tax assets to the amount that is more likely than not to be realized.

We account for uncertainty in income taxes using a two-step approach to recognize and measure uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50 percent likely of being realized upon settlement. We make adjustments to these reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate due to new information. We classify the liability for unrecognized tax benefits as current to the extent that the company anticipates payment (or receipt) of cash within one year. Interest and penalties related to uncertain tax

positions are recognized in the provision for income taxes. Given the number of years and numerous matters that remain subject to examination in various tax jurisdictions, we are unable to estimate the range of possible changes to the balance of our unrecognized tax benefits.

Goodwill and other intangible assets. Goodwill is assessed for impairment on a reporting unit basis at least annually in the fourth quarter, as of September 30, or more frequently when events and circumstances occur indicating that the recorded goodwill may be impaired. The impairment test compares the fair value of a reporting unit with its carrying amount, with an impairment charge recorded for the amount by which the carrying amount exceeds the reporting unit's fair value up to a maximum amount of the goodwill balance for the reporting unit. We determine fair values for each of the reporting units using the market approach, when available and appropriate, or the income approach, or a combination of both. If multiple valuation methodologies are used, the results are weighted appropriately. Valuations using the market approach are derived from metrics of publicly traded comparable companies. The selections of comparable businesses are based on the markets in which our reporting units operate, giving consideration to risk profiles, size, geography and diversity of products and services. Under the income approach, fair value is determined based on the present value of estimated future cash flows, discounted at an appropriate risk-adjusted rate. We use our internal forecasts to estimate future cash flows and include an estimate of long-term future growth rates based on our most recent views of the long-term outlook for each business.

As defined in the authoritative guidance, a reporting unit is an operating segment or one level below an operating segment. During the fourth quarter of 2021, we performed our annual impairment test for all our reporting units. Based on the results of our testing, the fair value of each of our reporting units exceeded the carrying value. There were no impairments of goodwill during the years ended October 31, 2021, 2020 and 2019. See Note 2, "Acquisitions," and Note 7, "Goodwill and Other Intangible Assets," for additional information about our goodwill and other intangible assets.

Other intangible assets consist primarily of developed technologies, proprietary know-how, trademarks, customer relationships, non-compete agreements, and acquired backlog and are amortized using the straight-line method over estimated useful lives ranging from 6 months to 12 years. We review other intangible assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. No impairments of purchased intangible assets were recorded during the years ended October 31, 2021, 2020 and 2019.

The authoritative accounting guidance allows a qualitative approach for testing indefinite-lived intangible assets for impairment, similar to the impairment testing guidance for goodwill. It allows the option to first assess qualitative factors (events and circumstances) that could have affected the significant inputs used in determining the fair value of the indefinite-lived intangible asset. The qualitative factors assist in determining whether it is more-likely-than-not that the indefinite-lived intangible asset is impaired. An organization may choose to bypass the qualitative assessment for any indefinite-lived intangible asset in any period and proceed directly to calculating its fair value. Our indefinite-lived intangible assets are in-process research and development ("IPR&D") intangible assets. In 2021, 2020 and 2019 we assessed impairment by performing a qualitative test and concluded that no material impairment of indefinite-lived intangible assets was required.

Advertising. Advertising costs are expensed as incurred and were \$21 million in 2021, \$24 million in 2020 and \$22 million in 2019.

Research and development. Costs related to the research, design and development of our products are charged to research and development expense as they are incurred.

Investments. Investments with readily determinable fair values and trading securities are reported at fair value. Equity investments without readily determinable fair values are measured at cost with adjustments for observable changes in price or impairments. Gains or losses resulting from changes in fair value are recognized currently in earnings. The company assesses investments for impairment whenever events or changes in circumstances indicate that the carrying value of an investment may not be recoverable. There was no impairment recognized in 2021, 2020 and 2019.

Net income per share. Basic net income per share is computed by dividing net income by the weighted average number of common shares outstanding during the period excluding the dilutive effect of stock options and other employee stock plans. Diluted net income per share gives effect to all potentially dilutive common stock equivalents outstanding during the period. The dilutive effect of share-based awards is reflected in diluted net income per share by application of the treasury stock method, which includes consideration of unamortized share-based compensation expense, and the dilutive effect of in-the-money options and non-vested RSUs. Under the treasury stock method, the amount the employee must pay for exercising stock options and unamortized share-based compensation expense are assumed proceeds to be used to repurchase hypothetical shares.

Cash, cash equivalents and short-term investments. We classify investments as cash equivalents if their original maturity or remaining maturity at the time of purchase is three months or less at the date of purchase. Cash equivalents are stated at cost, which approximates fair value.

As of October 31, 2021, approximately \$1.6 billion of our cash, cash equivalents and restricted cash was held outside of the U.S. in our foreign subsidiaries. Our cash and cash equivalents mainly consist of investments in institutional money market funds, short-term deposits held at major global financial institutions, and similar short duration instruments with original maturities of 90 days or less. We continuously monitor the creditworthiness of the financial institutions in which we invest our funds. We utilize a variety of funding strategies in an effort to ensure that our worldwide cash is available in the locations in which it is needed. Most significant international locations have access to internal funding through an offshore cash pool for working capital needs. In addition, a few locations that are unable to access internal funding have access to temporary local overdraft and short-term working capital lines of credit.

We classify investments as short-term investments if their original maturities are greater than three months and their remaining maturities are one year or less.

Fair value of financial instruments. The carrying values of certain of our financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and other accrued liabilities, approximate fair value because of their short maturities. The fair value of long-term equity investments is determined using quoted market prices for those securities when available. For those long-term equity investments accounted for under the equity method or measurement alternative, the carrying value approximates estimated fair value. The fair value of our long-term debt, calculated from quoted prices that are primarily Level 1 inputs under the accounting guidance fair value hierarchy, exceeded the carrying value less debt issuance costs by approximately \$178 million and \$236 million as of October 31, 2021 and 2020, respectively. The fair value of foreign currency contracts used for hedging purposes is estimated internally by using inputs tied to active markets. These inputs, for example, interest rate yield curves, foreign exchange rates, and forward and spot prices for currencies, are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities. See also Note 8, "Fair Value Measurements," for additional information on the fair value of financial instruments.

Concentration of credit risk. Financial instruments that potentially subject us to significant concentration of credit risk include money market fund investments, time deposits and demand deposit balances. These investments are categorized as cash and cash equivalents and long-term investments. In addition, we have credit risk from derivative financial instruments used in hedging activities and accounts receivable. We invest in a variety of financial instruments and limit the amount of credit exposure with any one financial institution. We have a comprehensive credit policy in place and credit exposure is monitored on an ongoing basis.

Credit risk with respect to our accounts receivable is diversified due to the large number of entities comprising our customer base and their dispersion across many different industries and geographies. Credit evaluations are performed on customers requiring credit over a certain amount.

Credit risk is mitigated through collateral, such as letters of credit, bank guarantees or payment terms like cash in advance. No single customer accounted for more than 10 percent of accounts receivable as of October 31, 2021 or 2020.

Derivative instruments. We are exposed to global foreign currency exchange rate risk in the normal course of business. We enter into foreign exchange hedging contracts, primarily forward contracts to manage financial exposures resulting from changes in foreign currency exchange rates. Foreign currency exposures include committed and anticipated revenue and expense transactions (cash flow exposure) and assets and liabilities that are denominated in currencies other than the functional currency of the subsidiary (balance sheet exposure). For cash flow hedges, contracts are designed at inception as hedges of the related foreign currency exposures. We formally document all relationships between hedging instruments and hedged items, as well as our risk-management objective and strategy for undertaking various hedge transactions at the inception of the hedge. This process includes linking all derivatives that are designated as cash flow hedges to specific forecasted transactions. We also formally assess, both at the hedge's inception and on an ongoing basis, whether the hedging instruments are highly effective in offsetting changes in cash flows of hedged items. Our foreign exchange hedging contracts have maturities based on a rolling period of up to twelve months. We do not use derivative financial instruments for speculative trading purposes.

All derivatives are recognized on the balance sheet at their fair values. For derivative instruments that are designated and qualify as a cash flow hedge, changes in the value of the effective portion of the derivative instrument is recognized in accumulated comprehensive income, a component of stockholders' equity. Amounts associated with cash flow hedges are reclassified and recognized in income when either the forecast transaction occurs or it becomes probable the forecast transaction will not occur. Derivatives not designated as hedging instruments are recorded on the balance sheet at fair value, and changes in fair value are recorded in earnings in the current period. Derivative instruments are subject to master netting arrangements and

qualify for net presentation in the balance sheet. Cash flows from derivative instruments are classified in the statement of cash flows in the same category as the cash flows from the hedged or economically hedged item, primarily in operating activities.

Property, plant and equipment. Property, plant and equipment are stated at cost less accumulated depreciation. Additions, improvements and major renewals are capitalized; maintenance, repairs and minor renewals are expensed as incurred. When assets are retired or disposed of, the assets and related accumulated depreciation are removed from our general ledger, and the resulting gain or loss is reflected in the consolidated statement of operations. Buildings and improvements are depreciated over the lesser of their useful lives or the remaining term of the lease and machinery and equipment, which is generally over three years to ten years. We use the straight-line method to depreciate assets.

Leases. We adopted Accounting Standards Codification ("ASC") Topic 842, *Leases* ("ASC 842"), on November 1, 2019 using the modified retrospective transition approach provided by Accounting Standards Update ("ASU") 2018-11, *Leases: Targeted Improvements*, with the cumulative effect of initially applying the standard recognized at the date of adoption.

We determine whether an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets and operating lease liabilities (current and non-current) on our consolidated balance sheet. Finance leases are included in property, plant and equipment, other accrued liabilities, and other long-term liabilities in our consolidated balance sheet. Our finance lease and lessor arrangements are immaterial.

ROU assets and lease obligations are recognized based on their present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the lease term and economic environment to discount lease obligations. ROU assets also include any lease payments made and exclude lease incentives and initial direct costs incurred. We initially measure payments based on an index by using the applicable rate at lease commencement. Variable payments that do not depend on an index are not included in the lease liability and are recognized as they are incurred. See Note 10, "Leases," for additional information.

Impairment of long-lived assets. We continually monitor events and changes in circumstances that could indicate carrying amounts of long-lived assets may not be recoverable. When such events or changes in circumstances occur, we assess the recoverability of long-lived assets by determining whether the carrying value of such assets will be recovered through undiscounted expected future cash flows. If the total of the undiscounted future cash flows is less than the carrying amount of those assets, we recognize an impairment loss based on the excess of the carrying amount over the fair value of the assets.

Restructuring costs. The main component of our existing restructuring plans is related to workforce reductions and site restructuring. Workforce reduction charges are accrued when payment of benefits becomes probable and the amounts can be estimated. If the amounts and timing of cash flows from restructuring activities are significantly different from what we have estimated, the actual amount of restructuring and other related charges could be materially different, either higher or lower, than those we have recorded.

Employee compensation and benefits. Amounts owed to employees, such as accrued salary, bonuses and vacation benefits are reported within employee compensation and benefits in the consolidated balance sheet. The total amount of accrued vacation benefit was \$114 million and \$107 million as of October 31, 2021 and 2020, respectively.

Foreign currency translation. We translate and remeasure balance sheet and statement of operations items into U.S. dollars. For those subsidiaries that operate in a local currency functional environment, all assets and liabilities are translated into U.S. dollars using current exchange rates at the balance sheet date; revenue and expenses are translated using monthly exchange rates that approximate average exchange rates in effect during each period. Resulting translation adjustments are reported as a separate component of accumulated other comprehensive income (loss) in stockholders' equity.

For those subsidiaries that operate in a U.S. dollar functional environment, foreign currency assets and liabilities are re-measured into U.S. dollars at current exchange rates except for non-monetary assets and capital accounts, which are remeasured at historical exchange rates. Revenue and expenses are generally remeasured at monthly exchange rates that approximate average exchange rates in effect during each period. Gains or losses from foreign currency re-measurement are included in net income. Net gains or losses resulting from foreign currency transactions are reported in other income (expense) and were a \$3 million gain in 2021, a \$3 million gain in 2020 and a \$2 million gain in 2019.

Retirement plans and post-retirement benefit plan assumptions. Defined benefit plan obligations are remeasured at least annually as of October 31, based on the present value of future benefit payments to reflect future benefit costs over the employees' average expected future service to Keysight based on the terms of the plans. To estimate the present value of these future payments, we are required to make assumptions using actuarial concepts within the framework of GAAP. Two critical assumptions are the discount rate and the expected long-term return on plan assets. Other important assumptions include expected future salary increases, expected future increases to benefit payments, expected retirement dates, employee turnover,

retiree mortality rates and investment portfolio composition. We evaluate these assumptions at least annually. See Note 12, "Retirement Plans and Post-Retirement Benefit Plans."

New Accounting Pronouncements.

ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers. In October 2021, the FASB issued guidance that requires entities to apply Topic 606 to recognize and measure contract assets and contract liabilities in a business combination. The standard is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early adoption is permitted. We will early adopt this guidance effective November 1, 2021. We do not expect the adoption of this guidance to have a material impact on our consolidated financial statements.

Other amendments to GAAP that do not require adoption until a future date are not expected to have a material impact on our consolidated financial statements upon adoption.

2. ACQUISITIONS

2021 Acquisitions

Acquisition of Sanjole

During the first quarter of fiscal 2021, we acquired Sanjole Inc. ("Sanjole") for \$102 million, net of \$11 million cash acquired, and recognized additions to goodwill and other intangible assets of \$48 million and \$51 million, respectively, based on the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed. We expect the goodwill recognized on the Sanjole acquisition or any potential impairment charges in the future to be deductible for income tax purposes. The identified intangible assets primarily consist of developed technology of \$24 million, customer relationships of \$17 million and in-process R&D of \$7 million. The estimated useful lives of developed technology and customer relationships are 7 years and 9 years, respectively. Sanjole is a leader in wireless test and measurement solutions for protocol decoding and interoperability.

Additionally, we acquired two other businesses for \$76 million, net of cash acquired, and recognized goodwill and other intangible assets of \$52 million and \$32 million, respectively, based on the preliminary allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed.

Goodwill for the acquisitions was assigned to the Communications Solutions Group.

2020 Acquisitions

Acquisition of Eggplant

During the third quarter of fiscal 2020, we acquired Eggplant Topco Limited ("Eggplant") for \$319 million, net of \$11 million cash acquired, and recognized additions to goodwill and other intangible assets of \$280 million and \$88 million, respectively, based on the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed. The identified intangible assets primarily consist of developed technology of \$38 million and customer relationships of \$46 million with estimated useful lives of 3 years and 6 years, respectively. Eggplant is a software test automation platform provider that uses artificial intelligence and analytics to automate test creation and test execution. All goodwill was assigned to the Electronic Industrial Solutions Group. We do not expect the goodwill recognized or any potential impairment charges in the future to be deductible for income tax purposes.

Additionally, we acquired two other businesses for \$38 million, net of cash acquired, and recognized goodwill of \$34 million based on the allocation of the purchase price to the estimated fair values of the assets acquired and liabilities assumed. Goodwill for the acquisitions was assigned to the Communications Solutions Group.

Supplemental Pro Forma Information (Unaudited)

Pro forma results of operations for 2021 and 2020 acquisitions have not been presented because the effects of the acquisitions were not material to the company's financial results.

3. REVENUE

Disaggregation of Revenue

We disaggregate our revenue from contracts with customers by geographic region, end market, and timing of revenue recognition, as we believe these categories best depict how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. Disaggregated revenue is presented for each of our reportable segments, Communications Solutions Group ("CSG") and Electronics Industrial Solutions Group ("EISG").

	Year Ended October 31,								
	2021			2020			2019		
	CSG	EISG	Total	CSG	EISG	Total	CSG	EISG	Total
	(in millions)								
Region									
Americas	\$ 1,697	\$ 299	\$ 1,996	\$ 1,424	\$ 217	\$ 1,641	\$ 1,474	\$ 250	\$ 1,724
Europe	500	295	795	421	255	676	456	257	713
Asia Pacific	1,326	824	2,150	1,287	617	1,904	1,238	628	1,866
Total revenue	<u>\$ 3,523</u>	<u>\$ 1,418</u>	<u>\$ 4,941</u>	<u>\$ 3,132</u>	<u>\$ 1,089</u>	<u>\$ 4,221</u>	<u>\$ 3,168</u>	<u>\$ 1,135</u>	<u>\$ 4,303</u>
End Market									
Aerospace, Defense & Government	\$ 1,142	\$ —	\$ 1,142	\$ 928	\$ —	\$ 928	\$ 975	\$ —	\$ 975
Commercial Communications	2,381	—	2,381	2,204	—	2,204	2,193	—	2,193
Electronic Industrial	—	1,418	1,418	—	1,089	1,089	—	1,135	1,135
Total revenue	<u>\$ 3,523</u>	<u>\$ 1,418</u>	<u>\$ 4,941</u>	<u>\$ 3,132</u>	<u>\$ 1,089</u>	<u>\$ 4,221</u>	<u>\$ 3,168</u>	<u>\$ 1,135</u>	<u>\$ 4,303</u>
Timing of Revenue Recognition									
Revenue recognized at a point in time	\$ 2,936	\$ 1,233	\$ 4,169	\$ 2,598	\$ 946	\$ 3,544	\$ 2,748	\$ 1,037	\$ 3,785
Revenue recognized over time	587	185	772	534	143	677	420	98	518
Total revenue	<u>\$ 3,523</u>	<u>\$ 1,418</u>	<u>\$ 4,941</u>	<u>\$ 3,132</u>	<u>\$ 1,089</u>	<u>\$ 4,221</u>	<u>\$ 3,168</u>	<u>\$ 1,135</u>	<u>\$ 4,303</u>

Our point-in-time revenues are generated predominantly from the sale of various types of design and test software and hardware, and per-incident repair and calibration services. Perpetual software and the portion of term software subscription revenue in this category represents revenue recognized up front upon transfer of control at the time of electronic delivery. Revenue on per-incident repair and calibration services is recognized when services are performed. Over-time revenues are generated predominantly from the repair and calibration contracts, extended warranties, technical support for hardware and software, certain software subscription and Software as a Service ("SaaS") product offerings, and professional services. Technical support for software and when-and-if available software updates and upgrades are sold either together with our software licenses and software subscriptions, including SaaS, or separately as part of our customer support programs.

Additionally, we provide custom solutions that include combinations of hardware, software, software subscriptions, installation, professional services, and other support services, and revenue may be recognized either up front on delivery or over time depending upon the terms of the contract.

Contract Balances

Contract assets

Contract assets consist of unbilled receivables and are recorded when revenue is recognized in advance of scheduled billings to our customers. These amounts are primarily related to solutions and support arrangements when transfer of control has occurred but we have not yet invoiced. The contract assets balances were \$84 million and \$61 million as of October 31, 2021 and October 31, 2020, respectively, and are included in "accounts receivables, net" and "other assets" in our consolidated balance sheet.

Contract costs

We capitalize direct and incremental costs incurred to acquire contracts for which the associated revenue is expected to be recognized in future periods. We have determined that certain employee and third-party representative commission programs meet the requirements to be capitalized. These costs are initially deferred and typically amortized over the term of the customer contract which corresponds to the period of benefit. Capitalized contract costs were \$39 million and \$31 million as of October 31, 2021 and October 31, 2020, respectively, and are included in “other current assets” and “other assets” in the consolidated balance sheet. The amortization expense associated with these costs was \$77 million, \$83 million and \$64 million for the years ended October 31, 2021, 2020 and 2019, respectively.

Contract liabilities

Our contract liabilities consist of deferred revenue that arises when we receive consideration in advance of providing the goods or services promised in the contract. Contract liabilities are primarily generated from customer deposits received in advance of shipments for products or rendering of services and are recognized as revenue when services are provided to the customer. We classify deferred revenue as current or non-current based on the timing of when we expect to recognize revenue.

	Year Ended October 31, 2021
Balance at October 31, 2020	\$ 566
Deferral of revenue billed in current period, net of recognition	487
Deferred revenue arising out of acquisitions	3
Revenue recognized that was deferred as of the beginning of the period	(391)
Foreign currency translation impact	—
Balance at October 31, 2021	<u>\$ 665</u>

Remaining Performance Obligations

Revenue expected to be recognized in any future period related to remaining performance obligations, excluding revenue pertaining to contracts that have an original expected duration of one year or less, was approximately \$382 million as of October 31, 2021, and represents the company’s obligation to deliver products and services and obtain customer acceptance on delivered products. Since we typically invoice customers at contract inception, this amount is included in our current and long-term deferred revenue balances. As of October 31, 2021, we expect to recognize approximately 51 percent of the revenue related to these unsatisfied performance obligations during 2022, 29 percent in 2023 and 20 percent thereafter.

4. SHARE-BASED COMPENSATION

Keysight accounts for share-based awards in accordance with the provisions of the authoritative accounting guidance, which requires the measurement and recognition of compensation expense for all share-based payment awards made to our employees and directors, including RSUs, ESPP, employee stock option awards, and performance share awards granted to selected members of our senior management under the LTP Program, based on estimated fair values.

Description of Keysight’s Share-Based Plans

Incentive compensation plans. The 2014 Equity and Incentive Compensation Plan (the “2014 Stock Plan”) was originally adopted by our board of directors on July 16, 2014, subsequently amended and restated by our board of directors on September 29, 2014 and on January 22, 2015 and became effective as of November 1, 2014. Our board of directors initially reserved 25 million shares of company common stock that may be issued under the 2014 Stock Plan, plus any shares forfeited or cancelled under the 2014 Stock Plan and subsequently reduced the number to 17 million shares. The 2014 Stock Plan was further amended and restated by our board of directors on November 16, 2017 to increase the maximum aggregate number of shares that may be issued under the 2014 Stock Plan to 21.8 million shares. The 2014 Stock Plan provides for the grant of awards in the form of stock options, SARs, restricted stock, RSUs, performance shares and performance units with performance-based conditions on vesting or exercisability, and cash awards. The 2014 Stock Plan has a term of ten years. As of October 31, 2021, approximately 6 million shares were available for future awards under the 2014 Stock Plan.

Stock options granted under the 2014 Stock Plan may be either “incentive stock options,” as defined in Section 422 of the Internal Revenue Code, or non-statutory. Options were granted prior to November 1, 2015 and generally vest at a rate of 25 percent per year over a period of four years from the date of grant with a maximum contractual term of ten years. The exercise price for stock options is generally not less than 100 percent of the fair market value of our common stock on the date the stock award is granted.

Effective November 1, 2014, the Compensation and Human Capital Committee of our board of directors approved the performance awards, part of the LTP Program administered under the 2014 Stock Plan, for the company's executive officers and other key employees. Participants in this program are entitled to receive unrestricted shares of the company's stock after the end of the contractual period if specified performance targets are met. The maximum contractual period for awards under the performance awards program is three years. These awards can be based on a variety of targets, such as total shareholder return ("TSR") or financial metrics, such as operating margin, cost synergies and others. The final award may vary from zero to 200 percent of the target award based on the actual performance. For TSR-based performance awards, the peer group comparisons are set at the beginning of the performance period. The performance targets for operating margin-based performance grants are set each year in the first quarter for that respective year. We consider the dilutive impact of this program in our diluted net income per share calculation only to the extent that the performance conditions are met.

