



2022 Annual Report



LETTER FROM YOUR CEO

To our stockholders, customers, partners, and employees:

The past several years demonstrated just how much technology is central to every aspect of human existence. Semiconductors power the essential technologies in a world that is becoming increasingly digital.

2022 was a challenging year for Intel. We are currently operating in one of the toughest macro environments we have ever seen, while simultaneously moving through the middle of our own multiyear transformation. As we navigate this difficult terrain, it is important to focus on the things we can control and to remind ourselves of why we are undertaking this journey. Our ambitions are equaled by our passions, and our efforts across manufacturing, design, products, and foundry are making progress.

Intel is creating a sustainable, resilient, and secure supply chain.

We must be ready to meet the next surge of semiconductor demand. Consumer spending habits, the evolution of technology, and macroeconomic conditions have always contributed to a cyclical semiconductor economy.

Today, we believe we are in a new era of chipmaking that requires a reboot around our foundry model mindset – differentiating leaders of the future from those comfortable with the status quo. Creation of more resilient systems without single points of failure or extreme imbalances is more important than ever. Nothing so critical to modern life as semiconductors should be reliant on a single port or factory whether in the Americas, Europe, Asia, or anywhere else in the world. Even now, amid economic headwinds, we see instances where supply chain constraints leave demand unfulfilled, underscoring the need for supply chains to be resilient and aggressively rebalanced across the globe. “Just-in-time” thinking must become “just-in-case.”

Intel is in a unique position to help anticipate and prepare for the continuous increase in long-term semiconductor demand. With our differentiated IDM 2.0 approach, we can deliver a new era of innovation, manufacturing, and product leadership through the powerful combination of three capabilities: expanding our global internal factory network; strategic use of foundry capacity by building on existing relationships with third-party foundries; and becoming a major provider of U.S.- and European-based capacity through Intel Foundry Services.

"Intel plans to regain transistor performance and power performance leadership by 2025, and we remain on track to deliver on our goal of five manufacturing technology nodes in four years."



Pat Gelsinger, Chief Executive Officer, Director, and Principal Executive Officer

We are fueling customer growth through tech innovation.

We are the stewards of Moore’s Law, and we intend to continue our relentless pursuit of more powerful and efficient computing until we discover the power of every element on the periodic table. We are harnessing technology to help accelerate and expand our customers’ growth, and our product roadmap is back on track.

In 2022, we launched our 13th Gen Intel® Core™ desktop processor (Raptor Lake), driving leadership in gaming and setting a new overclocking world record. We also strongly boosted our discrete graphics efforts with products from all segments of the Accelerated Computing Systems and Graphics Group entering production. We opened 2023 by debuting the world’s fastest mobile processor – the 13th Gen Intel® Core™ i9-13980HX – and then formally introducing 4th Gen Intel® Xeon® Scalable processors (Sapphire Rapids), the Intel® Xeon® CPU Max series (Sapphire Rapids HBM), and the Intel® Data Center GPU Max Series (Ponte Vecchio).

Intel plans to regain transistor performance and power performance leadership by 2025, and we remain on track to deliver on our goal of five manufacturing technology nodes in four years. With our 4th Gen Intel Xeon Scalable CPU, Intel 7 is now in high-volume manufacturing. Intel 4 is running risk production, and Intel 3 is on track with two CPUs already taped out. Finally, our Intel 20A and Intel 18A process wafers, as well as those of a major foundry customer, are taped out and demonstrating yields on schedule. These will also benefit from our new transistor architecture, RibbonFET, and our new power delivery method, PowerVIA.

We are evolving into a systems foundry comprising four components: traditional wafer aspect based on Moore's Law, packaging, a chiplet standard, and software. Enabled by these capabilities, our foundry goals involve engaging with customers at multiple levels, from basic wafer manufacturing all the way to helping define and implement their desired system architectures.

In addition, we re-introduced our tick-tock roadmap cadence, a framework that synchronizes process and product go-to-market windows in a more predictable way to establish a rigorous methodology of design and product development. Both are key sparkplugs to our execution engine.