RSUs under our share-based plans are granted to directors, executives and employees. The estimated fair value of the restricted stock unit awards granted under the 2014 Stock Plan is determined based on the market price of Keysight common stock on the date of grant. RSUs generally vest, with some exceptions, at a rate of 25 percent per year over a period of four years from the date of grant.

Effective November 1, 2014, the company adopted the ESPP. The ESPP allows eligible employees to contribute up to 10 percent of their base compensation to purchase shares of Keysight common stock at 85 percent of the closing market price at the purchase date. Shares authorized for issuance in connection with the ESPP are subject to an automatic annual increase of the lesser of one percent of the outstanding shares of Keysight common stock on November 1 or an amount determined by the Compensation and Human Capital Committee of our board of directors. Under the terms of the ESPP, in no event shall the number of shares issued under the ESPP exceed 75 million shares.

Under our ESPP, employees purchased 541,241 shares for \$56 million in 2021, 628,449 shares for \$53 million in 2020 and 810,172 shares for \$48 million in 2019. As of October 31, 2021, common stock authorized and available for issuance under our ESPP was 19,322,516 shares, which includes shares issued in November 2021 to participants in consideration of the aggregate contribution of \$30 million as of October 31, 2021.

Impact of Share-based Compensation Awards

Share-based compensation expense has been recognized using a straight-line amortization method. The impact of share-based compensation expense on our consolidated statement of operations was as follows:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Cost of products and services	\$ 19	\$ 16	\$ 14
Research and development	21	19	16
Selling, general and administrative	64	58	52
Total share-based compensation expense	\$ 104	\$ 93	\$ 82
Income tax benefit realized from exercised stock options and similar awards	\$ 10	\$ 12	\$ 9

The expense for 2021, 2020 and 2019 includes mark-to-market adjustments for financial metrics-based performance awards of \$5 million, \$2 million and \$8 million, respectively. At October 31, 2021 and 2020, there was no share-based compensation expense capitalized within inventory.

Valuation Assumptions

The following assumptions were used to estimate the fair value of TSR-based performance awards.

	Year Ended October 31,		
	2021	2020	2019
Volatility of Keysight shares	36%	28%	25%
Volatility of index	23%	13%	12%
Price-wise correlation with selected peers	67%	61%	57%

The TSR-based performance awards were valued using a Monte Carlo simulation model, which requires the use of highly subjective and complex assumptions, including the price volatility of the underlying stock. The estimated fair value of restricted stock awards and the financial metrics-based performance awards is determined based on the market price of Keysight's

common stock on the grant date. The compensation cost for financial metrics-based performance awards reflect the cost of awards that are probable to vest at the end of the performance period.

Share-based Payment Award Activity

Employee Stock Options

We have not granted any stock options post fiscal year 2015. As of October 31, 2021 and 2020, the options outstanding were approximately 0.3 million and 0.4 million, respectively, having a weighted average exercise price of \$29 and \$28, respectively. During the year, 0.1 million options, with an intrinsic value of \$14 million were exercised at the weighted average exercise price of \$26. The intrinsic value of the options exercised during 2020 and 2019 was \$14 million and \$39 million, respectively, at the weighted average exercise price of \$27. The options outstanding as of October 31, 2021 have a weighted average contractual remaining life of 2.4 years and an intrinsic value of \$39 million, based on Keysight's closing stock price of \$180.02 at October 31, 2021.

Non-vested Awards

The following table summarizes non-vested award activity in 2021 for our LTP Program and restricted stock unit awards:

	Shares	Weighted Average Grant Date Fair Value
	(in thousands)	
Non-vested at October 31, 2020	2,634	\$ 67
Granted	743	124
Vested	(1,377)	54
Forfeited	(47)	87
LTP Program incremental	228	52
Non-vested at October 31, 2021	2,181	\$ 93

As of October 31, 2021, the unrecognized share-based compensation cost for non-vested stock awards was approximately \$62 million, which is expected to be amortized over a weighted average period of 2.4 years. Unrecognized share-based compensation cost does not include expense for operating margin based performance awards for which the target have not yet been set. The total fair value of stock awards vested was \$165 million for 2021, \$167 million for 2020 and \$89 million for 2019. See Note 5, "Income Taxes," for the tax impact on share-based award exercises and vesting.

5. INCOME TAXES

The domestic and foreign components of income before taxes are:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
U.S. operations	\$ 89	\$ 68	\$ 20
Non-U.S. operations	921	693	695
Total income before taxes	\$ 1,010	\$ 761	\$ 715

The provision for income taxes was comprised of:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
U.S. federal taxes:			
Current	\$ 71	\$ 16	\$ 10
Deferred	(10)	1	(8)
Non-U.S. taxes:			
Current	90	77	91
Deferred	(30)	36	14
State taxes, net of federal benefit:			
Current	8	—	(5)
Deferred	(13)	4	(8)
Total provision for income taxes	<u>\$ 116</u>	<u>\$ 134</u>	<u>\$ 94</u>

The following table presents the components of the deferred tax assets and liabilities:

	October 31,	
	2021	2020
	(in millions)	
Deferred Tax Assets		
Inventory	\$ 18	\$ 10
Intangibles	559	597
Property, plant and equipment	31	21
Warranty reserves	8	8
Pension benefits	34	90
Employee benefits, other than retirement	39	28
Net operating loss, capital loss, and credit carryforwards	315	286
Share-based compensation	17	16
Deferred revenue	35	32
Lease obligations	53	38
Others	7	8
Total deferred tax assets	<u>1,116</u>	<u>1,134</u>
Tax valuation allowance	(231)	(238)
Total deferred tax assets less valuation allowance	<u>885</u>	<u>896</u>
Deferred Tax Liabilities		
Intangibles	(41)	(38)
Property, plant and equipment	(26)	(31)
Warranty reserves	—	(1)
Pension benefits	(84)	(84)
Employee benefits, other than retirement	(1)	(1)
Unremitted earnings of foreign subsidiaries	(21)	(37)
Deferred revenue	(4)	(3)
ROU lease assets	(51)	(36)
Others	(14)	(11)
Total deferred tax liabilities	<u>(242)</u>	<u>(242)</u>
Total deferred tax assets, net of deferred tax liabilities	<u>\$ 643</u>	<u>\$ 654</u>

The decrease in deferred tax assets in 2021 as compared to 2020 primarily relates to a decrease in net pension liabilities in the U.S. and Germany and a decrease in intangible assets in Singapore due to amortization, partially offset by an increase in the value of the net operating loss carryforwards in the U.K. due to a tax rate change.

As of October 31, 2021, there was a deferred tax liability of \$21 million for the tax liability expected to be imposed upon the repatriation of unremitted foreign earnings that are not considered indefinitely reinvested. As of October 31, 2021, the cumulative amount of undistributed earnings considered indefinitely reinvested was \$105 million. No deferred tax liability has been recognized on the basis difference created by such earnings since it is our intention to indefinitely reinvest those earnings in the company's foreign operations. The amount of the unrecognized deferred tax liability on the indefinitely reinvested earnings was \$4 million.

Valuation allowances require an assessment of both positive and negative evidence when determining whether it is more likely than not that deferred tax assets are recoverable. Such assessment is required on a jurisdiction-by-jurisdiction basis.

The \$231 million and \$238 million valuation allowances as of October 31, 2021 and 2020, respectively, are mainly related to net operating losses in Luxembourg and the U.K., capital losses in the U.K., and California research credits. The decrease in valuation allowance from October 31, 2020 to October 31, 2021 is primarily due to a release of valuation allowance on Netherlands net operating losses, partially offset by an increase in valuation allowance on U.K. capital and net operating losses. The release of the Netherlands valuation allowance was due to a tax law change allowing net operating losses to be carried forward indefinitely. The increase in the valuation allowance on U.K. capital and net operating losses is primarily due to a tax rate change that increased the after-tax value of the losses subject to valuation allowance. We will maintain a valuation allowance until sufficient positive evidence exists to support a reversal.

At October 31, 2021, we had U.S. federal net operating loss carryforwards of approximately \$6 million and U.S. state net operating loss carryforwards, primarily from acquired entities, of approximately \$51 million. The U.S. federal net operating losses will expire in years beginning 2027 through 2029 if not utilized. Of the total U.S. state net operating loss carryforwards, \$48 million are subject to change of ownership limitations under various state tax provisions and are subject to valuation allowance. The U.S. state net operating loss carryforwards will begin to expire in 2029, if not utilized. At October 31, 2021, we had U.S. state research credit carryforwards of approximately \$23 million. Of the total U.S. state research credit carryforwards, \$21 million are California research credits that can be carried forward indefinitely. Due to change of ownership limitations, however, \$17 million of California research credits are subject to valuation allowance.

At October 31, 2021, we also had foreign net operating loss carryforwards of approximately \$945 million. Of the total foreign loss, \$8 million will expire in years beginning 2024 through 2027. The remaining loss is comprised of \$670 million that will expire in years beginning 2035 through 2038 if not utilized and \$267 million that has an indefinite life. Of the \$945 million of foreign net operating loss carryforward, \$690 million is subject to a valuation allowance. At October 31, 2021, we had foreign capital loss carryforwards of approximately \$150 million with an indefinite life and \$5 million of tax credits in foreign jurisdictions with an indefinite life. The foreign capital loss carryforwards are subject to valuation allowance as we do not expect to generate income of the type required in order to utilize these losses.

The differences between the U.S. federal statutory income tax rate and our effective tax rate are:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Profit before tax times statutory rate	\$ 212	\$ 160	\$ 150
State income taxes, net of federal benefit	(6)	4	(6)
Current U.S. tax on foreign earnings	58	39	48
Deferred taxes on foreign earnings not considered indefinitely reinvested	1	8	2
U.S. benefit on foreign sales	(16)	(8)	(13)
U.S. research credits	(15)	(14)	(12)
Non-U.S. income taxed at different rates	(105)	(64)	(70)
Change in unrecognized tax benefits	17	8	(12)
Share-based compensation	(6)	(7)	(5)
Officers' compensation	6	5	4
Acquired entity integration	(15)	—	—
Release of non-US valuation allowance	(17)	—	—
Other, net	2	3	8
Provision for income taxes	\$ 116	\$ 134	\$ 94
Effective tax rate	11 %	18 %	13 %

The effective tax rate was 11 percent, 18 percent, and 13 percent for 2021, 2020 and 2019, respectively. The tax rate in each of these years was lower than the U.S. statutory rate primarily due to the proportion of worldwide earnings that are taxed at lower statutory tax rates in non-U.S. jurisdictions. The decrease in the effective tax rate from 2020 to 2021 is due to a change in the jurisdictional mix of non-U.S. earnings offset by an increase in U.S. taxes on non-U.S. earnings, a decrease due to the release of valuation allowance on Netherlands net operating losses in 2021, and a decrease due to the 2021 actual tax impact of acquired entity integration as compared to the estimate at acquisition based on the finalization of the integration plan. The increase in the effective tax rate from 2019 to 2020 is primarily due to the 2019 benefit from a release of tax reserves.

Keysight benefits from tax incentives in several jurisdictions, most significantly in Singapore and Malaysia, that have granted us tax incentives that require renewal at various times in the future. The tax incentives provide lower rates of taxation on certain classes of income and require thresholds of investments and employment or specific types of income in those jurisdictions. The Singapore tax incentive is due for renewal in 2024, and the Malaysia incentive is due for renewal in 2025. The impact of the tax incentives decreased income taxes by \$70 million, \$53 million and \$47 million in 2021, 2020 and 2019, respectively. The benefit of the tax incentives on net income per share (diluted) was approximately \$0.38, \$0.28 and \$0.25 in 2021, 2020 and 2019, respectively. The increase in the tax benefit from 2020 to 2021 is primarily due to change in the jurisdictional mix of non-U.S. earnings, which increased the earnings taxed at incentive tax rates in 2021.

The breakdown between current and long-term income tax assets and liabilities, excluding deferred tax assets and liabilities, was as follows for the years 2021 and 2020:

	October 31,	
	2021	2020
	(in millions)	
Current income tax assets (included within other current assets)	\$ 30	\$ 53
Current income tax liabilities (included within income and other taxes payable)	(44)	(40)
Long-term income tax liabilities (included within other long-term liabilities)	(219)	(212)
Total	<u>\$ (233)</u>	<u>\$ (199)</u>

The calculation of our tax liabilities involves uncertainties in the application of complex tax law and regulations in a multitude of jurisdictions. Although the guidance on the accounting for uncertainty in income taxes prescribes the use of a recognition and measurement model, the determination of whether an uncertain tax position has met those thresholds will continue to require significant judgment by management. In accordance with the guidance on the accounting for uncertainty in income taxes, for all U.S. and other tax jurisdictions, we recognize potential liabilities for anticipated tax audit issues based on our estimate of whether, and the extent to which, additional taxes and interest will be due. We include interest and penalties related to unrecognized tax benefits within the provision for income taxes in the consolidated statements of operations. Accrued interest and penalties are included on the related tax liability line in the consolidated balance sheet.

At this time, management does not believe that the outcome of any future or currently ongoing examination will have a material impact on our consolidated financial statements. We believe that we have an adequate provision for any adjustments that may result from tax examinations. However, the outcome of tax examinations cannot be predicted with certainty. If the resolution of any tax issues that arise in any future or currently ongoing examinations are inconsistent with management's expectations, we may be required to adjust our tax provision for income taxes in the period in which such resolution occurs.

The aggregate changes in the balances of our unrecognized tax benefits including all federal, state and foreign tax jurisdictions are as follows:

	2021	2020	2019
	(in millions)		
Gross Balance, beginning of year	\$ 237	\$ 226	\$ 234
Additions due to acquisition	—	—	9
Additions for tax positions related to the current year	19	13	18
Additions for tax positions from prior years	—	2	—
Reductions for tax positions from prior years	(3)	(1)	(32)
Statute of limitations expirations	(4)	(3)	(3)
Gross Balance, end of year	<u>\$ 249</u>	<u>\$ 237</u>	<u>\$ 226</u>

As of October 31, 2021, the total amount of gross unrecognized tax benefits, excluding interest and penalties, was \$249 million, of which, if recognized, \$229 million would impact our effective tax rate. However, approximately \$3 million of the unrecognized tax benefits were related to acquisitions, which if recognized within certain agreed upon time periods, would result in the recognition of an offsetting indemnification asset. As of October 31, 2020, the total amount of gross unrecognized tax benefits, excluding interest and penalties, was \$237 million, of which, if recognized, \$221 million would impact our effective tax rate. As of October 31, 2019, the total amount of gross unrecognized tax benefits was \$226 million, of which, if recognized, \$216 million would impact our effective tax rate.

Cumulatively, interest and penalties accrued as of the end of October 31, 2021, 2020 and 2019 were \$37 million, \$33 million and \$28 million, respectively. We recognized tax expense of \$4 million, \$5 million, and \$2 million for interest and penalties related to unrecognized tax benefits in 2021, 2020 and 2019, respectively. We recorded an additional \$4 million of interest and penalties related to unrecognized tax benefits in 2019 through purchase accounting related to acquisitions.

The open tax years for the U.S. federal income tax return and most state income tax returns are from November 1, 2017 through the current tax year. For the majority of our foreign entities, the open tax years are from November 1, 2015 through the current tax year. For certain foreign entities, the tax years remain open, at most, back to the year 2008. Given the number of years and numerous matters that remain subject to examination in various tax jurisdictions, we are unable to estimate the range of possible changes to the balance of our unrecognized tax benefits.

Keysight's fiscal year 2018 U.S. federal income tax return is currently under examination by the Internal Revenue Service. The Tax Cuts and Jobs Act was enacted in December 2017 and imposed a one-time U.S. tax on foreign earnings not previously repatriated to the U.S., known as the Transition Tax, which was reported in Keysight's 2018 U.S. federal income tax return.

The company is being audited in Malaysia for the 2008 tax year. This tax year predates our separation from Agilent. However, pursuant to the agreement between Agilent and Keysight pertaining to tax matters, as finalized at the time of separation, for certain entities, including Malaysia, any historical tax liability is the responsibility of Keysight. In the fourth quarter of fiscal year 2017, Keysight paid income taxes and penalties of \$68 million on gains related to intellectual property rights. Our appeals to both the Special Commissioners of Income Tax and the High Court in Malaysia have been unsuccessful. We have filed a Notice of Appeal with the Court of Appeal. The company believes there are numerous defenses to the current assessment; the statute of limitations for the 2008 tax year in Malaysia was closed, and the income in question is exempt from tax in Malaysia. The company is disputing this assessment and pursuing all avenues to resolve this issue favorably for the company.

6. NET INCOME PER SHARE

The following table presents the calculation of basic and diluted net income per share (in millions, except per-share amounts):

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Net income	\$ 894	\$ 627	\$ 621
Basic weighted-average shares	185	187	188
Potential common shares — stock options and other employee stock plans	2	2	3
Diluted weighted-average shares	187	189	191
Net income per share - basic	\$ 4.84	\$ 3.35	\$ 3.31
Net income per share - diluted	\$ 4.78	\$ 3.31	\$ 3.25

The dilutive effect of share-based awards is reflected in diluted net income per share by application of the treasury stock method, which includes consideration of unamortized share-based compensation expense and the dilutive effect of in-the-money options and non-vested RSUs. Under the treasury stock method, the amount the employee must pay for exercising stock options and unamortized share-based compensation expense are collectively assumed to be used to repurchase hypothetical shares.

We exclude stock options with exercise prices greater than the average market price of our common stock from the calculation of diluted earnings per share because their effect would be anti-dilutive. For the years ended 2021, 2020 and 2019, we excluded zero shares from the calculation of diluted earnings per share. In addition, we also exclude from the calculation of diluted earnings per share, stock options, ESPP, LTP Program and restricted stock awards, whose combined exercise price and

unamortized fair value collectively were greater than the average market price of our common stock because their effect would also be anti-dilutive. The number of shares excluded was immaterial in 2021, 2020 and 2019.

7. GOODWILL AND OTHER INTANGIBLE ASSETS

The goodwill balances as of October 31, 2021, 2020 and 2019 and the movements in 2021 and 2020 for each of our reportable segments were as follows:

	CSG	EISG	Total
	(in millions)		
Goodwill at October 31, 2019	\$ 942	\$ 267	\$ 1,209
Foreign currency translation impact	8	6	14
Goodwill arising from acquisitions	34	280	314
Goodwill at October 31, 2020	984	553	1,537
Foreign currency translation impact	(15)	6	(9)
Goodwill arising from acquisitions	100	—	100
Goodwill at October 31, 2021	<u>\$ 1,069</u>	<u>\$ 559</u>	<u>\$ 1,628</u>

There were no impairments of goodwill during the years ended October 31, 2021, 2020 and 2019. As of October 31, 2021, 2020 and 2019, accumulated impairment losses on goodwill were \$709 million.

Other intangible assets as of October 31, 2021 and 2020 consisted of the following:

	October 31, 2021			October 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value	Gross Carrying Amount	Accumulated Amortization	Net Book Value
	(in millions)					
Developed technology	\$ 969	\$ 866	\$ 103	\$ 915	\$ 749	\$ 166
Backlog	17	17	—	17	14	3
Trademark/Tradename	36	28	8	35	25	10
Customer relationships	389	235	154	364	184	180
Total amortizable intangible assets	1,411	1,146	265	1,331	972	359
In-Process R&D	7	—	7	2	—	2
Total	<u>\$ 1,418</u>	<u>\$ 1,146</u>	<u>\$ 272</u>	<u>\$ 1,333</u>	<u>\$ 972</u>	<u>\$ 361</u>

In 2021, we recorded additions to goodwill and other intangible assets of \$100 million and \$83 million, respectively, due to the acquisition of Sanjole and two other acquisitions. In 2020, we recorded additions to goodwill and other intangible assets of \$314 million and \$88 million, respectively, due to the acquisition of Egplant and two other acquisitions. For additional information on the acquisitions, see Note 2, "Acquisitions."

The impact of foreign exchange translation on other intangible assets in 2021 and 2020 was \$3 million and \$2 million, respectively.

Amortization of other intangible assets was \$174 million in 2021, \$220 million in 2020 and \$210 million in 2019. Estimated intangible assets amortization expense for each of the five succeeding fiscal years is as follows:

	Amortization expense
	(in millions)
2022	\$ 100
2023	\$ 77
2024	\$ 38
2025	\$ 21
2026	\$ 13
Thereafter	\$ 16

Goodwill is assessed for impairment on a reporting unit basis at least annually in the fourth quarter, as of September 30, after the annual update to our long-term financial forecasts during our strategic planning cycle, or more frequently when events and circumstances occur indicating that the recorded goodwill may be impaired. The impairment test compares the fair value of a reporting unit with its carrying amount, with an impairment charge recorded for the amount by which the carrying amount exceeds the reporting unit's fair value up to a maximum amount of the goodwill balance for the reporting unit. As defined in the authoritative guidance, a reporting unit is an operating segment or one level below an operating segment.

We determine fair values for each of the reporting units using the market approach, when available and appropriate, or the income approach, or a combination of both. If multiple valuation methodologies are used, the results are weighted appropriately. Valuations using the market approach are derived from metrics of publicly traded comparable companies. The selections of comparable businesses are based on the markets in which our reporting units operate, giving consideration to risk profiles, size, geography, and diversity of products and services. Under the income approach, fair value is determined based on the present value of estimated future cash flows, discounted at an appropriate risk-adjusted rate. We use our internal forecasts to estimate future cash flows and include an estimate of long-term future growth rates based on our most recent views of the long-term outlook for each business.

During the fourth quarter of 2021, we performed our annual impairment test of goodwill for all our reporting units using a qualitative approach, except for our Eggplant reporting unit, which is included in our EISG reportable segment, for which the test was performed using a quantitative approach. The income and market approaches were used to determine the fair value of the Eggplant reporting unit. With respect to the income approach, the discounted cash flow method was used, which included a forecasted cash flow projection and an estimated terminal value. The market approach used revenue, gross margin and EBITDA multiples to develop an estimate of fair value. A weighting of 75 percent and 25 percent was applied to the income and market approaches, respectively, to determine the fair value of the Eggplant reporting unit. The income approach was given a larger weighting based on the underlying detailed financial projections prepared during the strategic planning cycle that reflect the financial and operational facts and circumstances specific to Eggplant as of the valuation date. Based on the results of our annual impairment tests, the fair value of each of our reporting units exceeded the carrying value.

As of October 31, 2021, we determined that no goodwill impairment exists and that the remaining goodwill is recoverable for all of our reporting units; however, there can be no assurance that goodwill will not be impaired in future periods. Estimating the fair value of reporting units requires the use of estimates and significant judgments that are based on a number of factors including actual operating results. It is possible that the judgments and estimates described above could change in future periods.

In 2020, we performed our annual impairment test of goodwill for all our reporting units using a qualitative approach. Based on the results of our annual impairment tests, the fair value of each of our reporting units exceeded the carrying value.

In 2019, we performed our annual impairment test of goodwill for all our reporting units using a qualitative approach, except for our previous Ixia Solutions Group ("ISG") reporting unit, which was the only reporting unit in our previous ISG reportable segment, for which the test was performed using a quantitative approach. The income and market approaches were used to determine the fair value of the ISG reporting unit. With respect to the income approach, the discounted cash flow method was used, which included an eight-year future cash flow projection and an estimated terminal value. The market approach used revenue and EBITDA multiples to develop an estimate of fair value. A weighting of 60 percent and 40 percent was applied to the income and market approaches, respectively, to determine the fair value of the ISG reporting unit. The income approach was given a larger weighting based on the underlying detailed financial projections prepared during the strategic planning cycle that reflect the financial and operational facts and circumstances specific to ISG as of the valuation date. Based on the results of our annual impairment tests, the fair value of each of our reporting units exceeded the carrying value.

We review long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable or that the useful lives of these assets are no longer appropriate. We performed an impairment test of Eggplant and ISG's long-lived assets in 2021 and 2019, respectively, which preceded the quantitative test of goodwill in accordance with the guidance, and concluded that no impairment charge was required.

8. FAIR VALUE MEASUREMENTS

The authoritative guidance defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required or permitted to be recorded at fair value, we consider the principal or most advantageous market and assumptions that market participants would use when pricing the asset or liability.

Fair Value Hierarchy

The guidance establishes a fair value hierarchy that prioritizes inputs used in valuation techniques into three levels. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. There are three levels of inputs that may be used to measure fair value:

Level 1 — applies to assets or liabilities for which there are quoted prices in active markets for identical assets or liabilities.

Level 2 — applies to assets or liabilities for which there are inputs other than quoted prices included within Level 1 that are observable, either directly or indirectly, for the asset or liability such as: quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in less active markets; or other inputs that can be derived principally from, or corroborated by, observable market data.

Level 3 — applies to assets or liabilities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

Financial assets and liabilities measured at fair value on a recurring basis as of October 31, 2021 and 2020 were as follows:

	Fair Value Measurements as of October 31,									
	2021					2020				
	Total	Level 1	Level 2	Level 3	Other	Total	Level 1	Level 2	Level 3	Other
(in millions)										
Assets:										
<i>Short-term</i>										
Cash equivalents										
Money market funds	\$ 1,296	\$ 1,296	\$ —	\$ —	\$ —	\$ 1,047	\$ 1,047	\$ —	\$ —	\$ —
Derivative instruments (foreign exchange contracts)	6	—	6	—	—	3	—	3	—	—
<i>Long-term</i>										
Derivative instruments (interest rate swaps)	48	—	48	—	—	23	—	23	—	—
Equity investments	60	60	—	—	—	52	52	—	—	—
Equity investments - other	10	—	—	—	10	9	—	—	—	9
Total assets measured at fair value	<u>\$ 1,420</u>	<u>\$ 1,356</u>	<u>\$ 54</u>	<u>\$ —</u>	<u>\$ 10</u>	<u>\$ 1,134</u>	<u>\$ 1,099</u>	<u>\$ 26</u>	<u>\$ —</u>	<u>\$ 9</u>
Liabilities:										
<i>Short-term</i>										
Derivative instruments (foreign exchange contracts)	\$ 4	\$ —	\$ 4	\$ —	\$ —	\$ 4	\$ —	\$ 4	\$ —	\$ —
<i>Long-term</i>										
Deferred compensation liability	24	—	24	—	—	18	—	18	—	—
Total liabilities measured at fair value	<u>\$ 28</u>	<u>\$ —</u>	<u>\$ 28</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 22</u>	<u>\$ —</u>	<u>\$ 22</u>	<u>\$ —</u>	<u>\$ —</u>

Our money market funds and equity investments with readily determinable fair values are measured at fair value using quoted market prices and, therefore, are classified within Level 1 of the fair value hierarchy. Equity investments without readily determinable fair values that are measured at cost adjusted for observable changes in price or impairments are not categorized in the fair value hierarchy and are presented as "Equity investments - other" in the tables above. Our deferred compensation liability is classified as Level 2 because the inputs used in the calculations are observable, although the values are not directly based on quoted market prices. Our derivative financial instruments are classified within Level 2 as there is not an active market for each hedge contract, but the inputs used to calculate the value of the instruments are tied to active markets.

Equity investments, including securities that are earmarked to pay the deferred compensation liability, and the deferred compensation liability are reported at fair value, with gains or losses resulting from changes in fair value recognized in earnings. Certain derivative instruments are reported at fair value, with unrealized gains and losses, net of tax, included in accumulated other comprehensive income (loss).

All of our investments are subject to periodic impairment review. The impairment analysis requires significant judgment to identify events or circumstances that would likely have a significant adverse effect on the future value of the investment. There was no impairment recognized in 2021, 2020 and 2019. Realized gains and losses from the sale of investments are recorded in earnings.

Net recognized gains on equity investments were as follows:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Net realized gains on investments sold	\$ —	\$ —	\$ 1
Net unrealized gains on investments still held	\$ 4	\$ 11	\$ 6

Financial Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

Assets measured at fair value on a non-recurring basis consisted of goodwill and intangible assets. See Note 7, "Goodwill and Other Intangible Assets" for more information.

Goodwill

Fair value assessments of the reporting unit and the reporting unit's net assets, which are performed for goodwill impairments tests, are considered Level 3 measurements due to the significance of unobservable inputs developed using company-specific information. We considered a market approach as well as an income approach using the discounted cash flow model to determine the fair value of the reporting unit.

Intangible Assets

We utilized an income approach for estimating the fair value of intangible assets. The future cash flows used in the analysis are based on internal cash flow projections based on our long-range plans and include significant assumptions by management. Accordingly, the fair value assessment of the long-lived assets is considered a Level 3 fair value measurement.

9. DERIVATIVES

We are exposed to foreign currency exchange rate fluctuations and interest rate changes in the normal course of our business. As part of our risk management strategy, we use derivative instruments, primarily forward contracts to hedge economic and/or accounting exposures resulting from changes in foreign currency exchange rates.

Cash Flow Hedges

We enter into foreign exchange contracts to hedge our forecasted operational cash flow exposures resulting from changes in foreign currency exchange rates. These foreign exchange contracts, carried at fair value, have maturities based on a rolling period of up to twelve months. These derivative instruments are designated and qualify as cash flow hedges under the criteria prescribed in the authoritative guidance. The changes in the value of the derivative instrument included in the assessment of effectiveness are recognized in accumulated other comprehensive income and reclassified into earnings when the forecasted transaction occurs in the same financial statement line item in the consolidated statement of operations where the earnings effect of the hedged item is presented. If it becomes probable that the forecasted transaction will not occur, the hedge relationship will be de-designated and amounts accumulated in other comprehensive income will be reclassified into earnings in the current period. Gains and losses on the derivative instrument representing hedge components excluded from the assessment of effectiveness are amortized to earnings on a straight-line basis over the tenor of the hedge and are presented in the same financial statement line of the consolidated statement of operations where the earnings effect of the hedged item is presented. For hedges executed prior to February 1, 2020, these gains and losses were recognized immediately in earnings.

In fiscal 2020, we entered into forward starting interest rate swaps with an aggregate notional amount of \$600 million associated with future interest payments on anticipated debt issuances through fiscal year 2024. The contract term allows us to lock-in a treasury rate on anticipated debt issuances. These derivative instruments are designated and qualify as cash flow hedges under the criteria prescribed in the authoritative guidance. The changes in fair value of these derivative instruments have been recognized in accumulated other comprehensive income (loss). For the year ended October 31, 2021, a gain of \$26 million was recognized in accumulated other comprehensive income (loss). Amounts associated with these cash flow hedges will be reclassified to interest expense in the consolidated statement of operations when future interest payments on the anticipated debt occur.

Other Hedges

Additionally, we enter into foreign exchange contracts to hedge monetary assets and liabilities that are denominated in currencies other than the functional currency of our subsidiaries. These foreign exchange contracts are carried at fair value and do not qualify for hedge accounting treatment and are not designated as hedging instruments. Changes in value of the derivative are recognized in other income (expense), net, in the consolidated statement of operations, in the current period, along with the offsetting foreign currency gain or loss on the underlying assets or liabilities.

Our use of derivative instruments exposes us to credit risk to the extent that the counterparties may be unable to meet the terms of the agreement. We do, however, seek to mitigate such risks by limiting our counterparties to major financial institutions, which are selected based on their credit ratings and other factors. We have established policies and procedures for mitigating credit risk that include establishing counterparty credit limits, monitoring credit exposures, and continually assessing the creditworthiness of counterparties.

The number of open foreign exchange forward contracts designated as "cash flow hedges" and "not designated as hedging instruments" was 219 and 68, respectively, as of October 31, 2021. The aggregated notional amounts by currency and designation as of October 31, 2021 were as follows:

Currency	Derivatives in Cash Flow Hedging Relationships		Derivatives Not Designated as Hedging Instruments	
	Forward Contracts		Forward Contracts	
	Buy/(Sell)		Buy/(Sell)	
	(in millions)			
Euro	\$	35	\$	13
British Pound		19		(87)
Singapore Dollar		25		28
Malaysian Ringgit		98		10
Japanese Yen		(101)		(42)
Other currencies		13		(44)
Total	\$	89	\$	(122)

Derivative instruments are subject to master netting arrangements and are disclosed gross in the consolidated balance sheet. The gross fair values and balance sheet presentation of derivative instruments held as of October 31, 2021 and 2020 were as follows:

Fair Values of Derivative Instruments									
Assets Derivatives			Liabilities Derivatives						
Balance Sheet Location	Fair Value		Balance Sheet Location	Fair Value					
	October 31, 2021	October 31, 2020		October 31, 2021	October 31, 2020				
(in millions)									
Derivatives designated as hedging instruments:									
Cash flow hedges									
Foreign exchange contracts									
Other current assets	\$	5	\$	2	Other accrued liabilities	\$	1	\$	3
Interest rate swap contracts:									
Other assets		48		23					
Derivatives not designated as hedging instruments:									
Foreign exchange contracts									
Other current assets		1		1	Other accrued liabilities		3		1
Total derivatives	\$	54	\$	26		\$	4	\$	4

The effect of derivative instruments for foreign exchange contracts designated as hedging instruments and not designated as hedging instruments in our consolidated statement of operations was as follows:

	2021	2020	2019
	(in millions)		
Derivatives designated as hedging instruments:			
<i>Cash flow hedges</i>			
Interest rate swap contracts:			
Gain (loss) recognized in accumulated other comprehensive income (loss)	\$ 26	\$ 23	\$ —
Foreign exchange contracts:			
Gain (loss) recognized in accumulated other comprehensive income (loss)	6	(3)	(5)
Gain (loss) reclassified from accumulated other comprehensive income (loss) into earnings:			
Cost of products	—	(3)	(1)
Selling, general and administrative	2	(1)	(2)
Gain (loss) excluded from effectiveness testing recognized in earnings based on changes in fair value:			
Cost of products	—	2	3
Gain (loss) excluded from effectiveness testing recognized in earnings based on amortization approach:			
Cost of products	1	1	—
Selling, general and administrative	1	—	—
Derivatives not designated as hedging instruments:			
Gain (loss) recognized in other income (expense), net	\$ (3)	\$ 4	\$ (5)

The estimated amount at October 31, 2021 expected to be reclassified from accumulated other comprehensive income (loss) to earnings within the next twelve months is a gain of \$3 million.

10. LEASES

We have operating leases for items including office space, order fulfillment, sales and service centers, R&D and certain equipment, primarily automobiles. Our leases have remaining terms of up to 13 years, some of which may include options to extend the leases, primarily for 3 to 5 years. We consider options to renew in our lease terms and measurement of ROU assets and lease liabilities if we determine they are reasonably certain to be exercised.

The weighted average lease term of our operating leases was 8.2 years and 7.3 years as of October 31, 2021 and 2020, respectively. The weighted average discount rate of our operating leases was 3 percent as of both October 31, 2021 and 2020.

The following table summarizes the components of our lease cost:

	Year ended October 31,	
	2021	2020
	(in millions)	
Operating lease cost	\$ 51	\$ 49
Variable lease cost	\$ 14	\$ 16

Short-term lease costs, sublease income and finance lease costs were immaterial for the year ended October 31, 2021 and 2020.

Supplemental cash flow information related to our operating leases was as follows:

	Year ended October 31,	
	2021	2020
	(in millions)	
Cash payments for operating leases	\$ 53	\$ 48
ROU assets obtained in exchange for operating lease obligations	\$ 78	\$ 67

The maturities of our operating leases as of October 31, 2021 with initial terms exceeding one year were as follows:

	Operating Leases	
	(in millions)	
2022	\$	45
2023		38
2024		30
2025		24
Thereafter		123
Total undiscounted lease liability		260
Imputed interest		28
Total discounted lease liability	\$	232

As of October 31, 2021, we did not have material leases that had not yet commenced.

Rental income from leasing out excess facilities was \$11 million for both the year ended October 31, 2021 and 2020 and is included in other operating expense (income), net. Other lessor arrangements were immaterial.

11. DEBT

The following table summarizes the components of our long-term debt:

	October 31,	
	2021	2020
	(in millions)	
2024 Senior Notes at 4.55% (\$600 face amount less unamortized costs of \$1 and \$2)	\$ 599	\$ 598
2027 Senior Notes at 4.60% (\$700 face amount less unamortized costs of \$4 and \$5)	696	695
2029 Senior Notes at 3.00% (\$500 face amount less unamortized costs of \$4 and \$4)	496	496
	<u>\$ 1,791</u>	<u>\$ 1,789</u>

Short-Term Debt

Revolving Credit Facility

On July 30, 2021, we entered into a new credit agreement that amended and restated our existing credit agreement dated February 15, 2017 in its entirety, and provides for a \$750 million, five-year unsecured revolving credit facility (the “Revolving Credit Facility”) that will expire on July 30, 2026 and bears interest at an annual rate of LIBOR + 1 percent along with a facility fee of 0.125 percent per annum. In addition, the new credit agreement permits the company, subject to certain customary conditions, on one or more occasions to request to increase the total commitments under the Revolving Credit Facility by up to \$250 million in the aggregate. We may use amounts borrowed under the facility for general corporate purposes. As of October 31, 2021 and October 31, 2020, we had no borrowings outstanding under the Revolving Credit Facility. We were in compliance with the covenants of the Revolving Credit Facility during the year ended October 31, 2021.

Other

During the year ended October 31, 2020, we repaid \$7 million of debt assumed with the acquisition of Eggplant.

Long-Term Debt

The below senior notes are unsecured and rank equally in right of payment with all of our other senior unsecured indebtedness. We were in compliance with the covenants of our senior notes during the year ended October 31, 2021.

2024 Senior Notes

In October 2014, the company issued an aggregate principal amount of \$600 million in unsecured senior notes (“2024 Senior Notes”). The 2024 Senior Notes were issued at 99.966 percent of their principal amount. The notes will mature on October 30, 2024, and bear interest at a fixed rate of 4.55 percent per annum. The interest is payable semi-annually on April 30 and October 30 of each year. We incurred issuance costs of \$5 million in connection with the 2024 Senior Notes that are being amortized to interest expense over the term of the senior notes.

2027 Senior Notes

In April 2017, the company issued an aggregate principal amount of \$700 million in unsecured senior notes ("2027 Senior Notes"). The 2027 Senior Notes were issued at 99.873 percent of their principal amount. The notes will mature on April 6, 2027 and bear interest at a fixed rate of 4.60 percent per annum. The interest is payable semi-annually on April 6 and October 6 of each year, commencing on October 6, 2017. We incurred issuance costs of \$6 million in connection with the 2027 Senior Notes that, along with the debt discount, are being amortized to interest expense over the term of the senior notes.

2029 Senior Notes

In October 2019, the company issued an aggregate principal amount of \$500 million in unsecured senior notes ("2029 Senior Notes"). The 2029 Senior Notes were issued at 99.914 percent of their principal amount. The notes will mature on October 30, 2029 and bear interest at a fixed rate of 3.00 percent per annum. The interest is payable semi-annually on April 30 and October 30 of each year, commencing on April 30, 2020. We incurred issuance costs of \$4 million in connection with the 2029 Senior Notes that, along with the debt discount are being amortized to interest expense over the term of the senior notes.

Letter of Credit

As of both October 31, 2021 and 2020, we had \$40 million of outstanding letters of credit and surety bonds unrelated to the credit facility that were issued by various lenders.

12. RETIREMENT PLANS AND POST-RETIREMENT BENEFIT PLANS

General. The majority of our employees are covered under various defined benefit and/or defined contribution retirement plans. Additionally, we sponsor post-retirement health care benefits for our eligible U.S. employees. We provide U.S. employees who meet eligibility criteria under the Keysight Technologies, Inc. Retirement Plan ("RP") defined benefits that are based on an employee's base or target pay during the years of employment and on length of service. For eligible employees' service through October 31, 1993, the benefit payable under the RP is reduced by any amounts due to the eligible employees' service under our defined contribution Deferred Profit-Sharing Plan ("DPSP"), which was closed to new participants as of November 1993. The obligations under the DPSP equal the fair value of the DPSP assets, which was \$267 million as of October 31, 2021. Employees hired on or after August 1, 2015 are not eligible to participate in the RP or the Keysight Technologies, Inc. Health Plan for Retirees ("U.S. Post-Retirement Benefit Plan").

In addition, in the U.S. we maintain the Supplemental Benefits Retirement Plan ("SBRP"), a supplemental unfunded non-qualified defined benefit plan to provide benefits that would be provided under the RP but for limitations imposed by the Internal Revenue Code. The RP and the SBRP comprise the "U.S. Plans."

Eligible employees outside the U.S. generally receive retirement benefits under various retirement plans ("Non-U.S. Plans") based on factors such as years of service and/or employee compensation levels. Eligibility is generally determined in accordance with local statutory requirements. Certain of our immaterial non-U.S. defined benefit plans are not included in these disclosures.

401(k) defined contribution plan. Eligible U.S. employees may participate in the Keysight Technologies, Inc. 401(k) Plan (the "401(k) Plan"). Enrollment in the 401(k) Plan is automatic for employees who meet eligibility requirements unless they decline participation. We provide matching contributions of up to 4 percent of annual eligible compensation for employees hired prior to August 1, 2015 and up to 6 percent for employees hired thereafter. The 401(k) Plan employer expense included in income from operations was \$28 million in 2021, \$27 million in 2020 and \$25 million in 2019.

Post-retirement medical benefit plans. In addition to receiving retirement benefits, U.S. employees who meet eligibility requirements as of their termination date may participate in the U.S. Post-Retirement Benefit Plans.

Components of net periodic benefit cost. The company uses alternate methods of amortization, as allowed by the authoritative guidance, which amortizes the actuarial gains and losses on a consistent basis for the years presented. For the U.S. Plans, gains and losses are amortized over the average future working lifetime. For most Non-U.S. Plans and the U.S. Post-Retirement Benefit Plan, gains and losses are amortized using a separate layer for each year's gains and losses.

In March 2021, we substantially transferred all the assets and obligations of our Netherlands defined benefit plan to an insurance company. The partial settlement resulted in a loss of \$16 million, which is included in "other income (expense), net" in the consolidated statement of operations during the year ended October 31, 2021. We received a net refund of \$3 million due to the partial settlement of the Netherlands defined benefit plan. During the year ended October 31, 2020, the lump sum payments in our U.K. defined benefit plan were more than the sum of the service cost and interest cost components of net

periodic benefit cost (“the threshold amount”), resulting in recognition of a settlement loss of \$5 million. We also recognized a curtailment gain of \$1 million in our Netherlands defined benefit plan for the year 2020. These are included in other income (expense) in the consolidated statement of operations.

For the years ended October 31, 2021, 2020 and 2019, components of net periodic benefit cost (benefit) and other amounts recognized in other comprehensive income were comprised of:

	Defined Benefit Plans						U.S. Post-Retirement Benefit Plan		
	U.S. Plans			Non-U.S. Plans					
	2021	2020	2019	2021	2020	2019	2021	2020	2019
	(in millions)								
Net periodic benefit cost (benefit)									
Service cost — benefits earned during the period	\$ 24	\$ 23	\$ 20	\$ 15	\$ 15	\$ 14	\$ 1	\$ 1	\$ 1
Interest cost on benefit obligation	22	24	28	15	16	23	4	6	8
Expected return on plan assets	(52)	(44)	(41)	(77)	(84)	(77)	(12)	(13)	(13)
Amortization:									
Net actuarial loss	24	18	10	41	34	27	11	10	9
Prior service credit	—	—	(4)	—	—	(1)	(1)	(11)	(14)
Net periodic benefit cost (benefit)	18	21	13	(6)	(19)	(14)	3	(7)	(9)
Curtailments and settlements	—	—	—	16	4	2	—	—	—
Total periodic benefit cost (benefit)	\$ 18	\$ 21	\$ 13	\$ 10	\$ (15)	\$ (12)	\$ 3	\$ (7)	\$ (9)
Other changes in plan assets and benefit obligations recognized in other comprehensive (income) loss									
Net actuarial loss (gain)	\$ (100)	\$ 64	\$ 77	\$ 26	\$ 81	\$ 78	\$ (38)	\$ 9	\$ 11
Amortization:									
Net actuarial loss	(24)	(18)	(10)	(41)	(34)	(27)	(11)	(10)	(9)
Prior service credit	—	—	4	—	—	1	1	11	14
Curtailments and settlements	—	—	—	(16)	(4)	(2)	—	—	—
Foreign currency	—	—	—	1	1	(1)	—	—	—
Total recognized in other comprehensive (income) loss	\$ (124)	\$ 46	\$ 71	\$ (30)	\$ 44	\$ 49	\$ (48)	\$ 10	\$ 16
Total recognized in the periodic benefit cost (benefit) and other comprehensive (income) loss	\$ (106)	\$ 67	\$ 84	\$ (20)	\$ 29	\$ 37	\$ (45)	\$ 3	\$ 7

We record the service cost component of net periodic benefit cost (benefit) in the same line item as other employee compensation costs. We record the non-service components of net periodic benefit cost (benefit), such as interest cost, expected return on assets, amortization of prior service cost, and actuarial gains or losses, within other income (expense) in the consolidated statement of operations.