Our Intel Foundry Services pipeline continues to grow, and we have now added a major cloud, edge, and data center solutions provider as a leading-edge customer for Intel 3. Including prior customers like MediaTek, we now have a lifetime deal value of greater than \$4 billion for IFS.

Intel is focused on navigating the challenges of today, while anticipating the needs of the future.

As we navigate short-term headwinds, we are executing upon our strategy, which is designed for long-term growth. We have made, and will continue to make, hard decisions. We continue to be committed to the cost-cutting measures we shared in late 2022; this includes taking some difficult but necessary steps to right-size the organization and rationalize product roadmaps and investments to enable us to concentrate on our strategy's success.

This past year, we took important strides to rebuild the leadership team, promoting from within and adding fresh perspectives from the outside. This includes the board of directors, with the addition of Lip-Bu Tan and Barbara Novick, and the appointment of Frank Yeary as board chair. Underpinning these efforts is a disciplined approach to capital allocation. Leveraging our Smart Capital strategy, we can tap into multiple pools of capital to support our continued investment in manufacturing capacity and funding our IDM 2.0 strategy. We are also leading the effort to partner with the public sector to strengthen the resilience of the global semiconductor supply chain by investing in more geographically balanced capacity – as we have done in both the U.S. and EU.

We take our commitments to our stakeholders extremely seriously. For our customers, it is rebuilding our execution engine to provide a predictable cadence of best-in-class products to support their ambitions. For our employees, it is to provide them with the opportunity to develop and bring to market world-changing technologies – it is what inspires each of us inside Intel. For our owners, it is to make thoughtful, deliberate decisions around capital allocation that drive the greatest value and highest return on investment we make with your capital.

Driven by the innovation of silicon, we are in an era that will showcase the true magic of technology. Intel remains fully committed to executing on our strategy to deliver leadership products anchored on open and secure platforms, powered by at-scale manufacturing, and supercharged by our people.

We are all part of a globally interconnected evolution. As we continue to transform human progress, we must continue to create world-changing technology that improves the life of every person on the planet. We have the choice and opportunity to decide our future; that choice is not between what was and what is, but between what is and what will be.



Pat Gelsinger, CEO
Intel Corporation

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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 December 31, 2022.

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 000-06217



INTEL CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

94-1672743

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

2200 Mission College Boulevard, Santa Clara, California

95054-1549

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code: (408) 765-8080

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, \$0.001 par value

INTC

Nasdaq Global Select Market

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 such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth 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

Accelerated Filer

Non-Accelerated Filer

Smaller Reporting Company

Emerging Growth Company

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

Aggregate market value of voting and non-voting common equity held by non-affiliates of the registrant as of July 1, 2022, based upon the closing price of the common stock as reported by the Nasdaq Global Select Market on such date, was \$149.2 billion. 4,137 million shares of common stock were outstanding as of January 20, 2023.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement related to its 2023 Annual Stockholders' Meeting to be filed subsequently are incorporated by reference into Part III of this Form 10-K. Except as expressly incorporated by reference, the registrant's proxy statement shall not be deemed to be part of this report.

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Table of Contents

Organization of Our Form 10-K

The order and presentation of content in our Form 10-K differs from the traditional SEC Form 10-K format. Our format is designed to improve readability and better present how we organize and manage our business. See "Form 10-K Cross-Reference Index" within the Financial Statements and Supplemental Details for a cross-reference index to the traditional SEC Form 10-K format.

We have defined certain terms and abbreviations used throughout our Form 10-K in "Key Terms" within the Financial Statements and Supplemental Details.

The preparation of our Consolidated Financial Statements is in conformity with US GAAP. Our Form 10-K includes key metrics that we use to measure our business, some of which are non-GAAP measures. See "Non-GAAP Financial Measures" within MD&A for an explanation of these measures and why management uses them and believes they provide investors with useful supplemental information.