Funded status. As of October 31, 2021 and 2020, the funded status of the defined benefit and post-retirement benefit plans was as follows:

	U.S. Defined Benefit Plans		Non-U.S. Defined Benefit Plans		U.S. Post-Retirement Benefit Plan	
	2021	2020	2021	2020	2021	2020
	(in millions)					
Change in fair value of plan assets:						
Fair value — beginning of year	\$ 722	\$ 615	\$ 1,545	\$ 1,538	\$ 175	\$ 176
Actual return on plan assets	189	41	134	21	45	12
Employer contributions	—	100	8	10	—	—
Settlements	—	—	(41)	(14)	—	—
Benefits paid	(49)	(34)	(50)	(36)	(13)	(13)
Other	—	—	(15)	—	—	—
Currency impact	—	—	27	26	—	—
Fair value — end of year	<u>\$ 862</u>	<u>\$ 722</u>	<u>\$ 1,608</u>	<u>\$ 1,545</u>	<u>\$ 207</u>	<u>\$ 175</u>
Change in benefit obligation:						
Benefit obligation — beginning of year	\$ 848	\$ 774	\$ 1,421	\$ 1,393	\$ 203	\$ 202
Service cost	24	23	15	15	1	1
Interest cost	22	24	15	16	4	6
Settlements	—	—	(41)	(14)	—	—
Curtailements	—	—	—	(1)	—	—
Actuarial loss (gain)	37	62	90	18	(5)	7
Benefits paid	(50)	(35)	(50)	(36)	(13)	(13)
Other	—	—	(18)	—	—	—
Currency impact	—	—	33	30	—	—
Benefit obligation — end of year	<u>\$ 881</u>	<u>\$ 848</u>	<u>\$ 1,465</u>	<u>\$ 1,421</u>	<u>\$ 190</u>	<u>\$ 203</u>
Overfunded (Underfunded) status of PBO	<u>\$ (19)</u>	<u>\$ (126)</u>	<u>\$ 143</u>	<u>\$ 124</u>	<u>\$ 17</u>	<u>\$ (28)</u>
Amounts recognized in the consolidated balance sheet consist of:						
Other assets	\$ —	\$ —	\$ 264	\$ 311	\$ 17	\$ —
Employee compensation and benefits	(1)	(1)	—	—	—	—
Retirement and post-retirement benefits	(18)	(125)	(121)	(187)	—	(28)
Net asset (liability)	<u>\$ (19)</u>	<u>\$ (126)</u>	<u>\$ 143</u>	<u>\$ 124</u>	<u>\$ 17</u>	<u>\$ (28)</u>
Amounts recognized in accumulated other comprehensive income (loss):						
Actuarial losses	\$ 101	\$ 225	\$ 457	\$ 487	\$ (21)	\$ 28
Prior service credits	—	—	1	1	(1)	(2)
Total	<u>\$ 101</u>	<u>\$ 225</u>	<u>\$ 458</u>	<u>\$ 488</u>	<u>\$ (22)</u>	<u>\$ 26</u>

The change in the benefit obligations for the U.S. defined benefit plans was primarily driven by the changes in actuarial assumptions, including the lump sum conversion rate and demographic experience. The changes in the non-U.S. plans were primarily driven by an insurance buy-in contract we executed for a portion of benefit obligations under the U.K. defined benefit plan and partial settlement of benefit obligations under the Netherlands DB plan. The change in the benefit obligations for the U.S. post-retirement benefit plan was primarily driven by changes in the discount rate.

Investment policies and strategies as of October 31, 2021. In the U.S., our RP and U.S. Post-Retirement Benefit Plan target asset allocations are approximately 70 percent to equities and approximately 30 percent to fixed income investments. Our DPSP target asset allocation is approximately 60 percent to equities and approximately 40 percent to fixed income investments. The general investment objective for all our plan assets is to obtain the optimum rate of investment return on the total investment portfolio consistent with the assumed level of risk. Specific investment objectives for the plans' portfolios are to: maintain and enhance the purchasing power of the plans' assets; achieve investment returns consistent with the level of risk being taken; and earn performance rates of return in accordance with the benchmarks adopted for each asset class. Outside of the U.S., our target asset allocation is from 5 to 60 percent to equities, from 40 to 64 percent to fixed income investments, and from zero to 50 percent to insurance contracts and cash. All plans' assets are broadly diversified. Due to fluctuations in capital markets, our actual allocations of plan assets as of October 31, 2021, differ from the target allocation. Our policy is to periodically bring the actual allocation in line with the target allocation.

Equity securities include exchange-traded common stock and preferred stock of companies from broadly diversified industries. Fixed income securities include a portfolio of corporate bonds of companies from diversified industries, government securities, mortgage-backed securities, asset-backed securities, derivative instruments and other. Portions of the cash and cash equivalent, equity, and fixed income investments are held in commingled funds. Investments in commingled funds are valued using the net asset value ("NAV") method as a practical expedient. Investments valued using the NAV method are allocated across a broad array of funds and diversify the portfolio. The value of the plan assets directly affects the funded status of our pension and post-retirement benefit plans recorded in the financial statements. In March 2021, we entered into an insurance buy-in contract for a portion of benefit obligations under the U.K. defined benefit plan and classified it as "Other Investment." The insurance buy-in contract is similar to an annuity contract, which matches cash flows with future benefit payments for a specific group of pensioners with the obligation remaining with the plan. This contract is issued by a third-party insurance company with no affiliation to us. The insurance contract is valued on an insurer pricing basis, which reflects the purchase price adjusted for changes in discount rates and other actuarial assumptions, which approximates fair value.

Fair Value. The measurement of the fair value of pension and post-retirement plan assets uses the valuation methodologies and the inputs as described in Note 8, "Fair Value Measurements."

Cash and Cash Equivalents - Cash and cash equivalents consist of short-term investment funds that are invested in short-term domestic fixed income securities and other securities with debt-like characteristics, emphasizing short-term maturities and quality. Cash and cash equivalents are generally classified as Level 2 investments except when the cash and cash equivalents are held in commingled funds, which have a daily NAV derived from quoted prices for the underlying securities in active markets; these are classified as assets measured at NAV.

Equity - Some equity securities consisting of common and preferred stock are held in commingled funds, which have daily NAVs derived from quoted prices for the underlying securities in active markets; these are classified as assets measured at NAV. Commingled funds that have quoted prices in active markets are classified as Level 1 investments.

Fixed Income - Some of the fixed income securities are held in commingled funds that have daily NAVs derived from the underlying securities; these are classified as assets measured at NAV. Commingled funds that have quoted prices in active markets are classified as Level 1 investments.

Other Investment - Other investment includes a U.K. insurance buy-in contract executed during the year and classified as a Level 3 investment. Insurance contracts are generally classified as Level 3 investments.

The following tables present the fair value of U.S. Defined Benefit Plans assets classified under the appropriate level of the fair value hierarchy as of October 31, 2021 and 2020:

	Fair Value Measurement as of October 31, 2021 Using				
	October 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
			(in millions)		
Cash and cash equivalents	\$ 18	\$ —	\$ 18	\$ —	\$ —
Equity	605	187	1	—	417
Fixed income	239	27	103	—	109
Total assets measured at fair value	<u>\$ 862</u>	<u>\$ 214</u>	<u>\$ 122</u>	<u>\$ —</u>	<u>\$ 526</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

	Fair Value Measurement as of October 31, 2020 Using				
	October 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
			(in millions)		
Cash and cash equivalents	\$ 110	\$ —	\$ 110	\$ —	\$ —
Equity	443	124	1	—	318
Fixed income	169	9	100	—	60
Total assets measured at fair value	<u>\$ 722</u>	<u>\$ 133</u>	<u>\$ 211</u>	<u>\$ —</u>	<u>\$ 378</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

For U.S. Defined Benefit Plans, there was no activity relating to assets measured at fair value using significant unobservable inputs (Level 3) during 2021 and 2020.

The following tables present the fair value of U.S. Post-Retirement Benefit Plan assets classified under the appropriate level of the fair value hierarchy as of October 31, 2021 and 2020:

	Fair Value Measurement as of October 31, 2021 Using				
	October 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
			(in millions)		
Cash and cash equivalents	\$ 5	\$ —	\$ 5	\$ —	\$ —
Equity	144	45	—	—	99
Fixed income	58	6	25	—	27
Total assets measured at fair value	<u>\$ 207</u>	<u>\$ 51</u>	<u>\$ 30</u>	<u>\$ —</u>	<u>\$ 126</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

	Fair Value Measurement as of October 31, 2020 Using				
	October 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
			(in millions)		
Cash and cash equivalents	\$ 4	\$ —	\$ 4	\$ —	\$ —
Equity	123	34	—	—	89
Fixed income	48	3	28	—	17
Total assets measured at fair value	<u>\$ 175</u>	<u>\$ 37</u>	<u>\$ 32</u>	<u>\$ —</u>	<u>\$ 106</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

For the U.S. Post-Retirement Benefit Plan, there was no activity relating to assets measured at fair value using significant unobservable inputs (Level 3) during 2021 and 2020.

The following tables present the fair value of Non-U.S. Defined Benefit Plans assets classified under the appropriate level of the fair value hierarchy as of October 31, 2021 and 2020:

	Fair Value Measurement as of October 31, 2021 Using				
	October 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
					(in millions)
Equity	\$ 526	\$ 189	\$ 2	\$ —	\$ 335
Fixed income	718	—	235	—	483
Other investment	364	—	—	364	—
Total assets measured at fair value	<u>\$ 1,608</u>	<u>\$ 189</u>	<u>\$ 237</u>	<u>\$ 364</u>	<u>\$ 818</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

	Fair Value Measurement as of October 31, 2020 Using				
	October 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Assets Measured at NAV ^(a)
					(in millions)
Equity	\$ 452	\$ 150	\$ —	\$ —	\$ 302
Fixed income	1,093	—	221	—	872
Total assets measured at fair value	<u>\$ 1,545</u>	<u>\$ 150</u>	<u>\$ 221</u>	<u>\$ —</u>	<u>\$ 1,174</u>

^(a) Certain instruments that are measured at fair value using the NAV per share practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the total value of plan assets.

For Non-U.S. Defined Benefit Plans assets measured at fair value using significant unobservable inputs (Level 3), the following table summarizes the change in balances during 2021 and 2020:

	Year Ended October 31,	
	2021	2020
		(in millions)
Balance, beginning of year	\$ —	\$ —
Unrealized gains/(losses)	17	—
Purchases, sales, issuances, and settlements	(7)	—
Transfers in (out)	354	—
Balance, end of year	<u>\$ 364</u>	<u>\$ —</u>

The table below presents the combined projected benefit obligation ("PBO"), accumulated benefit obligation ("ABO") and fair value of plan assets, grouping plans using comparisons of the PBO and ABO relative to the plan assets as of October 31, 2021 and 2020:

	2021		2020	
	Benefit Obligation PBO	Fair Value of Plan Assets	Benefit Obligation PBO	Fair Value of Plan Assets
	(in millions)		(in millions)	
U.S. defined benefit plans where PBO exceeds the fair value of plan assets	\$ 881	\$ 862	\$ 848	\$ 722
U.S. defined benefit plans where fair value of plan assets exceeds PBO	—	—	—	—
Total	\$ 881	\$ 862	\$ 848	\$ 722
Non-U.S. defined benefit plans where PBO exceeds the fair value of plan assets	\$ 383	\$ 262	\$ 433	\$ 246
Non-U.S. defined benefit plans where fair value of plan assets exceeds PBO	1,082	1,346	988	1,299
Total	\$ 1,465	\$ 1,608	\$ 1,421	\$ 1,545
	ABO		ABO	
U.S. defined benefit plans where ABO exceeds the fair value of plan assets	\$ 5	\$ —	\$ 784	\$ 722
U.S. defined benefit plans where the fair value of plan assets exceeds ABO	791	862	—	—
Total	\$ 796	\$ 862	\$ 784	\$ 722
Non-U.S. defined benefit plans where ABO exceeds the fair value of plan assets	\$ 372	\$ 262	\$ 421	\$ 246
Non-U.S. defined benefit plans where fair value of plan assets exceeds ABO	1,079	1,346	984	1,299
Total	\$ 1,451	\$ 1,608	\$ 1,405	\$ 1,545

Contributions and estimated future benefit payments. For 2022, we do not expect to contribute to our U.S. Defined Benefit Plan or U.S. Post-Retirement Benefit Plan, and we expect to contribute \$12 million to our Non-U.S. Defined Benefit Plans. The following table presents expected future benefit payments for the next 10 years.

	U.S. Defined Benefit Plans	Non-U.S. Defined Benefit Plans	U.S. Post-Retirement Benefit Plan
	(in millions)		
2022	\$ 49	\$ 39	\$ 14
2023	\$ 53	\$ 42	\$ 15
2024	\$ 53	\$ 44	\$ 15
2025	\$ 63	\$ 44	\$ 16
2026	\$ 64	\$ 45	\$ 16
2027 - 2031	\$ 310	\$ 244	\$ 74

Assumptions. The assumptions used to determine the benefit obligations and net periodic benefit cost for our defined benefit and post-retirement benefit plans are presented in the tables below. The expected long-term return on assets below represents an estimate of long-term returns on investment portfolios, consisting of a mixture of equities, fixed income and other investments, in proportion to the asset allocations of each of our plans. We consider long-term rates of return, which are weighted based on the asset classes (both historical and forecasted) in which we expect our pension and post-retirement funds to be invested. Discount rates reflect the current rate at which pension and post-retirement obligations could be settled based on the measurement dates of the plans, which is October 31. The U.S. discount rates as of October 31, 2021 and 2020 were determined based on the results of matching expected plan benefit payments with cash flows from a hypothetically constructed bond portfolio. The Non-U.S. discount rates as of October 31, 2021 and 2020 were determined based on a granular approach, which discounts the expected plan benefit payments with rates from a high quality corporate bond yield curve. In addition, we used this method to calculate two components of the periodic benefit cost: service cost and interest cost. The range of assumptions that were used for the Non-U.S. Defined Benefit Plans reflects the different economic environments within various countries.

Assumptions used to calculate the net periodic benefit cost (benefit) were as follows:

	Year ended October 31,	
	2021	2020
U.S. Defined Benefit Plans:		
Discount rate	2.75%	3.25%
Average increase in compensation levels	3.00%	3.00%
Expected long-term return on assets	7.50%	7.50%
Non-U.S. Defined Benefit Plans:		
Discount rate	0.81-1.66%	0.79-1.89%
Average increase in compensation levels	2.50-2.75%	2.50-3.00%
Expected long-term return on assets	4.00-6.50%	3.50-6.50%
U.S. Post-Retirement Benefits Plan:		
Discount rate	2.25%	3.00%
Expected long-term return on assets	7.50%	7.50%
Current medical cost trend rate	6.25%	6.25%
Ultimate medical cost trend rate	4.50%	4.50%
Medical cost trend rate decreases to ultimate rate in year	2028	2027

Assumptions used to calculate the benefit obligation as of October 31, 2021 and 2020 were as follows:

	Year ended October 31,	
	2021	2020
U.S. Defined Benefit Plans:		
Discount rate	2.75%	2.75%
Average increase in compensation levels	3.50%	3.00%
Non-U.S. Defined Benefit Plans:		
Discount rate	0.70-1.86%	0.81-1.66%
Average increase in compensation levels	2.50-2.75%	2.50-2.75%
U.S. Post-Retirement Benefits Plan:		
Discount rate	2.75%	2.25%
Current medical cost trend rate	6.00%	6.25%
Ultimate medical cost trend rate	4.50%	4.50%
Medical cost trend rate decreases to ultimate rate in year	2028	2028

Health care trend rates did not have a significant effect on the total service and interest cost components or on the post-retirement benefit obligation amounts reported for the U.S. Post-Retirement Benefit Plan for the years ended October 31, 2021 and 2020.

13. SUPPLEMENTAL FINANCIAL INFORMATION

The following tables provide details of selected balance sheet items:

Cash, cash equivalents, and restricted cash

	October 31,	
	2021	2020
	(in millions)	
Cash and cash equivalents	\$ 2,052	\$ 1,756
Restricted cash included in other current assets	—	9
Restricted cash included in other assets	16	2
Total cash, cash equivalents, and restricted cash shown in the statement of cash flows	<u>\$ 2,068</u>	<u>\$ 1,767</u>

Restricted cash primarily relates to deficit reduction contributions to an escrow account for one of our non-U.S. defined benefit pension plans and deposits held as collateral against bank guarantees.

Inventory

	October 31,	
	2021	2020
	(in millions)	
Finished goods	\$ 329	\$ 342
Purchased parts and fabricated assemblies	448	415
Total inventory	<u>\$ 777</u>	<u>\$ 757</u>

Gross inventory-related excess and obsolescence charges recorded in total cost of products were \$27 million in 2021, \$29 million in 2020 and \$27 million in 2019. We record excess and obsolete inventory charges for inventory at our sites and at our contract manufacturers and suppliers, where we have non-cancellable purchase commitments.

Property, plant and equipment

	October 31,	
	2021	2020
	(in millions)	
Land	\$ 61	\$ 67
Buildings and leasehold improvements	785	743
Machinery and equipment	1,328	1,224
Total property, plant and equipment	2,174	2,034
Accumulated depreciation of property, plant and equipment	(1,524)	(1,439)
Property, plant and equipment, net	<u>\$ 650</u>	<u>\$ 595</u>

The increase in property, plant and equipment, net, for the year ended October 31, 2021, is primarily driven by capital investments to increase the resiliency of our supply chains. Asset impairments were zero in 2021, 2020 and 2019. Depreciation expense was \$117 million in 2021, \$104 million in 2020 and \$96 million in 2019.

Standard warranty

Activity related to the standard warranty accrual, which is included in other accrued and other long-term liabilities in our consolidated balance sheet, is as follows:

	Year Ended October 31,	
	2021	2020
	(in millions)	
Beginning balance	\$ 33	\$ 38
Accruals for warranties	29	24
Settlements made during the period	(28)	(29)
Ending balance	<u>\$ 34</u>	<u>\$ 33</u>
Accruals for warranties due within one year	\$ 21	\$ 20
Accruals for warranties due after one year	13	13
Ending balance	<u>\$ 34</u>	<u>\$ 33</u>

14. COMMITMENTS AND CONTINGENCIES

Commitments to contract manufacturers and suppliers. We purchase components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. During the normal course of business, we issue purchase orders with estimates of our requirements several months ahead of the delivery dates. The reported open purchase orders represent a commitment to our suppliers. Our agreements with suppliers for common materials provide us the option to cancel, reschedule, and adjust our requirements based on business needs. We expect to fulfill most of our purchase commitments for inventory within one year or based on mutually agreed terms.

As of October 31, 2021 and 2020, our non-cancellable purchase commitments were approximately \$444 million and \$291 million, respectively, of which the majority is for less than one year. The increase in the non-cancellable purchase commitments for the year ended October 31, 2021 was driven by higher revenue and advance purchase orders to secure capacity for critical parts due to global supply disruptions.

Other purchase commitments. Other purchase commitments relate to contracts with professional services suppliers. We can typically cancel these contracts within 90 days without penalties. For those contracts that are not cancellable within 90 days without penalties, we disclose the amounts we are obligated to pay to a supplier under each contract in that period before such contract can be canceled. As of October 31, 2021, our contractual obligations with these suppliers were approximately \$60 million within the next fiscal year, as compared to approximately \$52 million as of October 31, 2020.

Litigation and Contingencies. On August 3, 2021, we entered into a Consent Agreement with the Directorate of Defense Trade Controls, Bureau of Political-Military Affairs, Department of State to resolve alleged violations of the Arms Export Control Act and the International Traffic in Arms Regulations ("ITAR"). Pursuant the Consent Agreement, we will pay a penalty of \$6.6 million, \$2.5 million of which is suspended, over three years and will employ a special compliance officer for three years. We are also involved in lawsuits, claims, investigations and proceedings, including but not limited to patent, commercial and environmental matters that arise in the ordinary course of business. Although there are no matters pending that we currently believe are reasonably possible of having a material impact to our business, consolidated financial condition, results of operations or cash flows, the outcome of litigation is inherently uncertain and the outcome is difficult to predict. An adverse outcome in any outstanding lawsuit or proceeding could result in significant monetary damages or injunctive relief. If adverse results are above management's expectations or are unforeseen, management may not have accrued for the liability, which could impact our results in a financial period.

Indemnification Obligations Related to Transactions

In connection with acquisitions, divestitures, mergers, spin-offs and other transactions, we have agreed to indemnify certain parties for damages, losses, expenses and liabilities arising in the future but that were incurred prior to or are related to such transactions. The liabilities covered by these indemnifications include but are not limited to tax, employment, benefits, intellectual property, environmental, and other liabilities. We do not believe that our indemnification obligations related to such liabilities were material as of October 31, 2021.

Indemnifications to Officers and Directors

Our corporate by-laws require that we indemnify our officers and directors, as well as those who act as directors and officers of other entities at our request, against expenses, judgments, fines, settlements and other amounts actually and reasonably incurred in connection with any proceedings arising out of their services to Keysight and such other entities, including service with respect to employee benefit plans. In addition, we have entered into separate indemnification agreements with each director and each board-appointed officer of Keysight that provide for indemnification under similar and additional circumstances. The indemnification obligations are more fully described in the by-laws and the indemnification agreements, which are available on our website. We purchase standard insurance to cover claims or a portion of the claims made against our directors and officers. Since a maximum obligation is not explicitly stated in our by-laws or in our indemnification agreements and will depend on the facts and circumstances that arise out of any future claims, the overall maximum amount of the obligations cannot be reasonably estimated. Historically, we have not made payments related to these obligations, and do not believe that our indemnification obligations related to such claims were material as of October 31, 2021.

Other Indemnifications

As is customary in our industry and as provided for in local law in the U.S. and other jurisdictions, many of our standard contracts provide remedies to our customers and others with whom we enter into contracts, such as defense, settlement, or payment of judgment for intellectual property claims related to the use of our products. From time to time, we indemnify customers, as well as our suppliers, contractors, lessors, lessees, companies that purchase our businesses or assets and others with whom we enter into contracts, against combinations of loss, expense, or liability arising from various triggering events

related to the sale and the use of our products and services, the use of their goods and services, the use of facilities and state of our owned facilities, the state of the assets and businesses that we sell and other matters covered by such contracts, usually up to a specified maximum amount. In addition, from time to time we also provide protection to these parties against claims related to undiscovered liabilities, additional product liability or environmental obligations. In our experience, claims made under such indemnifications are rare and do not believe that our indemnification obligations related to such claims were material as of October 31, 2021.

15. STOCKHOLDERS' EQUITY

Stock Repurchase Program

On November 18, 2020, our board of directors approved a stock repurchase program authorizing the purchase of up to \$750 million of the company's common stock. On November 18, 2021, our board of directors approved a new stock repurchase program authorizing the purchase of up to \$1,200 million of the company's common stock, replacing the previously approved November 2020 program, under which \$77 million remained.

Under our stock repurchase program, shares may be purchased from time to time, subject to general business and market conditions and other investment opportunities, through open market purchases, privately negotiated transactions or other means. All such shares and related costs are held as treasury stock and accounted for at trade date using the cost method. The stock repurchase program may be commenced, suspended or discontinued at any time at the company's discretion and does not have an expiration date.