	Page
Fundamentals of Our Business	
Availability of Company Information	2
Introduction to Our Business	3
A Year in Review	5
Our Strategy	7
Our Capital	10
Management's Discussion and Analysis	
Our Products	19
Segment Trends and Results	20
Consolidated Results of Operations	39
Liquidity and Capital Resources	45
Critical Accounting Estimates	47
Non-GAAP Financial Measures	47
Other Key Information	
Sales and Marketing	51
Quantitative and Qualitative Disclosures About Market Risk	52
Risk Factors	53
Properties	67
Market for Our Common Stock	68
Information About Our Executive Officers	70
Disclosure Pursuant to Section 13(r) of the Securities Exchange Act of 1934	71
Financial Statements and Supplemental Details	
Auditor's Reports	73
Consolidated Financial Statements	76
Notes to Consolidated Financial Statements	81
Key Terms	115
Controls and Procedures	118
Exhibits	119
Form 10-K Cross-Reference Index	124

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Forward-Looking Statements

This Form 10-K contains forward-looking statements that involve a number of risks and uncertainties. Words such as "accelerate," "achieve," "aim," "ambitions," "anticipate," "believe," "committed," "continue," "could," "designed," "estimated," "expect," "forecast," "future," "goals," "grow," "intend," "likely," "may," "might," "milestones," "next generation," "objective," "on track," "opportunity," "outlook," "pending," "plans," "positioned," "possible," "predict," "progress," "roadmap," "potentially," "seek," "should," "strive," "targets," "to be," "upcoming," "will," "would," and variations of such words and similar expressions are intended to identify such forward-looking statements. In addition, any statements that refer to our strategy and its anticipated benefits, including our IDM 2.0 strategy, February 2022 Investor Meeting financial model, Smart Capital strategy, SCIP, our partnership with Brookfield Asset Management (Brookfield), the transition to an internal foundry model, and updates to our reporting structure; manufacturing expansion and financing plans; investment plans and impacts of investment plans, including in the US and abroad; future economic conditions, including regional or global downturns or recessions; business plans; internal and external manufacturing plans, including future internal manufacturing volumes and external foundry usage; future responses to and effects of COVID-19, including manufacturing, transportation, and operational restrictions or disruptions; projections of our future financial performance, including future revenue, gross margins, capital expenditures, and cash flows; future business, social, and environmental performance, goals, measures, and strategies; our anticipated growth, future market share, and trends in our businesses and operations; projected growth and trends in markets relevant to our businesses; future technology trends; plans and goals related to Intel's foundry business, including with respect to future manufacturing capacity and foundry service offerings, including technology and IP offerings; future products, services, and technology, and the expected regulation, availability, and benefits of such products, services, and technology, including future process nodes and packaging technology, product roadmaps, schedules, future product architectures, expectations regarding process performance, per-watt parity, and leadership, and other metrics, and expectations regarding product leadership; projected cost and yield trends; product and manufacturing plans, goals, timelines, ramps, and progress; geopolitical conditions, including the impacts of Russia's war on Ukraine; expected timing and impact of acquisitions, divestitures, and other significant transactions, including statements relating to the completion of our acquisition of Tower Semiconductor Ltd. (Tower), the sale of our NAND memory business, and the wind-down of our Intel® Optane™ memory business; expected completion and impacts of restructuring activities and cost-saving or efficiency initiatives, including those related to the 2022 Restructuring Program; future cash requirements; availability, uses, sufficiency, and cost of capital resources and sources of funding, including future capital and R&D investments, credit rating expectations, and expected returns to stockholders such as stock repurchases and dividends; our valuation; supply expectations, including regarding constraints, limitations, pricing, and industry shortages; expectations regarding government incentives; future production capacity and product supply; anticipated trends and impacts related to industry component, substrate, and foundry capacity utilization, shortages and constraints; the future purchase, use, and availability of products, components, and services supplied by third parties, including third-party IP and foundry services; tax- and accounting-related expectations; LIBOR-related expectations; expectations regarding our relationships with certain sanctioned parties; uncertain events or assumptions, including statements relating to TAM, market opportunity, or projections of future demand; and other characterizations of future events or circumstances are forward-looking statements. Such statements are based on management's expectations as of the date of this filing, unless an earlier date is specified, and involve many risks and uncertainties that could cause our actual results to differ materially from those expressed or implied in our forward-looking statements. Such risks and uncertainties include those described throughout this report and particularly in "Risk Factors" within Other Key Information, including changes in demand for our products; changes in product mix; the complexity of our manufacturing operations; competition; investments in R&D and our business, products, and technologies; vulnerability to product and manufacturing-related risks; the effects of the COVID-19 pandemic; supply chain risks, including from disruptions, delays, trade tensions, or shortages; cybersecurity and privacy risks; investment and transition risk; evolving regulatory and legal requirements; our debt obligations; stock volatility; and the risks of our global operations; among others. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. Readers are urged to carefully review and consider the various disclosures made in this Form 10-K and in other documents we file from time to time with the SEC that disclose risks and uncertainties that may affect our business. Unless specifically indicated otherwise, the forward-looking statements in this Form 10-K do not reflect the potential impact of any divestitures, mergers, acquisitions, or other business combinations that have not been completed as of the date of this filing. In addition, the forward-looking statements in this Form 10-K are made as of the date of this filing, unless an earlier date is specified, including expectations based on third-party information and projections that management believes to be reputable, and Intel does not undertake, and expressly disclaims any duty, to update such statements, whether as a result of new information, new developments, or otherwise, except to the extent that disclosure may be required by law.