In 2021 we repurchased 4,361,542 shares of common stock for \$673 million. In 2020 we repurchased 4,274,366 shares of common stock for \$410 million. In 2019 we repurchased 2,093,570 shares of common stock for \$160 million. All such shares and related costs are held as treasury stock and accounted for at trade date using the cost method.

Accumulated other comprehensive loss

The following table summarizes the components of accumulated other comprehensive loss, net of tax effect:

	October 31,	
	2021	2020
	(in millions)	
Foreign currency translation, net of tax (expense) of \$(63) and \$(63)	\$ (20)	\$ (10)
Unrealized losses on defined benefit plans, net of tax benefit of \$84 and \$139	(462)	(605)
Unrealized gains (losses) on derivative instruments, net of tax (expense) of \$(11) and \$(5)	40	16
Total accumulated other comprehensive loss	<u>\$ (442)</u>	<u>\$ (599)</u>

Changes in accumulated other comprehensive loss by component and related tax effects were as follows:

	Foreign currency translation	Net defined benefit pension cost and post retirement plan costs:		Unrealized gains (losses) on derivatives	Total
		Actuarial losses	Prior service credits (in millions)		
At October 31, 2019	\$ (43)	\$ (536)	\$ 4	\$ (3)	\$ (578)
Other comprehensive income (loss) before reclassifications	33	(155)	—	20	(102)
Amounts reclassified out of accumulated other comprehensive gain (loss)	—	68	(12)	4	60
Tax benefit (expense)	—	23	3	(5)	21
Other comprehensive income (loss)	33	(64)	(9)	19	(21)
At October 31, 2020	(10)	(600)	(5)	16	(599)
Other comprehensive income (loss) before reclassifications	(10)	106	—	32	128
Amounts reclassified out of accumulated other comprehensive gain (loss)	—	93	(1)	(2)	90
Tax benefit (expense)	—	(55)	—	(6)	(61)
Other comprehensive income (loss)	(10)	144	(1)	24	157
At October 31, 2021	\$ (20)	\$ (456)	\$ (6)	\$ 40	\$ (442)

Reclassifications out of accumulated other comprehensive loss were as follows:

Details about accumulated other comprehensive loss components	Amounts reclassified from other comprehensive loss		Affected line item in statement of operations
	Year Ended October 31,		
	2021	2020	
	(in millions)		
Unrealized gain (loss) on derivatives	\$ —	\$ (3)	Cost of products
	2	(1)	Selling, general and administrative
	—	1	Benefit (provision) for income taxes
	2	(3)	
Net defined benefit pension cost and post retirement plan costs:			
Net actuarial losses	(93)	(68)	Other income (expense), net
Prior service credits	1	12	Other income (expense), net
	(92)	(56)	
	24	10	Provision (benefit) for income taxes
	(68)	(46)	
Total reclassifications for the period	\$ (66)	\$ (49)	

An amount in parentheses indicates a reduction to income and an increase to the accumulated other comprehensive loss.

Reclassifications of prior service credits and net actuarial losses in respect of retirement plans and post retirement pension plans are included in the computation of net periodic cost. See Note 12, "Retirement Plans and Post Retirement Pension Plans."

16. SEGMENT INFORMATION

Our operating segments were determined based primarily on how the chief operating decision maker views and evaluates our operations. Segment operating results are regularly reviewed by the chief operating decision maker to make decisions about resources to be allocated to each segment and to assess performance. Other factors, including market separation and customer specific applications, go-to-market channels, products and services and manufacturing are considered in determining the formation of these operating segments.

Descriptions of our two reportable segments are as follows:

The Communications Solutions Group serves customers spanning the worldwide commercial communications and aerospace, defense and government end markets. The group's solutions consist of electronic design and test software, electronic measurement instruments, systems and related services. These solutions are used in the simulation, design, validation, manufacturing, installation and optimization of electronic equipment and networks.

The Electronic Industrial Solutions Group provides test and measurement solutions and related services across a broad set of electronic industrial end markets, focusing on high-value applications in the automotive and energy industries and measurement solutions for consumer electronics, education, general electronics design and manufacturing, and semiconductor design and manufacturing. The group provides electronic measurement instruments, design and test software and systems and related services used in the simulation, design, validation, manufacturing, installation and optimization of electronic equipment, and automated test software that uses artificial intelligence and machine learning to automate test creation and test execution.

A significant portion of the segments' expenses arise from allocated corporate charges as well as expenses related to our centralized sales force, and service, marketing and technology functions that we have historically provided to the segments in order to realize economies of scale and to efficiently use resources. Corporate charges include legal, accounting, real estate, insurance services, information technology services, treasury and other corporate infrastructure expenses. Segment allocations are determined on a basis that we consider to be a reasonable reflection of the utilization of services provided to or benefits received by the segments. Newly acquired businesses are not allocated these charges until integrated into our shared services and infrastructure.

The following tables reflect the results of our reportable segments under our management reporting system. These results are not necessarily in conformity with GAAP. The performance of each segment is measured based on several metrics, including income from operations. These results are used, in part, by the chief operating decision maker in evaluating the performance of, and in allocating resources to, each of the segments.

The profitability of each of the segments is measured after excluding share-based compensation expense, amortization of acquisition-related balances, acquisition and integration costs, a gain on an insurance settlement related to northern California wildfires, restructuring costs, interest income, interest expense and other items as noted in the reconciliations below.

	CSG		EISG		Total
	(in millions)				
Year ended October 31, 2021:					
Total and segment revenue	\$	3,523	\$	1,418	\$ 4,941
Segment income from operations	\$	932	\$	444	\$ 1,376
Depreciation expense	\$	91	\$	26	\$ 117
Year ended October 31, 2020:					
Total and segment revenue	\$	3,132	\$	1,089	\$ 4,221
Segment income from operations	\$	773	\$	296	\$ 1,069
Depreciation expense	\$	81	\$	23	\$ 104
Year ended October 31, 2019:					
Total revenue	\$	3,168	\$	1,135	\$ 4,303
Amortization of acquisition-related balances		9		—	9
Total segment revenue	\$	3,177	\$	1,135	\$ 4,312
Segment income from operations	\$	743	\$	294	\$ 1,037
Depreciation expense	\$	74	\$	22	\$ 96

The following table reconciles reportable segments' income from operations to our total enterprise income before taxes:

	Year Ended October 31,		
	2021	2020	2019
	(in millions)		
Total reportable segments' income from operations	\$ 1,376	\$ 1,069	\$ 1,037
Share-based compensation	(104)	(93)	(82)
Amortization of acquisition-related balances	(174)	(224)	(224)
Acquisition and integration costs	(9)	(13)	(9)
Gain on insurance settlement	—	32	—
Restructuring and other	(9)	(6)	(11)
Income from operations, as reported	1,080	765	711
Interest income	3	11	23
Interest expense	(79)	(78)	(80)
Other income (expense), net	6	63	61
Income before taxes, as reported	\$ 1,010	\$ 761	\$ 715

Major customers. No customer represented 10 percent or more of our total revenue in 2021, 2020 or 2019.

The following table presents segment assets and capital expenditures directly managed by each segment.

	Year Ended October 31,					
	2021			2020		
	CSG	EISG	Total	CSG	EISG	Total
	(in millions)					
Segment assets	\$ 4,122	\$ 1,523	\$ 5,645	\$ 3,832	\$ 1,334	\$ 5,166
Capital expenditures	\$ 130	\$ 44	\$ 174	\$ 90	\$ 27	\$ 117

The following table reconciles segment assets to our total assets:

	October 31,	
	2021	2020
	(in millions)	
Total reportable segments' assets	\$ 5,645	\$ 5,166
Cash and cash equivalents	2,052	1,756
Long-term investments	70	61
Long-term deferred tax assets	711	740
Accumulated amortization of other intangibles	(1,146)	(972)
Pension and other assets	449	467
Total assets	\$ 7,781	\$ 7,218

The following tables present summarized information for revenue and long-lived assets by geographic region. Revenues from external customers are generally attributed to countries based upon the customer's location. Long-lived assets consist of property, plant, and equipment, operating lease right-of-use assets and other long-term assets excluding intangible assets.

	United States	China	Rest of the World	Total
	(in millions)			
Revenue:				
Year ended October 31, 2021	\$ 1,803	\$ 927	\$ 2,211	\$ 4,941
Year ended October 31, 2020	\$ 1,523	\$ 863	\$ 1,835	\$ 4,221
Year ended October 31, 2019	\$ 1,584	\$ 822	\$ 1,897	\$ 4,303

	United States	Japan	U.K.	Rest of the World	Total
	(in millions)				
Long-lived assets:					
October 31, 2021	\$ 533	\$ 294	\$ 116	\$ 306	\$ 1,249
October 31, 2020	\$ 387	\$ 272	\$ 179	\$ 332	\$ 1,170

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures*Evaluation of Disclosure Controls and Procedures*

Our management has evaluated, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of October 31, 2021, pursuant to and as required by Rule 13a-15(b) under the Securities Exchange Act of 1934 (“Exchange Act”). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of October 31, 2021, the company's disclosure controls and procedures, as defined by Rule 13a-15(e) under the Exchange Act, were effective and designed to ensure that (i) information required to be disclosed in the company's reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (ii) information is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the results of this evaluation, our management concluded that our internal control over financial reporting was effective as of October 31, 2021.

The effectiveness of our internal control over financial reporting as of October 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report that appears in Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the fourth quarter of fiscal 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III**Item 10. Directors, Executive Officers and Corporate Governance**

The information required under Item 10 regarding our directors will appear under “Proposal No. 1 - Election of Directors” in our Proxy Statement. The information regarding our executive officers required under Item 10 will appear in Item 1 of this Annual Report on Form 10-K under “Executive Officers of the Registrant.” The information required under Item 10 regarding our Audit and Finance Committee and our Audit and Finance Committee's financial expert will appear under “Committees of the Board of Directors-Audit and Finance Committee” and “Audit and Finance Committee Report” in our Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this Annual Report on Form 10-K.

There were no material changes to the procedures by which security holders may recommend nominees to our board of directors. The information required under Item 10 regarding our code of ethics applicable to our principal executive officer, our principal financial officer, our controller and other senior financial officers is contained in our SBC and appears in Item 1 of this report under “Investor Information.” We will post amendments to or waivers from a provision of the SBC with respect to those persons on our website at www.investor.keysight.com.

Compliance with Section 16(a) of the Exchange Act

With regard to the information required under Item 10 relating to compliance with Section 16(a) of the Exchange Act, we will provide disclosure of delinquent Section 16(a) reports, if any, in Keysight's Proxy Statement under “Delinquent Section 16(a) Reports,” and such disclosure, if any, is incorporated herein by reference.

Item 11. Executive Compensation

The information relating to the compensation of our named executive officers and directors required under Item 11 will appear under “Executive Compensation” and “Compensation of Non-Employee Directors” in the Proxy Statement. The Compensation and Human Capital Committee Report and the information about Compensation and Human Capital Committee interlocks and insider participation required under Item 11, will appear under “Compensation and Human Capital Committee Report” and “Compensation and Human Capital Committee Interlocks and Insider Participation,” respectively, in the Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this Annual Report on Form 10-K.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information about the security ownership of certain beneficial owners and management required under Item 12 will appear under "Common Stock Ownership of Certain Beneficial Owners and Management" in the Proxy Statement. That portion of the Proxy Statement is incorporated by reference into this Annual Report on Form 10-K.

EQUITY COMPENSATION PLAN INFORMATION

The following table summarizes information about our equity compensation plans as of October 31, 2021. All outstanding awards relate to our common stock.

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-average Exercise Price of Outstanding Options, Warrants and Right (b)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders (1)(2)(3)	2,439,756	\$ 29	25,081,079
Equity compensation plans not approved by security holders		\$ —	—
Total	2,439,756	\$ 29	25,081,079

- (1) The number of securities remaining available for future issuance in column (c) includes 19,322,516 shares of common stock authorized and available for issuance under the Keysight Technologies, Inc. employee stock purchase plan under Section 423(b) of the Internal Revenue Code ("ESPP"). The number of shares authorized for issuance under the ESPP is subject to an automatic annual increase of the lesser of one percent of the outstanding common stock of Keysight or an amount determined by the Compensation and Human Capital Committee of our board of directors. Under the terms of the ESPP, in no event shall the aggregate number of shares issued under the ESPP exceed 75 million shares. The number of securities remaining available for future issuance in column (c) is before the issuance of shares of common stock to participants in consideration of the aggregate participant contribution under the ESPP totaling \$30 million as of October 31, 2021.
- (2) We issue securities under our equity compensation plans in forms other than options, warrants or rights. Those are issued under the 2014 Stock Plan, which was originally adopted by our board of directors on July 16, 2014, subsequently amended and restated by our board of directors on September 29, 2014 and January 22, 2015 and became effective as of November 1, 2014. The 2014 Stock Plan was further amended and restated by our board of directors on November 16, 2017. The 2014 Stock Plan provides for the grant of awards in the form of stock options, stock appreciation rights, restricted stock, restricted stock units ("RSUs"), performance shares and performance units with performance-based conditions to vesting or exercisability, and cash awards. The 2014 Stock Plan has a term of ten years. As of October 31, 2021, 5,758,563 shares were available for future awards under the 2014 Stock Plan.
- (3) We issue securities under our equity compensation plans in forms that do not require a payment by the recipient to us at the time of exercise or vesting, including restricted stock, RSUs and performance units. Accordingly, the weighted-average exercise price in column (b) does not take these awards into account.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information about certain relationships and related transactions required under Item 13 will appear under “Related Person Transactions Policy and Procedures” in the Proxy Statement. Information about director independence required under

Item 13 will appear under the heading "Director Independence" in the Proxy Statement. Each of those portions of the Proxy Statement is incorporated by reference into this Annual Report on Form 10-K.

Item 14. Principal Accounting Fees and Services

The information about principal accountant fees and services and related pre-approval policies appears required under Item 14 will appear under "Fees Paid to PricewaterhouseCoopers LLP" and "Audit and Finance Committee Preapproval Policy" in the Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this Annual Report on Form 10-K.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents are filed as part of this Annual Report on Form 10-K:

1. Financial Statements.

See Index to Consolidated Financial Statements under Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedule.

The following additional financial statement schedule should be considered in conjunction with our consolidated financial statements. All other schedules have been omitted because the required information is either not applicable or not sufficiently material to require submission of the schedule.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS

Description	Balance at Beginning of Period	Additions Charged to Expenses or Other Accounts*	Deductions Credited to Expenses or Other Accounts**	Balance at End of Period
(in millions)				
2021				
Tax valuation allowance	\$ 238	\$ 11	\$ (18)	\$ 231
2020				
Tax valuation allowance	\$ 240	\$ 3	\$ (5)	\$ 238
2019				
Tax valuation allowance	\$ 79	\$ 169	\$ (8)	\$ 240

* Additions include current-year additions charged to expense and current-year build due to increases in net deferred tax assets, return to provision true-ups, other adjustments and Other Comprehensive Income ("OCI") impact to deferred taxes.

** Deductions include current-year releases credited to expense and current-year reductions due to decreases in net deferred tax assets, return to provision true-ups, other adjustments and OCI impact to deferred taxes.

3. Exhibits.

Exhibits are incorporated herein by reference or are filed with this Annual Report on Form 10-K as indicated below (numbered in accordance with Item 601 of Regulation S-K):

Exhibit Number	Description	Incorporation by Reference			
		Form	Date	Exhibit Number	Filed Herewith
2.1	Separation and Distribution Agreement, dated August 1, 2014, by and between Agilent Technologies, Inc. and Keysight Technologies, Inc.**	10-12B/A	8/13/2014	2.1	
3.1	Amended and Restated Certificate of Incorporation of Keysight Technologies, Inc.	8-K	11/3/2014	3.1	
3.2	Amended and Restated Bylaws of Keysight Technologies, Inc.	8-K	11/3/2014	3.2	
4.1	Indenture, dated as of October 15, 2014, between Keysight Technologies, Inc. and U.S. Bank National Association, as Trustee	8-K	10/17/2014	4.1	
4.2	First Supplemental Indenture, dated as of October 15, 2014, to the Indenture dated as of October 15, 2014, between Keysight Technologies, Inc. and U.S. Bank National Association, as Trustee	8-K	10/17/2014	4.2	
4.3	Second Supplemental Indenture, dated as of April 6, 2017, to the Indenture dated as of October 15, 2014, between Keysight Technologies, Inc. and U.S. Bank National Association, as Trustee.	8-K	4/6/2017	4.2	
4.4	Third Supplemental Indenture, dated as of October 22, 2019, to the Indenture dated as of October 15, 2014 between Keysight Technologies, Inc. and U.S. Bank National Association, as Trustee	8-K	10/22/2019	4.2	
4.5	Description of Keysight Technologies, Inc. Registered Securities				X
10.1	Tax Matters Agreement, dated August 1, 2014, by and between Agilent Technologies, Inc. and Keysight Technologies, Inc.	10-12B/A	8/13/2014	10.2	
10.2	Intellectual Property Matters Agreement, dated August 1, 2014, by and between Agilent Technologies, Inc. and Keysight Technologies, Inc.	10-12B/A	8/13/2014	10.4	
10.3	Trademark License Agreement, dated August 1, 2014, by and between Agilent Technologies, Inc. and Keysight Technologies, Inc.	10-12B/A	8/13/2014	10.5	
10.4	Real Estate Matters Agreement, dated August 1, 2014, by and between Agilent Technologies, Inc. and Keysight Technologies, Inc.	10-12B/A	8/13/2014	10.6	
10.5	Form of Indemnification Agreement	10-12B/A	7/18/2014	10.7	
10.6	Keysight Technologies, Inc. Employee Stock Purchase Plan*	10-12B/A	7/18/2014	10.8	
10.7	Form of Keysight Technologies, Inc. Global Performance Award Agreement*	10-12B/A	7/18/2014	10.11	
10.8	Form of Keysight Technologies, Inc. Global Stock Option Award Agreement*	10-12B/A	7/18/2014	10.12	
10.9	Form of Keysight Technologies, Inc. Non-Employee Director Stock Option Award Agreement*	10-12B/A	7/18/2014	10.13	
10.10	Form of Keysight Technologies, Inc. Non-Employee Director Stock Award Agreement*	10-12B/A	7/18/2014	10.14	
10.11	Form of Keysight Technologies, Inc. 2014 Deferred Compensation Plan*	10-12B/A	7/18/2014	10.15	

10.12	Form of Keysight Technologies, Inc. 2014 Frozen Deferred Compensation Plan*	10-12B/A	7/18/2014	10.16	
10.13	Form of Keysight Technologies, Inc. Excess Benefit Retirement Plan*	10-12B/A	7/18/2014	10.17	
10.14	Form of Keysight Technologies, Inc. Supplemental Benefit Retirement Plan*	10-12B/A	7/18/2014	10.18	
10.15	Form of Change of Control Severance Agreement*	8-K	11/3/2014	10.1	
10.16	Form of Keysight Technologies, Inc. Deferral Election for Stock Award*	8-K	11/3/2014	10.3	
10.17	Keysight Technologies, Inc. Officer and Executive Severance Plan (Established Effective March 18, 2015)*	8-K	3/24/2015	10.1	
10.18	Keysight Technologies, Inc. 2015 Performance-based Compensation Plan for covered employees (As Adopted on September 29, 2014)*	DEF 14A	2/6/2015	APPENDIX B	
10.19	Form of Keysight Technologies, Inc. Global Stock Award Agreement as Amended on November 15, 2016*	10-K	12/19/2016	10.32	
10.20	Amended and Restated Credit Agreement, dated July 30, 2021, between Keysight Technologies, Inc. and the Lenders Party Thereto*	8-K	8/4/2021	10.1	
10.21	Keysight Technologies, Inc. 2014 Equity and Incentive Compensation Plan (As Amended and Restated on November 16, 2017)*	DEF 14A	2/9/2018	APPENDIX A	
10.22	Keysight Technologies, Inc. Deferred Compensation Plan for Non-Employee Directors*				X
10.23	Amendment Number 1 to the Keysight Technologies, Inc. Deferred Compensation Plan*				X
10.24	Amendment Number 1 to the Keysight Technologies, Inc. 2014 Deferred Compensation Plan*				X
10.25	Keysight Technologies, Inc. Officer and Executive Severance Plan (Amended and Restated Effective as of May 17, 2017)*				X
21.1	Subsidiaries of Keysight Technologies, Inc.				X
23.1	Consent of Independent Registered Public Accounting Firm.				X
24.1	Powers of Attorney. Contained in the signature page of this Annual Report on Form 10-K.				X
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
99.1	Information Statement of Keysight Technologies, Inc., dated October 8, 2014.	8-K	11/3/2014	99.1	
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				X
101.SCH	Inline XBRL Schema Document				X
101.CAL	Inline XBRL Calculation Linkbase Document				X
101.LAB	Inline XBRL Labels Linkbase Document				X

101.PRE	Inline XBRL Presentation Linkbase Document	X
101.DEF	Inline XBRL Definition Linkbase Document	X
104	Inline XBRL Cover Page Interactive Data File	X

* Indicates management contract or compensatory plan, contract or arrangement.

** Certain schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Keysight will furnish supplemental copies of any such schedules or exhibits to the U.S. Securities and Exchange Commission upon request.

Item 16. *Form 10-K Summary*

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

KEYSIGHT TECHNOLOGIES, INC.

BY /s/ Neil Dougherty
Neil Dougherty
Senior Vice President and Chief Financial Officer

Date: December 17, 2021

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jeffrey K. Li and JoAnn Juskie, or any of them, his or her attorneys-in-fact, for such person in any and all capacities, to sign any amendments to this report and to file the same, with exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that any of said attorneys-in-fact, or substitute or substitutes, may do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<div>/s/ RONALD S. NERSESIAN</div> <div>Ronald S. Nersesian</div>	<div>Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)</div>	December 17, 2021
<div>/s/ NEIL P. DOUGHERTY</div> <div>Neil P. Dougherty</div>	<div>Senior Vice President and Chief Financial Officer (Principal Financial Officer)</div>	December 17, 2021
<div>/s/ JOHN C. SKINNER</div> <div>John C. Skinner</div>	<div>Vice President and Corporate Controller (Principal Accounting Officer)</div>	December 17, 2021
<div>/s/ JAMES G. CULLEN</div> <div>James G. Cullen</div>	<div>Director</div>	December 17, 2021
<div>/s/ CHARLES J. DOCKENDORFF</div> <div>Charles J. Dockendorff</div>	<div>Director</div>	December 17, 2021
<div>/s/ RICHARD P. HAMADA</div> <div>Richard P. Hamada</div>	<div>Director</div>	December 17, 2021
<div>/s/ MICHELLE J. HOLTHAUS</div> <div>Michelle J. Holthaus</div>	<div>Director</div>	December 17, 2021
<div>/s/ PAUL A. LACOUTURE</div> <div>Paul A. Lacouture</div>	<div>Director</div>	December 17, 2021
<div>/s/ JEAN M. NYE</div> <div>Jean M. Nye</div>	<div>Director</div>	December 17, 2021
<div>/s/ JOANNE B. OLSEN</div> <div>Joanne B. Olsen</div>	<div>Director</div>	December 17, 2021
<div>/s/ ROBERT A. RANGO</div> <div>Robert A. Rango</div>	<div>Director</div>	December 17, 2021

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

Keysight Technologies, Inc. (“we,” “our,” “us,” or “Keysight”) has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common stock. The following summary of the terms of our common stock is based upon our Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws. This summary does not purport to be complete and is subject to, and is qualified in its entirety by express reference to, the applicable provisions of our Amended and Restated Certificate of Incorporation and our Amended and Restated Bylaws, which are filed as exhibits to our Annual Report on Form 10-K and are incorporated by reference herein. We encourage you to read our Amended and Restated Certificate of Incorporation, our Amended and Restated Bylaws and the applicable provisions of the Delaware General Corporation Law (the “DGCL”) for more information.