Note Regarding Third-Party Information

This Form 10-K includes market data and certain other statistical information and estimates that are based on reports and other publications from industry analysts, market research firms, and other independent sources, as well as management's own good faith estimates and analyses. Intel believes these third-party reports to be reputable, but has not independently verified the underlying data sources, methodologies, or assumptions. The reports and other publications referenced are generally available to the public and were not commissioned by Intel. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances reflected in this information.

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* Other names and brands may be claimed as the property of others.

Availability of Company Information

Our Internet address is www.intel.com. We publish voluntary reports on our website that outline our performance and expectations with respect to corporate responsibility, including environmental, health, and safety compliance.

We use our Investor Relations website, www.intc.com, as well as public webcasts, analyst presentations, and investor days, as routine channels for distribution of important information about us, including our business, financial condition, and operations, among other developments. Such information may be material, and you are encouraged to follow these sources in addition to our filings with the SEC. We publish news releases, announcements, information about upcoming webcasts, analyst presentations, and investor days, archives of these events, financial information, corporate governance practices, and corporate responsibility information on www.intc.com. We post our filings at www.intc.com the same day they are electronically filed with, or furnished to, the SEC, including our annual and quarterly reports on Forms 10-K and 10-Q and current reports on Form 8-K, our proxy statements, and any amendments to those reports or statements. We post our quarterly and annual earnings results at www.intc.com, and do not distribute our financial results via a news wire service. All such postings and filings are available on our Investor Relations website free of charge. In addition, our Investor Relations website allows interested persons to sign up to automatically receive e-mail alerts when we post financial information and issue press releases, and to receive information about upcoming events.

The content on any website referred to in this Form 10-K is not incorporated by reference in this Form 10-K unless expressly noted.



We are an industry leader

and a catalyst for technology innovation and products that revolutionize the way we live. We are committed to harnessing the breadth and scale of our reach to have a positive effect on business, society, and the planet.

Our purpose is to create world-changing technology that improves the life of every person on the planet.

Introduction to Our Business

Intel put the silicon in Silicon Valley. For more than 50 years, Intel and our people have had a profound influence on the world, driving business and society forward by creating radical innovation that revolutionizes the way we live.

Technology is increasingly central to every aspect of human existence. As we look ahead to the next decade, we expect to see continued digitization in the way we work, learn, connect, develop, and operate. That's why we continue to apply our reach, scale, and resources to drive innovation. We enable our customers to capitalize on the power of digital technology now and into the future.

Inspired by Moore's Law, we work relentlessly to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges with the help of what our CEO Pat Gelsinger calls the five superpowers: compute, pervasive connectivity, cloud to edge infrastructure, AI, and sensing.

These foundational technologies profoundly shape how we experience the world by creating

the bridge from the analog to the digital age. Together, they combine, amplify, and reinforce one another, and as they become more ubiquitous, they in turn unlock even more powerful new possibilities.

The five superpowers will only increase the world's ongoing need for compute. And Intel's semiconductors are the underlying technology empowering developers and enabling our customers' innovations.

Innovative Intel solutions and services continue to drive digital transformation globally. We're helping our customers create industrial Internet of Things solutions that power smart factories; develop intelligent transportation systems that streamline traffic management; and leverage high-performance computing, data analytics, and AI to perform advanced research in fields like biochemistry, engineering, astrophysics, energy, and healthcare.

Together with our partners, employees and customers, we're creating a world of opportunities.

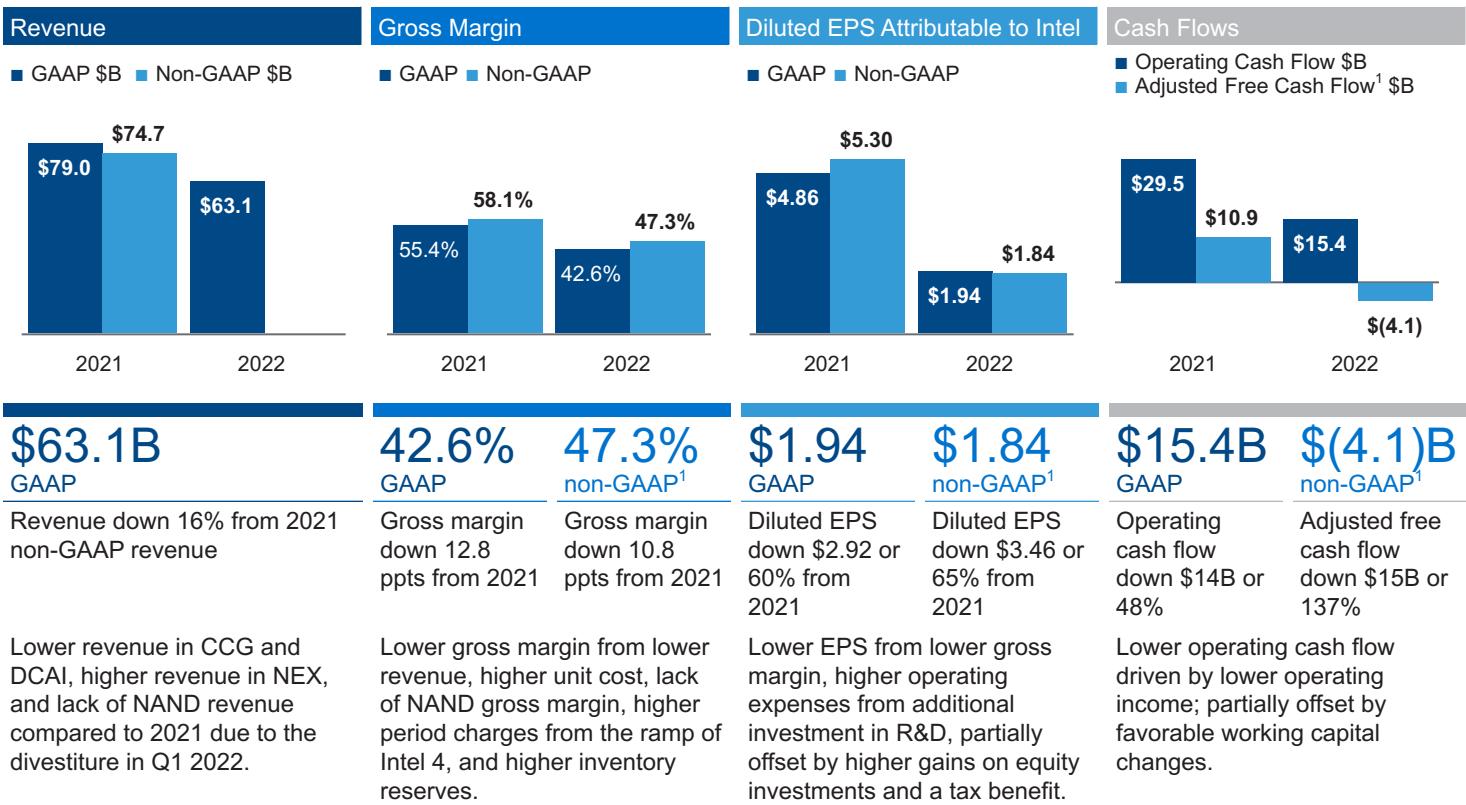


The past several years demonstrated just how much technology is increasingly central to every aspect of our lives, all of which depends on semiconductors. With our focus on delivering leadership products, open and secure platforms and resilient manufacturing, Intel has the right strategy in place to enable this global digitalization and fuel customer success.