DESCRIPTION OF COMMON STOCK

General

Our authorized capital stock consists of one billion shares of common stock, par value \$0.01 per share, and 100 million shares of preferred stock, par value \$0.01 per share, none of which were outstanding as of that date. All outstanding shares of common stock are duly authorized, validly issued, fully paid and non-assessable.

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters to be voted upon by the common stockholders, and there are no cumulative voting rights.

Dividend Rights

Subject to any preferential rights of any then-outstanding preferred stock, holders of our common stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by our board of directors out of funds legally available for that purpose.

Liquidation Rights

If there is a liquidation, dissolution or winding up of Keysight, holders of our common stock would be entitled to ratable distribution of our assets remaining after the payment in full of liabilities and any preferential rights of any then-outstanding preferred stock.

Other Rights and Preferences

Holders of our common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Listing

Our common stock is traded on the New York Stock Exchange under the symbol “KEYS.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company.

Preferred Stock

Keysight’s board of directors has the discretion, subject to limitations prescribed by the DGCL and by Keysight’s Amended and Restated Certificate of Incorporation, to determine the designations, powers, rights, preferences, privileges, qualifications, limitations and restrictions, including voting rights (if any), dividend rights, dissolution rights, conversion rights, exchange rights, redemption rights and liquidation preferences, of each series of preferred stock.

Effect of Certain Provisions of the Delaware Anti-Takeover Statute and our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Provisions of the DGCL and Keysight's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws could make it more difficult to acquire Keysight by means of a tender offer, a proxy contest or otherwise, or to remove incumbent officers and directors. These provisions, summarized below, are expected to discourage certain types of coercive takeover practices and takeover bids that our board of directors may consider inadequate and to encourage persons seeking to acquire control of Keysight to first negotiate with our board of directors. Keysight believes that the benefits of increased protection of our ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure Keysight outweigh the disadvantages of discouraging takeover or acquisition proposals because, among other things, negotiation of these proposals could result in an improvement of their terms.

Delaware Anti-Takeover Statute

Keysight is subject to Section 203 of the DGCL, an anti-takeover statute. In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the time the person became an interested stockholder, unless (i) prior to such time, the board of directors of such corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (ii) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of such corporation at the time the transaction commenced (excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) the voting stock owned by directors who are also officers or held in employee benefit plans in which the employees do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or (iii) on or subsequent to such time the business combination is approved by the board of directors of such corporation and authorized at a meeting of stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock of such corporation not owned by the interested stockholder. Generally, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns (or within three years prior to the determination of interested stockholder status did own) 15% or more of a corporation's voting stock. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by Keysight's board of directors, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by Keysight's stockholders.

Classified Board

Keysight's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that our board of directors is divided into three classes, with the three classes each serving staggered three-year terms. Directors for each class are elected at the annual meeting of stockholders held in the year in which the term for their class expires. Subject to the rights of holders of any then-outstanding series of preferred stock, Keysight's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that the number of directors will be fixed exclusively by resolution of the board of directors.

At any meeting of stockholders for the election of directors at which a quorum is present, the election will be determined by a majority of the votes cast by the stockholders entitled to vote in the election, with directors not receiving a majority of the votes cast required to tender their resignations for consideration by the board of directors, except that in the case of a contested election, the election will be determined by a plurality of the votes cast by the stockholders entitled to vote in the election. Under the classified board provisions, it would take at least two elections of directors for any individual or group to gain control of Keysight's board of directors. Accordingly, these provisions could discourage a third party from initiating a proxy contest, making a tender offer or otherwise attempting to gain control of Keysight.

Removal of Directors

Keysight's Amended and Restated Bylaws provide that our stockholders may remove our directors only for cause, by an affirmative vote of holders of at least the majority of Keysight's voting stock then outstanding.

Amendments to Amended and Restated Certificate of Incorporation

Keysight's Amended and Restated Certificate of Incorporation provides that the affirmative vote of the holders of at least 80% of its voting stock then outstanding is required to amend certain provisions relating to the number, term and removal of directors, the filling of board vacancies, the advance notice to be given for nominations for elections of directors, the calling of special meetings of stockholders, stockholder action by written consent, the ability of the board of directors to amend the bylaws, the elimination of liability of directors to the extent permitted by Delaware law, exclusive forum for certain types of actions and proceedings that may be initiated by Keysight's stockholders and amendments of the Amended and Restated Certificate of Incorporation.

Amendments to Amended and Restated Bylaws

Keysight's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide that they may be amended by Keysight's board of directors or by the affirmative vote of holders of a majority of Keysight's voting stock then outstanding, except that the affirmative vote of holders of at least 80% of Keysight's voting stock then outstanding is required to amend certain provisions relating to the calling of special meetings of stockholders, the business that may be conducted or considered at annual or special meetings, the advance notice of stockholder business and nominations, stockholder action by written consent, the number, tenure, qualifications and removal of Keysight's directors, the filling of board vacancies, director and officer indemnification and amendments of the bylaws.

Size of Board and Vacancies

Keysight's Amended and Restated Bylaws provide that the number of directors on our board of directors will be fixed exclusively by our board of directors, subject to the rights of any holders of any series of preferred stock to elect directors under specified circumstances. Any vacancies created in our board of directors resulting from any increase in the authorized number of directors or the death, resignation, retirement, disqualification, removal from office or other cause will be filled by a majority of the board of directors then in office, even if less than a quorum is present, or by a sole remaining director. Any director appointed to fill a vacancy on Keysight's board of directors will be appointed for a term expiring at the next election of the class for which such director has been appointed, and until his or her successor has been elected and qualified.

Special Stockholder Meetings

Keysight's Amended and Restated Certificate of Incorporation provides that only the board of directors, pursuant to a resolution adopted by the majority of the entire board, the chairman of the board of directors or Keysight's chief executive officer, or, if the chief executive officer is absent or unable, by the president or any executive vice president, may call special meetings of Keysight's stockholders. The majority of the board of directors must concur with the calling of the meeting by the chairman, chief executive officer, president or any executive vice president. Stockholders may not call special stockholder meetings.

Stockholder Action by Written Consent

Keysight's Amended and Restated Certificate of Incorporation expressly eliminates the right of stockholders to act by written consent. Stockholder action must take place at the annual or a special meeting of Keysight stockholders.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Keysight's Amended and Restated Certificate of Incorporation mandates that advance notice of stockholder nominations for the election of directors will be given in accordance with the bylaws. The Amended and Restated Bylaws establish advance notice procedures with respect to stockholder proposals and nomination of candidates for election as directors as well as minimum qualification requirements for stockholders making the proposals or nominations. Additionally, the Amended and Restated Bylaws require that candidates for election as director disclose their qualifications and make certain representations.

No Cumulative Voting

The DGCL provides that stockholders are denied the right to cumulate votes in the election of directors unless the company's certificate of incorporation provides otherwise. Keysight's Amended and Restated Certificate of Incorporation does not provide for cumulative voting.

Undesignated preferred stock

The authority that Keysight's board of directors possesses to issue preferred stock could potentially be used to discourage attempts by third parties to obtain control of Keysight through a merger, tender offer, proxy contest or otherwise by making such attempts more difficult or costly. Keysight's board of directors may be able to issue preferred stock with voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of common stock.

**KEYSIGHT TECHNOLOGIES, INC.
DEFERRED COMPENSATION PLAN FOR NON-EMPLOYEE DIRECTORS**

(Established Effective November 1, 2014)

Section 1. Establishment and Purpose of Plan.

The Keysight Technologies, Inc. Deferred Compensation Plan for Non-Employee Directors (the "Plan") is hereby adopted and established effective as of November 1, 2014. The Plan is intended to be an unfunded and unsecured deferred compensation arrangement between the Non-Employee Director and Keysight, in which the Non-Employee Director agrees to defer

(a) a percentage of the Non-Employee Director's cash portion of his or her Annual Retainer and/or Committee Fees; and/or (b) all or a portion of the Shares subject to any Equity Award in exchange for Keysight's unfunded and unsecured promise to make a payment at a future date, as specified in Section 6.

Unless otherwise defined in the Plan, capitalized terms shall have the meanings set forth in Section 20.

Section 2. Participation in the Plan.

All Non-Employee Directors are eligible to participate in the Plan unless the Committee designates such Non-Employee Director as being ineligible to participate in the Plan.

Section 3. Timing and Amounts of Deferred Compensation.

3.1 Annual Retainer/Committee Fees Deferral.

(a) Timing of Annual Deferrals. With respect to each Plan Year, a Non-Employee Director may elect to defer (i) a percentage of the cash portion of his or her Annual Retainer payment and/or Committee Fees otherwise earned during such Plan Year; and/or (ii) all or a portion of the Shares subject to any Equity Award granted during such Plan Year. Such an election must be made on or before December 31, or such earlier date established by the Committee, of the preceding Plan Year. All such elections shall be made in accordance with any procedures established by the Committee.

(b) Amount of Annual Deferral. A Non-Employee Director may defer with respect to a Plan Year any portion, up to 100%, of any cash Annual Retainer and/or Committee Fee payments to which he or she may become entitled during such Plan Year, so long as such Deferred Amount is expressed in terms of a dollar amount or a whole percentage point. After an effective deferral election is made by a Non-Employee Director, the appropriate dollar amount will be deducted from the Annual Retainer or Committee Fee, as the case may be, at the time that this amount would have otherwise been paid. This Deferred Amount shall be credited to the Non-Employee Director's Deferral Account pursuant to Section 4. In addition, a Director may defer with respect to a Plan Year all or any portion of the Shares subject to an Equity Award, so long as the election is made with respect to whole Shares or such other election method as selected by the Committee and set forth in the election form for the applicable Plan Year. Once

an election is made to defer Shares from an Equity Award, the Shares shall be withheld on the date the Shares would have otherwise been transferred to the Director.

(c) Newly Elected or Appointed Non-Employee Directors. Notwithstanding the foregoing, a newly elected or appointed Non-Employee Director may make an election within 30 days of becoming a Non-Employee Director to defer compensation paid for services to be performed after the election in accordance procedures established by the Committee in accordance with Treasury Regulation Section 1.409A-2(a)(7).

Section 4. Deferral Accounts.

Amounts deferred pursuant to Section 3.1 shall be credited to a Deferral Account in the name of the Non-Employee Director as of the later of (i) the first trading day on or after March 1 of each Plan Year (the first trading day on or after March 1, 2015 for the first Plan Year); and (ii) the first trading day following the annual stockholders meeting (the "Initial Deferral Date"). The Non-Employee Director's right with respect to a deferral of his or her Annual Retainer and/or Committee Fees pursuant to Section 3.1(a) shall vest on the dates (the "Vesting Dates") such amounts would otherwise have been paid to the Non-Employee Director. The Non-Employee Director's rights and any Vesting Dates with respect to a deferral of any Shares under an Equity Award shall be determined based on the terms of the applicable grant agreement and/or plan document governing such award. If the Non-Employee Director ceases to be a Non-Employee Director for any reason at any time prior to a Vesting Date, he or she shall forfeit any amounts credited to his or her Deferral Account which have not become fully vested prior to such Vesting Date effective as of the date on which the Non-Employee Director ceases to be a Non-Employee Director. The Non-Employee Director's rights in the Deferral Account shall be no greater than the rights of an unsecured general creditor of Keysight. Amounts credited to a Non-Employee's Deferral Account hereunder shall for all purposes be part of the general funds of Keysight. Any payout to a Non-Employee Director of amounts credited to a Non-Employee Director's Deferral Account is not due until the Payout Commencement Date.

Section 5. Investments; Dividends

5.1 Investments. Amounts deferred pursuant to Section 3 above shall be deemed to be invested wholly in Shares.

5.2 Determination of Number of Shares. With respect to each Plan Year, the number of Shares in which a Non-Employee Director's Deferral Account is deemed to be invested shall be determined by dividing the dollar value of the Deferred Amount by the Share's Twenty (20) Day Average Fair Market Value for the applicable Initial Deferral Date and adding the number of Shares subject to an Equity Award that were selected for deferral by the Non-Employee Director pursuant to a completed and timely filed deferral election form.

5.3 Timing of Investment. The deemed investment of the Non-Employee Directors' Deferred Amounts in Shares will be made automatically on the Initial Deferral Date and will be subject to the vesting conditions set forth in Section 4 (and, with respect to the deferral of Shares subject to an Equity Award, the terms of the agreement (and/or plan document) governing such Equity Award).

5.4 Dividends. A Non-Employee Director's Deferral Account will be credited with dividend equivalents; provided, however, that Shares subject to an Equity Award will be credited with dividend equivalents in accordance with the terms of the relevant plan and/or agreement governing such Equity Awards. To the extent that dividend equivalents are credited with respect to Deferred Amount or Shares subject to an Equity Award that are deferred under the Plan, such dividend equivalents shall be credited until such amounts are paid out to the Non-Employee Director under this Plan as set out in Section 6. All dividend equivalents shall be added to the liability of and retained therein by Keysight. Any such addition to the liability shall be appropriately reflected on the books and records of Keysight and identified as an addition to the total sum owing the Non-Employee Director. All such dividend equivalents shall be treated as being automatically reinvested in additional Shares and shall be distributed in accordance with the rules that apply to the Deferred Amounts and/or deferral of Shares subject to an Equity Award to which they relate. However, such additional Shares shall not be treated as being fully vested until the underlying Shares have vested in accordance with Section 4.

Section 6. Payout to Non-Employee Directors.

6.1 Payment of Deferral Account. If a Non-Employee Director's total Deferral Account balance is equal to or greater than \$25,000 on the Termination Date, the form and commencement of the portion of the Non-Employee Director's Deferral Account shall be made in accordance with the Non-Employee Director's elections at the time of deferral and this Section 6.1. If a Non-Employee Director's total Deferral Account balance is less than \$25,000 on the Termination Date, the form and commencement of payment shall be a lump sum payout in the first pay period in January of the year following the Termination Year. If a timely election under this Section 6.1 is made with respect to any Plan Year but the Nonemployee Director fails to elect a time and form of payout under Section 6.2, regardless of whether the Non-Employee Director's total Deferral Account is equal to or greater than \$25,000 on the Termination Date, the Non-Employee Director shall receive payout of his or her Deferred Account for that Plan Year in a lump sum payout in the first pay period in January of the year following the Termination Year. A Non-Employee Director may make a separate payout election prior to the commencement of each Plan Year with respect to the Deferral Amount (and earnings) or any Shares subject to an Equity Award attributable to that Plan Year.

6.2 Payment Elections.

(a) Form of Payout. A Non-Employee Director making a valid election under this Section 6, may, for each Plan Year, elect to receive his or her Deferred Amount (and earnings) or any deferral of Shares subject to an Equity Award plus applicable dividend equivalents, if any as either (i) a lump sum payout, or (ii) a payout in annual installments over a five (5) to fifteen (15) year period. Payment shall be made in the form of Shares.

(b) Commencement of Payout. A Non-Employee Director making a valid election under this Section 6 may elect his or her Payout Commencement Date under either the lump sum or installment election method elected in Section 6.2(a), as the first pay period in January (the "Initial Potential Payment Date") following the Termination Year or the first pay period in January following the first, second or third anniversary of the Initial Potential Payment Date.

6.3 Dividend Equivalents. Whatever the form of payout under Section 6, and whatever the timing of the Payout Commencement Date, the Deferral Account of a Non-Employee Director shall, to the extent such amounts are entitled to be credited with dividend equivalents, continue to be credited with dividend equivalents until all amounts in such an account are paid out to the Non-Employee Director.

6.4 Death Benefits. If a Non-Employee Director dies prior to receipt of his or her Deferral Account, the Beneficiary of the Non-Employee Director shall receive payment of the Non-Employee Director's Deferral Account (plus earnings) at the same time and in the same form as the Non-Employee Director would have received payment.

6.5 Committee Discretion. Notwithstanding anything in this Section 6 to the contrary, the Committee shall have the discretion to modify the availability and timing of an election, and the timing, form and amount of any payout, in any manner it deems appropriate (except that a Non-Employee Director who is then serving as a member of the Committee may not participate in any such decision that affects his or her Deferral Account); provided, however, that any alteration must comply with Section 409A of the Code, and any alteration with respect to a "covered officer" (within the meaning of Section 162(m) of the Code) must be consistent with the requirements for deductibility of compensation under Section 162(m) of the Code.

Section 7. Section 409A Compliance.

Amounts payable pursuant to this Plan are intended to comply with, or otherwise be exempt from, Section 409A of the Code and shall be construed, administered and interpreted with that intent. Any payment which is payable as a result of a Non-Employee Director's termination of service that constitutes a "deferral of compensation" for purposes of Section 409A of the Code shall not be paid unless and until the Participant incurs a "separation from service" for purposes of Section 409A of the Code. In addition, to the extent an amount which constitutes a deferral of compensation which is distributable to a Non-Employee Director who is a "specified employee" (as defined in Section 409A of the Code), such amount shall not be distributed to the Non-Employee Director before the date (the "Delayed Payment Date") which is the first day of the seventh month after the date of the Non-Employee Director's separation from service or, if earlier, the date of the Non-Employee Director's death following such separation from service. All such amounts that would, but for this Section 7, become distributable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date.

Section 8. Hardship Provision for Unforeseeable Emergencies.

Neither the Non-Employee Director nor his or her Beneficiary is eligible to withdraw amounts credited to a Deferral Account prior to the time specified in Section 6. However, such credited amounts that are vested may be subject to early withdrawal if (1) an unforeseeable emergency occurs that is caused by an illness or accident of the Non-Employee Director, the Non-Employee Director's spouse, the Non-Employee Director's beneficiary, or of a dependent (as defined in Section 152 of the Code without regard to Section 152(b)(1), 152(b)(2) or 152(d)(1)(B) of the Code) of the Non-Employee Director, loss of the Non-Employee Director's property due to casualty, or other similar extraordinary and unforeseeable circumstances arising as a result of events beyond the Non-Employee Director's control, (2) such circumstances would result in severe financial hardship to the individual if early withdrawal is not permitted, and (3)

any other requirements established under Section 409A of the Code and regulations promulgated thereunder are satisfied. A severe financial hardship exists only when all other reasonably available financial resources have been exhausted, including but not limited to (1) reimbursement or compensation by insurance or otherwise, (2) liquidation of the Non-Employee Director's assets, to the extent that liquidation of such assets would not itself cause severe financial hardship, or (3) cessation of deferrals under the Plan. Examples of what are not considered to be unforeseeable emergencies include the need to send a Non-Employee Director's child to college or the desire to purchase a home.

The Committee shall have sole discretion to determine whether to approve any hardship withdrawal, which amount will be limited to the amount reasonably necessary to meet the emergency. The Committee's decision is final and binding on all interested parties. A Non-Employee Director who is then serving as a member of the Committee shall not vote on whether or not he or she is eligible for such a hardship withdrawal.

If a hardship withdrawal is approved, distribution shall occur within thirty (30) days after the beginning of the calendar quarter following the date of such approval (or at such later time permitted under Code Section 409A), and the Nonemployee Director's deferrals under the Plan shall be terminated as of the date of such approval to the extent required to avoid taxation under Code Section 409A.

Section 9. Designation of Beneficiaries.

The Non-Employee Director shall, in accordance with procedures established by the Committee, (1) designate one or more Beneficiaries hereunder, and (2) shall have the right thereafter to change such designation. No designation of a Beneficiary shall be effective unless it is provided in accordance with the procedures established by the Committee and received by Keysight prior to the Non-Employee Director's death. In the case of a Non-Employee Director's death, payment due under this Plan shall be made to the designated Beneficiary or Beneficiaries or, in the absence of such designation, by will or the laws of descent and distribution applicable to the Non-Employee Director at the time of his or her death.

Section 10. Limitation on Assignments.

Benefits under this Plan are not subject to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance, attachment or garnishment by creditors of the Non-Employee Director or the Non-Employee Director's Beneficiary and any attempt to do so shall be void. Notwithstanding the foregoing, the Committee may comply with a valid domestic relations order pursuant to the provisions set forth in Treasury Regulations § 1.409A-3(j)(4)(ii).

Section 11. Administration.

11.1 Administration by Committee. The Committee shall administer the Plan. Notwithstanding any provision of the Plan to the contrary, no member of the Committee shall be entitled to vote on any matter which would create a significant risk that such member could be treated as being in constructive receipt of some or all of his or her Deferral Account or that would result in the imposition of tax under Code Section 409A. The Committee shall have the sole authority to interpret the Plan, to establish and revise rules and regulations relating to the Plan and to make any other determinations that it believes necessary or advisable for the

administration of the Plan. Decisions and determinations by the Committee shall be final and binding upon all parties, including shareholders, Non-Employee Directors, Beneficiaries and other employees. The Committee may delegate its administrative responsibilities, as it deems appropriate.

11.2 Books and Records. Books and records maintained for the purpose of the Plan shall be maintained by the officers and employees of Keysight at its expense and subject to supervision and control of the Committee.

Section 12. No Funding Obligation.

Keysight is under no obligation to transfer amounts credited to the Non-Employee Director's Deferral Account to any trust or escrow account, and Keysight is under no obligation to secure any amount credited to a Non-Employee Director's Deferral Account by any specific assets of Keysight or any other asset in which Keysight has an interest. This Plan shall not be construed to require Keysight to fund any of the benefits provided hereunder nor to establish a trust for such purpose. Keysight may make such arrangements as it desires to provide for the payment of benefits, including, but not limited to, the establishment of a grantor trust or such other equivalent arrangements as Keysight may decide. No such arrangement shall cause the Plan to be a funded plan within the meaning of Title I of ERISA, nor shall any such arrangement change the nature of the obligation of Keysight nor the rights of the Non-Employee Directors under the Plan as provided in this document. Neither the Non-Employee Director nor his or her estate shall have any rights against Keysight with respect to any portion of the Deferral Account except as a general unsecured creditor. No Non-Employee Director has an interest in his or her Deferral Account until the Non-Employee Director actually receives the deferred payment; provided, that Keysight may, in its sole discretion and in accordance with applicable law, make arrangements to allow a Non-Employee Director to direct the voting of Shares deemed to be credited to the Non-Employee Director's Deferral Account.

Section 13. Amendment and Termination of the Plan.

Keysight, by action of the Committee, in its sole discretion may suspend or terminate the Plan or revise or amend it in any respect whatsoever; provided, however, that amounts already credited to Deferral Accounts will continue to be owed to the Non-Employee Directors or Beneficiaries and continue to be a liability of Keysight subject to the terms hereof. Any amendment or termination of the Plan will not affect the entitlement of any Non-Employee Director or the Beneficiary of a Non-Employee Director who terminates service before the amendment or termination. All benefits to which any Non-Employee Director or Beneficiary may be entitled shall be determined under the Plan as in effect at the time the Non-Employee Director terminates service and shall not be affected by any subsequent change in the provisions of the Plan; provided, however, that Keysight reserves the right to change the basis of return on investment of the Deferral Account with respect to any Non-Employee Director or Beneficiary. Non-Employee Directors or Beneficiaries will be given notice prior to the discontinuance of the Plan or reduction of any benefits provided by the Plan. Notwithstanding any other provision of the Plan, Keysight may without Non-Employee Director or Beneficiary consent amend the Plan or change the Plan's administrative rules and procedures to comply with Section 409A of the Code and the Treasury Regulations promulgated thereunder.

Section 14. Adjustment on Changes in Capitalization.

If any change, such as a stock split or dividend, is made in Keysight's capitalization, and the change results in an increase or decrease in the number of issued shares of common stock without receipt of consideration by Keysight, an appropriate adjustment shall be made in the corresponding number of Shares payable under the Plan.

Section 15. Tax Withholding.

If Keysight concludes that it is required to withhold Tax with respect to any deferral of income or payment hereunder, Keysight shall withhold such amounts from any payments due the Non-Employee Director, or otherwise make appropriate arrangements with the Non-Employee Director or his or her Beneficiary for satisfaction of such obligation.

Section 16. Choice of Law.

This Plan shall be interpreted and construed in accordance with the laws of the State of California, excluding the conflicts of laws provisions thereof, and is not subject to ERISA.

Section 17. Notice.

Any written notice to Keysight required by any of the provisions of this Plan shall be addressed to the General Counsel of Keysight or his or her delegate and shall become effective when it is received.

Section 18. No Rights to Continued Service.

Nothing in the Plan nor any action of Keysight pursuant to the Plan, shall be deemed to give any person the right to continued service as a member of the Board of Directors of Keysight or affect the right of the Board of Directors of Keysight and/or Keysight's shareholders to remove an individual from the Keysight Board of Directors in accordance with the General Corporation Law of the State of Delaware, Keysight's governing documents, including Keysight's Articles of Incorporation and Bylaws, and any other applicable law.

Section 19. Severability of Provisions.

If any particular provision of this Plan is found to be invalid or unenforceable, such provision shall not affect any other provisions of the Plan, but the Plan shall be construed in all respects as if such invalid provision had been omitted.

Section 20. Definitions.

20.1 Annual Retainer shall mean the amount to which a Non-Employee Director will be entitled to receive for serving as a Non-Employee Director in a relevant Plan Year, but shall not include reimbursement for expenses, fees associated with service on any committee of the Board or fees with respect to any other services to be provided to Keysight.

20.2 Beneficiary means the person or persons designated by a Non-Employee Director pursuant to Section 9, in accordance with and accepted by Keysight, to receive any amounts payable under the Plan in the event of the Non-Employee Director's death.

20.3 Board means the Board of Directors of Keysight.

20.4 Code means the Internal Revenue Code of 1986, as amended from time to time.

20.5 Committee means the Compensation Committee of the Board or its delegate.

20.6 Committee Fee shall mean the amount to which a Non-Employee Director will be entitled to receive for serving as the chairperson or member of a committee of the Board in a relevant Plan Year, but shall not include reimbursement for expenses associated with service on any such committee of the Board or fees with respect to any other services to be provided to Keysight.

20.7 Deferral Account means the account balance of a Non-Employee Director in the Plan created from Deferred Amounts or deferral of Shares subject to Equity Awards.

20.8 Deferred Amount means the monetary amount the Non-Employee Director elects to have deferred from his or her Annual Retainer and Committee Fees.

20.9 Equity Award means any "Award" (as defined under the Stock Plan) granted and earned during a Plan Year that may be deferred in compliance with Code Section 409A.

20.10 ERISA means the Employee Retirement Income Security Act of 1974, as amended from time to time.

20.11 Fair Market Value. For purposes of this Plan, except as the Committee may otherwise determine, the term "Fair Market Value" shall mean, as of any date, the quoted closing price for such Common Stock as of such date (or if no sales were reported on such date, the closing price on the last preceding day a sale was made) as quoted on the stock exchange or a national market system, with the highest trading volume, as reported in such source as the Company shall determine.

20.12 Keysight means Keysight Technologies, Inc., a Delaware corporation, and any business entity within the Keysight consolidated group.

20.13 Non-Employee Director means an individual who is serving as a member of Keysight's Board of Directors and who is not then an employee of Keysight or any entity that would be considered to be a single employer with Keysight under Code Sections 414(b) or (c).

20.14 Payout Commencement Date means the date on which the payout to a Non-Employee Director of amounts credited to his or her Deferral Account with respect to a Plan Year first commences.

20.15 Plan means the Keysight Technologies, Inc. Deferred Compensation Plan for Non-Employee Directors.

20.16 Plan Year shall mean the one-year period beginning on March 1 and ending on the next subsequent February 28, or February 29, as the case may be. The first Plan Year shall be a short plan year from November 1, 2014, to February 28, 2015.

20.17 Shares mean shares of the common stock of Keysight Technologies, Inc.

20.18 Stock Plan means the Keysight Technologies 2014 Equity and Incentive Compensation Plan, and any successor plan thereto.

20.19 Tax or (Taxes) means any federal, state, local, or any other governmental income tax, employment tax, payroll tax, excise tax, or any other tax or assessment owing with respect to amounts deferred, any earnings thereon, and any payments made to Non-Employee Directors or Beneficiaries under the Plan.

20.20 Termination Date means the date on which the Non-Employee Director incurs a "separation from service" within the meaning of Section 409A of the Code and the regulations promulgated thereunder.

20.21 Termination Year means the calendar year within which a Non-Employee Director's Termination Date falls.

20.22 Twenty Day Average Fair Market Value shall be the average Fair Market Value of a Share for a period of twenty (20) consecutive trading days ending as soon as practicable immediately preceding the applicable Initial Deferral Date.

Section 21. Execution.

IN WITNESS WHEREOF, Keysight has caused this Plan to be duly adopted by the undersigned this 1st day of November 2014, effective as of November 1, 2014.

Keysight Technologies, Inc.

By: /s/ Stephen D. Williams

Name: Stephen D. Williams

**AMENDMENT NUMBER 1
TO THE
KEYSIGHT TECHNOLOGIES, INC, DEFERRED COMPENSATION PLAN**

The Keysight Technologies, Inc. Deferred Compensation Plan (the "Plan"), effective August 1, 2014, is hereby amended as follows effective October 24, 2014:

In Appendix A, of the Plan and any accompanying references throughout the Plan, references to the "Vanguard Balance Index Fund - Signal Shares" are deleted in their entirety and replaced with "Vanguard Balanced Index Fund - Admiral Shares".

IN WITNESS WHEREOF, Keysight Technologies, Inc. has caused this Amendment Number 1 to the Plan to be executed in its name and behalf on this 6th day of November, 2014, by its officer thereunto duly authorized.

KEYSIGHT TECHNOLOGIES, INC.

By: /s/ Ingrid Estrada

Name: Ingrid Estrada

Title: Senior Vice President of Human Resources

Keysight Technologies, Inc.

**AMENDMENT NUMBER I
TO THE
KEYSIGHT TECHNOLOGIES, INC.
2014 DEFERRED COMPENSATION PLAN**

The Keysight Technologies, Inc. 2014 Deferred Compensation Plan (the "Plan"), effective August 1, 2014, is hereby amended as follows effective October 24, 2014:

In Appendix A, of the Plan and any accompanying references throughout the Plan, references to the "Vanguard Balance Index Fund - Signal Shares" are deleted in their entirety and replaced with "Vanguard Balanced Index Fund - Admiral Shares".

IN WITNESS WHEREOF, Keysight Technologies, Inc. has caused this Amendment Number 1 to the Plan to be executed in its name and behalf on this 6th day of November, 2014, by its officer thereunto duly authorized.

KEYSIGHT TECHNOLOGIES, INC.

/s/ Ingrid Estrada

Ingrid Estrada

Senior Vice President of Human Resources

Keysight Technologies, Inc.

KEYSIGHT TECHNOLOGIES, INC. OFFICER AND EXECUTIVE SEVERANCE PLAN

Amended and Restated Effective May 17, 2017

TABLE OF CONTENTS

SECTION 1. ESTABLISHMENT AND PURPOSE OF PLAN	1
SECTION 2. DEFINITIONS	1
SECTION 3. ELIGIBILITY AND PARTICIPATION	6
SECTION 4. SEVERANCE BENEFITS	8
SECTION 5. FUNDING POLICY AND METHOD OF PAYMENTS FROM THE PLAN	11
SECTION 6. OBLIGATIONS OF PARTICIPANT	13
SECTION 7. ELIGIBILITY CLAIMS AND REVIEW PROCEDURES	15
SECTION 8. CLAIMS PROCEDURES	18
SECTION 9. REVIEW OF DENIED CLAIMS	19
SECTION 10. AMENDMENT AND TERMINATION OF THE PLAN	22
SECTION 11. ADMINISTRATION AND OPERATION OF THE PLAN	22
SECTION 12. GENERAL PROVISIONS	24
SECTION 13. EXECUTION	25

SECTION 1. ESTABLISHMENT AND PURPOSE OF PLAN

The Keysight Technologies, Inc. Officer and Executive Severance Plan (the “Plan”) was adopted and established by Keysight Technologies, Inc. (the “Company”) effective March 18, 2015 to enable the Company to provide severance benefits to eligible Officers and Executives whose employment is involuntarily terminated or who resign their employment with Good Reason (as defined below), and satisfy the conditions to receive severance benefits, in accordance with the terms of the Plan. The Plan was amended and restated on May 17, 2017 to allow the Compensation Committee of the Board of Directors to make exceptions to participation under the Plan.

The adoption of this Plan does not mean that the severance benefits provided hereunder will be made available to any individual. Consistent with Section 10 hereof, the Company reserves the right to amend or terminate the Plan at any time.

The Plan is an employee welfare benefit plan within the meaning of Section 3(1) of ERISA and Section 2510.3-1 of the regulations issued thereunder.

A copy of this Plan will be furnished to any person covered hereunder upon written request to the Company, at the following address: Vice President of Total Rewards and HR Services, Keysight Technologies, Inc., 1400 Fountaingrove Parkway, Santa Rosa, California, 94503.

SECTION 2. DEFINITIONS

The following words and phrases, when capitalized and used in this Plan, shall have the following meaning:

- (a) “Annual Base Salary” means a Participant’s annual rate of base salary in effect immediately prior to his or her Termination Date, exclusive of bonus, equity compensation and any other additional compensation. For Officers and Executives paid on a commission, incentive or similar basis, Annual Base Salary means the gross annual earnings determined with reference to the target that is established by the Company.

- (b) “Benefits Committee” means the Benefits Committee appointed by the Board of Directors.
- (c) “Board of Directors” means the Board of Directors of Keysight Technologies, Inc.
- (d) “Cause” means (i) conviction of any felony or the conviction of any crime involving moral turpitude or dishonesty; (ii) repeated unexplained or unjustified absences from the Company; (iii) refusal or willful failure to act in accordance with any specific lawful direction or order of the Company which has a material adverse effect on the Company’s business or reputation; (iv) a material and willful violation of any state or federal law which if made public would materially injure the business or reputation of the Company; (v) participation in a fraud or act of dishonesty against the Company which has a material adverse effect on the Company’s business or reputation; or (vi) intentional, material violation by Officer or Executive of any contract between Officer or Executive and the Company or any statutory duty of Officer or Executive to the Company that is not corrected within thirty (30) days after written notice to Officer or Executive thereof.
- (e) “Company” means Keysight Technologies, Inc., a Delaware corporation, and those of its domestic subsidiaries and domestic affiliates which the Company has designated as eligible to participate in this Plan. A list of subsidiaries and affiliates designated to participate in this Plan is attached hereto as Exhibit A.
- (f) “Corrective Action VSP” means the Keysight Technologies, Inc. Corrective Action Voluntary Severance Plan.
- (g) “Eligible Executive” means an Executive who satisfies the requirements of Section 3(a).
- (h) “Eligible Officer” means an Officer who satisfies the requirements of Section 3(a).

- (i) “ERISA” means the Employee Retirement Income Security Act of 1974, as amended from time to time.
- (j) “Executive” means an individual on the U.S. dollar payroll of the Company who is (i) an employee of the Company with a title of Vice President or is listed on Exhibit B hereto and (ii) is engaged in regular and active employment on a full- time work schedule.

The definition of Executive does not include any individual whose wages are paid directly by a third party agency, any individual classified as an independent contractor by the Company, and any individual who is part of the Company’s flexible work force, including, but not limited to, leased employees, temporary employees, freelancers and short term employees (or any other similar class of individuals), notwithstanding that any such individual might be classified as a common law employee for any other purpose by any government agency or other entity. Furthermore, if during any period, the Company has not treated such an individual as a common law employee and, for that reason, has not withheld employment taxes with respect to that individual, then that individual shall not be an Executive under this definition for that period, even in the event that the individual is determined, retroactively, to have been a common law employee during all or any portion of that period.

An individual’s status as an Executive under this definition shall be determined by the Company, and such determination shall be conclusive and binding on all persons.

- (k) “Good Reason” means a material diminution in an Officer’s or Executive’s authority, duties or responsibilities resulting in a significant diminution of position without the Officer’s or Executive’s consent that is not cured by the Company within thirty (30) days of written notice to the Company by the Officer or the Executive of such diminution. Good Reason shall only exist if an Officer or Executive notifies the Company of the occurrence of the events giving rise to such Good Reason within thirty (30) days of their initial occurrence. An Officer’s

or Executive's authority, duties or responsibilities shall not be considered to be significantly diminished (and therefore shall not constitute "Good Reason") so long as Officer or Executive continues to perform substantially the same functional role for the Company as he or she performed immediately prior to the occurrence the events alleged to constitute Good Reason whether in the same location or another location assigned to him or her by the Company. In addition, an Officer's or Executive's authority, duties or responsibilities shall not be considered to be significantly diminished (and therefore shall not constitute "Good Reason") solely by reason of a change to his or her title or compensation or benefits.

- (l) "Human Resources Department" means the human resources department of the Company.
- (m) "Officer" means an individual on the U.S. dollar payroll of the Company who is
 - (i) an employee and officer of the Company with a title of Senior Vice President or above or is listed on Exhibit B hereto and (ii) is engaged in regular and active employment on a full-time work schedule.

The definition of Officer does not include any individual whose wages are paid directly by a third party agency, any individual classified as an independent contractor by the Company, and any individual who is part of the Company's flexible work force, including, but not limited to, leased employees, temporary employees, freelancers and short term employees (or any other similar class of individuals), notwithstanding that any such individual might be classified as a common law employee for any other purpose by any government agency or other entity. Furthermore, if during any period, the Company has not treated such an individual as a common law employee and, for that reason, has not withheld employment taxes with respect to that individual, then that individual shall not be an Officer under this definition for that period, even in the event that the individual is determined, retroactively, to have been a common law employee during all or any portion of that period.

An individual's status as an Officer under this definition shall be determined by the Company, and such determination shall be conclusive and binding on all persons.

- (n) "Participant" means an Eligible Executive or Eligible Officer or other individual who satisfies the requirements of Section 3(b), subject to the provisions set forth in Sections 3(c) and 4(e). An individual shall cease to be a Participant on the date no further benefits are payable to the individual or his or her beneficiary hereunder.
- (o) "Plan" means the Keysight Technologies, Inc. Officer and Executive Severance Plan, as amended from time to time.
- (p) "Plan Year" means each twelve (12) month period commencing November 1 and ending October 31 of each year. For the first Plan Year in 2015, Plan Year means the period commencing March 18, 2015 and ending October 31, 2015.
- (q) "Release" means a written relinquishment signed by an Eligible Officer or Eligible Executive or his or her estate, as applicable, in a form prescribed by the Company, of any and all claims that the Eligible Executive or Eligible Officer might have against the Company and related persons, which shall also (i) formalize any necessary amendments to the Participant's equity awards to reflect the treatment of such awards under the Plan and (ii) memorialize the Participant's agreement to all of his or her obligations under the Plan.
- (r) "Severance Benefits" means the payments and benefits provided to a Participant or beneficiary under Section 4.
- (s) "Summary Plan Description" means an employee communication that describes the terms and conditions for eligibility, and participation and benefits in this Plan.
- (t) "Termination Date" means the date as of which an individual ceases to be an employee of the Company.
- (u) "Workforce Management Plan" means the Keysight Technologies, Inc.

Workforce Management Severance Benefit Plan.

SECTION 3. ELIGIBILITY AND PARTICIPATION

(a) Eligibility. Any Executive or Officer who meets all of the following requirements shall be eligible to participate in the Plan:

(i) has not been designated as eligible for the Workforce Management Plan, and;

(ii) has not been designated as eligible for the Corrective Action VSP,

and;

(iii) has not been designated by his or her manager and the Human Resources Department as subject to the Company's corrective actions program, and

(iv) has not resigned his or her employment (other than for Good Reason),

(v) has not been designated as ineligible to participate in the Plan by the Compensation Committee of the Board of Directors, and;

(vi) whose employment with the Company is either:

(A) terminated by the Company for any reason other than for Cause, misconduct, death, or physical or mental incapacity that, in the Company's estimation, renders the Executive or Officer incapable of performing the essential duties of his or her job, or;

(B) terminated by the Executive or Officer for Good Reason effective upon the Company's failure to cure the existence of Good Reason, and;

(vii) employment with the Company is not terminated under circumstances entitling the Eligible Executive or Eligible Officer to severance payments or benefits under:

(A) a Change of Control Severance Agreement with the Company or other change in control severance agreement or arrangement with the Company, or;

(B) an employment agreement with the Company; or

(C) another severance agreement or arrangement entered into with the Company after the date of adoption of this Plan.

(b) Participation. Subject to Sections 3(c) and 4(e), an Eligible Executive or Eligible Officer who meets all of the following requirements shall become a Participant in the Plan if he or she:

(i) continues to perform at an acceptable level (as determined by the Company) through the Termination Date;

(ii) delivers (and, if applicable, does not revoke) a Release to the Company in the form requested by the Company on or after the Termination Date, but in no event later than the sixtieth (60th) day after the Termination Date (such “60th day, the Release Deadline) which, among other things, will require the Eligible Executive or Eligible Officer to agree to the obligations set forth in Section 6 of the Plan.

(c) For Cause Termination. Notwithstanding anything to the contrary herein, any person who is terminated by reason of Cause or engages in misconduct under the Company’s personnel policies and guidelines shall not be deemed a Participant and shall not be eligible receive any payments or benefits under this Plan.

SECTION 4. SEVERANCE BENEFITS

Only Eligible Executives or Eligible Officers who meet all of the requirements of Section 3 will be considered Participants in the Plan and will be entitled to receive the benefits described in this Section 4. Failure to satisfy the requirements of Section 3 of the Plan shall render an Officer or Executive ineligible for any benefits under this Section 4.

- (a) Severance Payment. A Participant in the Plan shall receive a Severance Payment.

The Severance Payment, in the case of the Company's Chief Executive Officer, shall equal 200% of the sum of the Chief Executive Officer's Annual Base Salary and the Chief Executive Officer's average actual annual bonus percentage as compared to the target percentage paid for the three fiscal years prior to the fiscal year in which the Termination Date occurs, applied to the Chief Executive Officer's Annual Base Salary.

The Severance Payment, in the case of Officers (other than the Chief Executive Officer), shall equal 100% of the sum of the Officer's Annual Base Salary and the Officer's average actual annual bonus percentage as compared to the target percentage paid for the three fiscal years prior to the fiscal year in which the Termination Date occurs, applied to the Officer's Annual Base Salary.

The Severance Payment, in the case of Executives, shall equal 100% of the Executive's Annual Base Salary.

Any Severance Payment pursuant to this Section 4(a) shall be made in the form of a lump sum in cash. Subject to Section 5, payment shall be made within five (5) business days after the Release Deadline.

- (b) Pro-Rata Bonus. A Participant in the Plan shall receive a pro-rated annual bonus, if any, for the performance period in which the Termination Date occurs subject to the achievement of the performance goals and other terms and conditions that apply to the Participant for that performance period, except for

the requirement that the Participant be employed by the Company at on the last day of the performance period or at the time bonuses are paid. Such bonus will be pro-rated based on the number of days in the performance period that the Participant was employed by the Company prior to the Participant's Termination Date. For purposes of calculating such pro-rata bonus, any individual goals shall be deemed to have been earned at target. The pro-rata bonus will be paid at the same time the corresponding bonuses are paid to active employees; provided, however, that in no event shall payment be made later than the 15th day of the third month following the end of the Company's fiscal year in which the Termination Date occurs.

- (c) Equity-Based Awards. A Participant shall receive the benefits set forth in this Section 4(c) with respect to his or her equity-based awards. Participant's stock options, restricted stock, and restricted stock units that are subject only to service-based vesting and would have vested during the 12-month period following the Participant's Termination Date will vest on an accelerated basis; provided, however, that notwithstanding such acceleration, any such awards that are subject to Section 409A of the Internal Revenue Code of 1986, as amended ("Section 409A"), shall be settled on the normal vesting dates applicable under the award to extent necessary to avoid taxation under Section 409A; provided further, however, if the Participant is retirement-eligible under the terms of the applicable award, the Participant will instead benefit from the retirement treatment set forth in such award in accordance with its terms and the requirements of Section 409A.

Participant's restricted stock unit and/or restricted stock awards that are subject to both service-based vesting and performance-based vesting shall remain outstanding subject to the applicable performance conditions and otherwise in accordance with their terms (other than the requirement that the Participant continue to provide services to the Company). Such performance-based awards shall not be subject to proration and will be paid at the same time such awards are paid to actively employed recipients.

- (d) COBRA Payment. A Participant shall receive a lump sum cash payment of \$20,000 (\$40,000 in the case of the Company's Chief Executive Officer). Such payment may be used by the Participant to pay for the cost of COBRA health benefit continuation coverage or for any other purpose the Participant chooses. Payment will be made in a lump sum at the same time as the Severance Payment.
- (e) Death. Should any Participant who met all of the requirements of Section 3(a) die after the Termination Date and satisfy all of the requirements of Section 3(b) through the date of death, subject to Section 3(c), the severance payments and benefits set forth in this Section 4 will be paid to the Participant's designated beneficiary under the Company-provided life insurance in effect prior to the Participant's death provided that the Participant's estate or other legal representative acceptable to the Company delivers the Release to the Company within sixty (60) days of the Termination Date. An Eligible Officer or Eligible Executive may change his or her designated beneficiary in writing in a manner prescribed by the Company.
- (f) Taxes. All payments and benefits under the Plan shall be reduced by required federal and state tax withholdings.

SECTION 5. FUNDING POLICY AND METHOD OF PAYMENTS FROM THE PLAN; SECTION 409A

Cash payments and administrative expenses under this Plan shall be paid as needed solely from the general assets of the Company. No contributions are required from any Participant, except for the payment of the exercise price of any stock options that a Participant chooses to exercise.

Nothing contained in the Plan shall be deemed to create a trust of any kind for the benefit of the Participants, or create any fiduciary relationship between the Company and the Participants with respect to any assets of the Company. The Company is under no obligation to fund the benefits provided herein prior to payment, although it may do so if it chooses. Any assets which the Company chooses to use for advance funding shall nevertheless constitute assets of the Company and shall not cause this Plan to be a funded plan within the meaning of ERISA.

All payments and benefits provided under the Plan are intended to be exempt from Section 409A of the Internal Revenue Code ("Section 409A") or compliant with Section 409A, and the Plan shall be interpreted as necessary to comply with that intent. All payments under the Plan are intended to be treated as separate payments and shall not be aggregated for purposes of applying exemptions from Section 409A, such as payments made during the short-term deferral period.

In the event that (i) one or more payments of compensation or benefits received or to be received by a Participant pursuant to this Plan ("Plan Payment") would constitute deferred compensation subject to Section 409A and (ii) the Participant is deemed at the time of such termination of employment to be a "specified employee" under Section 409A(a)(2)(B)(i), then such Plan Payment shall not be made or commence until the earlier of (i) the day following the expiration of the six (6)-month period measured from the date of the Participant's "separation from service" (as such term is at the time defined in Treasury Regulations under Section 409A) with the Company or (ii) such earlier time permitted under Section 409A and the regulations or other authority promulgated thereunder; provided, however, that such deferral shall only be effected to the extent required to avoid adverse tax treatment to the Participant under

Section 409A, including (without limitation) the additional twenty percent (20%) tax for which

the Participant would otherwise be liable under Section 409A(a)(1)(B) in the absence of such deferral. Upon the expiration of the applicable deferral period, any Plan Payment which would have otherwise been made during that period (whether in a single sum or in installments) in the absence of this paragraph shall be paid to the Participant or Participant's beneficiary in one lump sum, including all accrued interest.

For purposes of this Plan, termination of employment (and corollary terms) shall mean a separation from service within the meaning of Treasury Regulation § 1.409A-1(h).

SECTION 6. OBLIGATIONS OF PARTICIPANT

(a) For two years following the Termination Date, the Participant must not personally solicit any of the employees either of the Company or of any entity in which the Company directly or indirectly possesses the ability to determine the voting of 50% or more of the voting securities of such entity (including two-party joint ventures in which each party possesses 50% of the total voting power of the entity) to become employed elsewhere or provide the names of such employees to any other company which the Participant has reason to believe will solicit such employees.

(b) Following the occurrence of a Termination Date, the Participant must continue to satisfy the Participant's obligations under the terms of the Company's Agreement Regarding Confidential Information and Proprietary Developments or any other standard form of Proprietary Information and Non-Disclosure Agreement previously executed by the Participant (or any comparable agreement subsequently executed by the Participant in substitution or supplement thereto).

(c) Although the Participant and the Company consider the restrictions contained in this Section 6 to be reasonable, if a final judicial determination is made by a court of competent jurisdiction that the time or territory or any other restriction contained in this Plan is an unenforceable restriction against the Participant, the provisions of this Plan shall not be rendered void, but shall be deemed amended to apply as to such maximum time or territory and to such maximum extent as such court may judicially determine or indicate to be enforceable. Alternatively, if any court of competent jurisdiction finds that any restriction contained in this Plan is unenforceable, and such restriction cannot be amended so as to make it enforceable, such finding shall not affect the enforceability of any of the other restrictions contained herein.

(d) Following a Termination Date, the Participant must not to make any public statement or statements to the press concerning the Company, its business objectives, its management practices, or other sensitive information without first receiving the Company's written approval. The Participant will take no action which would cause the Company or its

employees or agents any embarrassment or humiliation or otherwise cause or contribute to the Company's or any such person's being held in disrepute by the general public or the Company's employees, clients, or customers.

(e) The Company's remedies at law for a breach or threatened breach of any of the provisions of Section 6.2(a) or Section 6.2(b) would be inadequate and, in recognition of this fact, in the event of such a breach or threatened breach, in addition to any remedies at law, the Company, without posting any bond, shall, with respect to a breach or threatened breach of Section 6.2(a) or Section 6.2(b) only, obtain equitable relief in the form of specific performance, temporary restraining order, temporary or permanent injunction, or any other equitable remedy which may then be available.

SECTION 7. ELIGIBILITY CLAIMS AND REVIEW PROCEDURES

This Section 7 only applies to issues relating to eligibility for the Plan. If a person has a claim for benefits under the Plan, that is governed by Section 7.

- (a) Claim Regarding Eligibility. If a person has been denied participation in the Plan when they believe they should be eligible, the person can file a written claim with the Company's Vice President of Total Rewards and HR Services. Such written claim must be filed within 60 days of the date of the employee's Termination Date (or, if earlier, within 60 days of the date such person was denied participation in the Plan). The writing should include the grounds on which the claim is based and any documents, records, written comments or other information that will support the claim. The Company's Vice President of Total Rewards and HR Services will make a determination on the claim within 60 days after the claim is received. However, if there are special circumstances that require additional time, the Company's Vice President of Total Rewards and HR Services will provide written notice of the extension prior to the termination of the initial 60-day period. In such case, the Company's Vice President of Total Rewards and HR Services will make a determination within 120 days after the claim is received. If the Company's Vice President of Total Rewards and HR Services denies the claim for eligibility under the Plan, in whole or in part, the Company's Vice President of Total Rewards and HR Services will send a written notice explaining the reason(s) for the denial, including references to the specific Plan provision(s) or Company policy upon which the denial was based. If the claim was denied because the claimant did not furnish complete information or documentation, the notice will specify the additional materials or information needed to support the claim and an explanation of why such information or materials are necessary. The notice will also state how and when to request a review of the denied claim and will include a statement of the claimant's right to bring a civil action under Section 502(a) of ERISA following denial of the claim on appeal.

- (b) Right to Appeal A Denied Eligibility Claim. Any person whose claim for eligibility to participate in the Plan is denied, in whole or in part, may appeal such denial by submitting to the Benefits Committee a written request for review of the claim within 60 days after receiving written notice of such denial from the Company's Vice President of Total Rewards and HR Services. The request for review must be in writing and shall set forth all of the grounds upon which it is based, all facts in support thereof and any other matters that the claimant deems pertinent. The claimant shall have the opportunity to submit written comments, documents, records, and other information relating to the claim. Upon request, and free of charge, the claimant will be provided reasonable access to and copies of, all documents, records, and other information relevant to the claimant's claim that is not privileged or protected.

The Benefits Committee will act on each request for a review within 60 days after receipt thereof. However, if there are special circumstances that require additional time, the Benefits Committee will provide written notice of the extension prior to the termination of the initial 60 day period. In such case, the Benefits Committee will make a determination within 120 days after the appeal is received.

The Benefits Committee will either reverse the earlier decision and determine that the claimant is eligible to participate in the Plan or deny the appeal. In the event that the Benefits Committee confirms the denial of the claim, in whole or in part, the Benefits Committee will give written notice of its decision to the claimant. The notice will set forth, in a manner calculated to be understood by the claimant, the following information:

- (i) The specific reasons for the denial and the specific Plan provision(s) or Company policy on which the denial is based; and
- (ii) A statement that, upon request, and free of charge, the claimant will be provided reasonable access to and copies of, all documents, records, and

other information relevant to the claimant's claim that is not privileged or protected; and

(iii) A statement of the claimant's right to bring a civil action under Section 502(a) of ERISA.

The Company's Vice President of Total Rewards and HR Services and the Benefits Committee may require the claimant to submit (at the claimant's expense) additional information, documents or other material that it believes is necessary for the review.

(c) Exhaustion of Remedies. No action at law or in equity shall be brought with respect to eligibility under the Plan unless and until:

(i) The claimant (or the claimant's authorized representative) has submitted a written claim within the time frames set forth above;

(ii) The claimant (or the claimant's authorized representative) has been notified by the Company (or its delegate(s)) that the claim is denied;

(iii) The claimant (or the claimant's authorized representative) has filed a written request for a review of the claim in accordance with Section 7(b); and

(iv) The claimant (or the claimant's authorized representative) has been notified in writing that denial of the claim has been affirmed on review.

(d) Limitations Period. No action at law or in equity shall be brought with respect to eligibility under the Plan after one year from the date of the final decision on review under Section 7(b) above.

(e) No Right to Meet. Except as required by applicable law, a person making a claim under this Section 7 shall not have the right to orally discuss their claim with the reviewing person or body.

SECTION 8. CLAIMS PROCEDURES

- (a) Claims for Benefits. No claim for benefits under this Plan need be made, except as provided in Section 8(b). Benefits hereunder shall be provided automatically at the times and in the forms provided for herein.

- (b) Denial of Claims. An individual claiming benefits under the Plan must file a written claim with the Company's Global Benefit Director within ninety (90) days of the employee's Termination Date (or, if earlier, within 90 days of the date such person was denied benefits under the Plan). Such written claim may also be filed by the claimant's duly authorized representative. The written claim should be directed to the Company's Global Benefit Director, Keysight Technologies, Inc., 1400 Fountaingrove Parkway, Santa Rosa CA 94503. In the event that such a claim is denied, in whole or in part, the Company's Global Benefit Director shall notify the claimant (or the claimant's authorized representative) of such denial in writing and shall advise the claimant (or the claimant's authorized representative) of his or her right to appeal the denial. Such written notice shall set forth, in a manner calculated to be understood by the claimant, the specific reasons for the denial, specific reference to the Plan provisions on which the denial is based, a description of any additional information or materials that may be necessary for the claimant to perfect his or her claim, an explanation of why such additional information or materials is necessary, and a description of the Plan's review procedure and the time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under Section 502(a) of ERISA following a denial on review.

Such written notice shall be given to the claimant (or the claimant's authorized representative) within ninety (90) days after the Company's Global Benefit Director or its delegate(s) receives the claim, unless special circumstances require additional time for processing. If additional time for processing is required, written notice shall be furnished to the claimant (or the claimant's authorized representative) prior to the end of the initial ninety (90) day period,

indicating the special circumstances requiring the extension of time and the date by which the Company's Global Benefit Director or its delegate(s) expects to render its decision on the claim. In no event shall the decision of the Company's Global Benefits Director be rendered more than one hundred eighty (180) days after the Company receives the claim.

- (c) No Right to Meet. Except required by applicable law, a person making a claim under this Section 8 shall not have the right to orally discuss their claim with the reviewing person or body.

SECTION 9. REVIEW OF DENIED CLAIMS

- (a) Named Fiduciary. The Benefits Committee is the named fiduciary, which has the discretionary authority to act with respect to any appeal from a denial of a claim for benefits. The Benefits Committee's discretionary authority includes the authority to determine eligibility for benefits and to construe the terms of the Plan. The Benefits Committee or the Benefits Committee's delegate(s) shall administer the review of denied claims on the Company's behalf.
- (b) Right to Appeal. Any person whose claim for benefits is denied, in whole or in part, or such person's authorized representative, may appeal from the denial by submitting a written request for review of the claim to the Benefits Committee within sixty (60) days after receiving written notice of the denial from the Company or its delegate(s). The written request for review should be directed to the Benefits Committee in the care of the Company's Global Benefits Director, Keysight Technologies, Inc., 1400 Fountaingrove Parkway, Santa Rosa CA 94503. The Benefits Committee or its delegate shall give the claimant (or the claimant's authorized representative) an opportunity to submit written comments, documents, records and other information relating to the claim for benefits. The claimant will be provided, upon request and free of charge, reasonable access to, and copies of, all documents, records and other information relevant (other than legally privileged documents) to the claimant's claim for benefits. The review will take into account all comments, documents,

records, and other information submitted by the claimant relating to the claim for benefits, without regard to whether such information was submitted or considered in the initial benefit determination. A request for review shall set forth all of the grounds upon which it is based, all facts in support thereof and any other matters which the claimant deems relevant. The claimant (or the claimant's authorized representative) shall be solely responsible for submitting a written request for review of the claim and any other information or evidence which the claimant intends the Benefits Committee or its delegate to consider in order to render a decision on review. The Benefits Committee or its delegate may require the claimant to submit such additional facts, documents or other materials as it may deem necessary or appropriate in making its review.

- (c) Decision on Review. The Benefits Committee or its delegate shall act upon each request for review within sixty (60) days after receipt thereof, unless special circumstances require additional time for review. If additional time for review is required, written notice shall be furnished to the claimant (or the claimant's authorized representative) prior to the end of the initial sixty (60) day period, indicating the date by which the Benefits Committee or its delegate expects to render its decision on the request for review and the special circumstances requiring the extension of time. In no event shall the decision of the Benefits Committee or its delegate be rendered more than one hundred twenty (120) days after it receives a claimant's request for review.

Within the time prescribed above, the Benefits Committee or its delegate shall give written notice of its decision to the claimant (or the claimant's authorized representative) and the Company. If it is determined on review that benefits are payable under the Plan, the Benefits Committee or its delegate will promptly establish the claimant as a Participant and provide benefits as soon as practicable. In the event that the Benefits Committee or its delegate confirms the denial of the claim, in whole or in part, such notice shall set forth, in a manner calculated to be understood by the claimant, the following information:

- (i) The specific reasons for the denial, the specific references to the Plan provisions on which the decision was based; and
 - (ii) A statement that the claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant (other than legally privileged documents) to the claimant's claim; and
 - (iii) A statement describing any voluntary appeal procedures offered by the Plan and the claimant's right to obtain the information about such procedures, and a statement of the claimant's right to bring an action under Section 502(a) of ERISA.
- (d) Rules and Procedures. The Benefits Committee or its delegate shall establish such rules and procedures, consistent with the Plan and with ERISA, as it may deem necessary or appropriate in carrying out its responsibilities under this Section 9. The Benefits Committee or its delegate may require a claimant who wishes to submit additional information in connection with an appeal from the denial of benefits to do so at his or her own expense.
- (e) Exhaustion of Remedies. No action at law or in equity shall be brought to recover any of the benefits provided for in the Plan unless and until:
 - (i) The claimant (or the claimant's authorized representative) has submitted a written claim within ninety (90) days of the date the claim arises, but in no event later than ninety (90) days after the employee's Termination Date;
 - (ii) The claimant (or the claimant's authorized representative) has been notified by the Company (or its delegate(s)) that the claim is denied;
 - (iii) The claimant (or the claimant's authorized representative) has filed a written request for a review of the claim with the Benefits Committee in the care of the Company's Global Benefits Director; and

(iv) The claimant (or the claimant's authorized representative) has been notified in writing that denial of the claim has been affirmed on review.

(f) Limitations Period. No action at law or in equity shall be brought to recover any of the benefits provided for in the Plan after one year from the date of the final decision on review under Section 9(c) above.

(g) No Right to Meet. Except as required by applicable law, a person making a claim under this Section 9 shall not have the right to orally discuss their claim with the reviewing person or body.

SECTION 10. AMENDMENT AND TERMINATION OF THE PLAN

The Company reserves the right to amend or to terminate the Plan at any time. The Company, acting through the Compensation Committee of the Board of Directors, has the power and authority to amend the Plan at any time by written instrument, including as may be necessary to comply with ERISA, the Code or any other applicable law. The Company reserves the right to terminate the Plan at any time by resolution of the Compensation Committee of the Board of Directors.

SECTION 11. ADMINISTRATION AND OPERATION OF THE PLAN

- (a) General. The Company is the “plan sponsor” and Benefits Committee is the “plan administrator” as such terms are used in ERISA. The Benefits Committee, in its capacity as the plan administrator, is the named fiduciary which has the discretionary authority to control and manage the operation and administration of the Plan. In its discretion it may adopt rules and regulations under the Plan and interpret the Plan text. The Benefits Committee will discharge its duties under the Plan in accordance with the standards set forth in Section 404(a)(1) of ERISA.
- (b) Duties and Responsibilities of the Plan Administrator. The Benefits Committee will carry out its duties and responsibilities under the Plan (which are not

delegated pursuant to Section 11(c)) through its members, officers and employees of the Company, acting on behalf of and in the name of the Company in their capacities as members, officers and employees of the Company and not as individual fiduciaries. The Company and/or the Benefits Committee may employ other persons to render advice or to perform services with regard to its responsibilities under the Plan. These persons may include (without limitation) accountants, actuaries, attorneys, claims administrators, and consultants.

- (c) Delegation of Fiduciary Responsibilities. In lieu of carrying out any of its fiduciary responsibilities under this Section 11, the Benefits Committee may delegate its fiduciary responsibilities in writing to any person or persons, including any claims administrator, which specifies the fiduciary responsibilities so delegated.
- (d) Indemnification. To the extent permitted by law, the Company shall indemnify and hold harmless the members of the Board of Directors, the Benefits Committee or Compensation Committee, their officers and any other employee of the Company to whom any fiduciary responsibility with respect to the Plan is allocated or delegated, from and against any and all liabilities, costs and expenses, including attorneys’ fees, incurred by any such person as a result of any act, or omission to act, in connection with the performance of such person’s fiduciary duties, responsibilities and obligations under the Plan, other than such liabilities, costs and expenses as may result from the bad faith, gross negligence, willful misconduct or criminal acts of any such person or to the extent such indemnification is prohibited by law.

The Company shall have the obligation to conduct the defense of such persons in any proceedings to which this indemnification applies. If any person to whom Plan responsibilities have been delegated

and who is covered by this indemnification provision determines that the defense of the Company is inadequate, that person shall be entitled to retain separate legal counsel for his

or her defense and the Company shall be obligated to pay for all reasonable legal fees and other court costs incurred in the course of such defense unless a court of competent jurisdiction finds such person acted in bad faith, gross negligence or engaged in criminal acts or willful misconduct.

SECTION 12. GENERAL PROVISIONS

- (a) Choice of Law. The Plan and all rights thereunder, shall be interpreted and construed in accordance with ERISA and, to the extent that such laws are not preempted by ERISA, the laws of the State of California.
- (b) Assignment. The interest and property rights of any person in the Plan or in any benefit for which such person may be eligible under the Plan shall not be assignable either by voluntary or involuntary assignment or by operation of law (including, without limitation, bankruptcy, garnishment, attachment or other creditor's process), and any purported act in violation of this Section 12(b) shall be void and without legal effect.
- (c) Workers' Compensation. This Plan is not in lieu of, and does not affect any requirement for coverage by, Workers' Compensation Insurance.
- (d) Number. Except as otherwise clearly indicated, the singular shall include the plural, and vice versa.
- (e) Headings and Captions. The headings and captions herein are provided for reference and convenience only and shall not be considered part of the Plan or in any way affect the interpretation of the Plan.

- (f) Competency to Handle Benefits. If, in the opinion of the Company, any person becomes unable to properly handle any property distributable to such person under the Plan, the Company may make any reasonable arrangement for the distribution of Plan benefits on such person's behalf, as it deems appropriate. Payment to anyone described in this Section 12(f) shall release the Company from all further liability to the extent of the payment made.
- (g) No Right to Employment. Neither the adoption of this Plan nor the granting of any benefits hereunder shall confer upon any person any right to be continued as an employee of the Company for any definite period of time. Except as may be otherwise specifically set forth in a written agreement between the Company and an individual, all persons employed by the Company are employed on an at will basis, and either the Company or an employee may terminate the employment relationship at any time and for any reason, with or without notice.
- (h) Severability. If any provision of the Plan shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provision hereof, and the Plan shall be construed and enforced as if such provisions had not been included.

SECTION 13. EXECUTION

To record adoption of this amended and restated Plan to read as set forth herein effective as of May 17, 2017, the Company has caused it to be executed in its name and behalf by its officer thereunto duly authorized on this 17th day of May, 2017.

KEYSIGHT TECHNOLOGIES, INC.

By: /s/ Ingrid Estrada

Name: Ingrid Estrada

Title: Senior Vice President

Human Resources

Exhibit A

LIST OF PARTICIPATING SUBSIDIARIES

None.

Exhibit B

LIST OF ADDITIONAL PARTICIPANTS

Additional Executives: None. Additional Officers: None.

LIST OF SIGNIFICANT SUBSIDIARIES

Name of subsidiary	Organized Under the Laws of
Keysight Technologies Netherlands B.V.	The Netherlands
Keysight Technologies Luxembourg Holdings Sarl	Luxembourg
Keysight Technologies Singapore (Holdings) Pte. Ltd.	Singapore
Keysight Technologies Singapore (International) Pte. Ltd.	Singapore
Keysight Technologies Singapore (Sales) Pte. Ltd.	Singapore
Keysight Technologies World Trade, Inc.	Delaware
Keysight Technologies UK Limited	United Kingdom
Ixia	California
Ixia Technologies International Limited	Ireland
Catapult Communications Corporation	Nevada

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-199507) of Keysight Technologies, Inc. of our report dated December 17, 2021 relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Francisco, California
December 17, 2021

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Ronald S. Nersesian, certify that:

1. I have reviewed this Form 10-K of Keysight Technologies, Inc. ("the Registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: December 17, 2021

/s/ Ronald S. Nersesian

Ronald S. Nersesian

President and Chief Executive Officer

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Neil Dougherty, certify that:

1. I have reviewed this Form 10-K of Keysight Technologies, Inc. ("the Registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: December 17, 2021

/s/ Neil Dougherty

Neil Dougherty

Senior Vice President and Chief Financial Officer

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT
OF 2002**

In connection with the Annual Report of Keysight Technologies, Inc. (the "Company"), on Form 10-K for the period ended October 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Ronald S. Nersesian, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: December 17, 2021

/s/ Ronald S. Nersesian

Ronald S. Nersesian

President and Chief Executive Officer

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT
OF 2002**

In connection with the Annual Report of Keysight Technologies, Inc. (the "Company"), on Form 10-K for the period ended October 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Neil Dougherty, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: December 17, 2021

/s/ Neil Dougherty

Neil Dougherty

Senior Vice President and Chief Financial Officer