—Pat Gelsinger, Intel CEO

A Year in Review

2022 revenue was \$63.1 billion, down \$16.0 billion, or 20%, from 2021 as CCG revenue decreased 23%, DCI revenue decreased 15%, and NEX revenue increased 11%. 2022 results were impacted by an uncertain macroeconomic environment—with slowing consumer demand, persistent inflation, and higher interest rates—that we believe impacts our target markets and creates a high level of uncertainty with our customers. CCG revenue was down on lower notebook and desktop volume in the consumer and education market segments, while notebook and desktop ASPs were higher due to a resulting change in product mix. DCI server volume decreased, led by enterprise customers, and due to customers tempering purchases to reduce existing inventories in a softening data center market. Server ASPs decreased due to customer and product mix. NEX revenue increased primarily due to Ethernet ASPs and increased demand for 5G products, partially offset by lower demand for Network Xeon. We invested \$17.5 billion in R&D, made capital investments of \$24.8 billion, and generated \$15.4 billion in cash from operations and \$(4.1) billion of adjusted free cash flow.



Managing to our long-term financial model

Our 2022 results were impacted by an uncertain macroeconomic environment arising from inflation, the war in Ukraine, and COVID-19 shutdowns in our supply chain in China, and though we expect this uncertainty and a challenging market environment to extend well into 2023, we remain committed to the strategy and long-term financial model communicated at our Investor Meeting 2022 as included in our Form 8-K dated February 17, 2022. To achieve our long-term financial model, we believe it is imperative that we drive to world-class product cost and operational efficiency. In the short term, we intend to continue to implement certain cost-cutting measures and improve our product execution. We further expect to manage to the investment phase operating expenses and net capital intensity guardrails established at our Investor Meeting 2022 and to drive back to a gross margin range of 51% to 53%, once economic conditions improve and revenue growth returns. Longer term, we plan to execute multiple initiatives designed to optimize the business, thus creating efficiencies and continued structural cost savings. This includes implementing an internal foundry model, making portfolio cuts, right sizing our support organizations, creating more stringent cost controls across our spending, and improving sales and marketing efficiency. Though we aggressively adjusted capital investments in 2022 to respond to changing business conditions, we still made significant investments in support of our IDM 2.0 strategy during the year. We expect our capital expenditures will continue to be higher than historical levels for the next several years as we execute towards our goal of delivering five technology nodes in four years. We also introduced our IDM 2.0 Acceleration Office to transition our operations to an internal foundry model that is designed to deliver consistent processes, systems, and guardrails among our business units, and design and manufacturing teams, which we expect will allow us to improve structural efficiencies by driving accountability and costs back to decision makers within the company.

¹ See "Non-GAAP Financial Measures" within MD&A.

Delivering leadership products

We seek to develop and offer leading products that will help enable a future in which every human can have more computing power and quicker access to data. We remain committed to our goal of delivering five technology nodes in four years. This year, we achieved several key milestones on our product roadmap, including:

- We launched the 12th Gen Intel® Core™ HX processors—the final products in our Alder Lake family, which utilize desktop-caliber silicon in a mobile package to deliver high levels of performance for professional workflows.
- We introduced the Intel® Data Center GPU Flex Series for the intelligent visual cloud and revealed the 13th Gen Intel® Core™ processor family with six new unlocked desktop processors for leading gaming, streaming, and recording experiences.
- We launched the newest Intel® Xeon® D processors and Intel® Arc™ A-series GPUs (also known as Alchemist), and began shipping Mount Evans, a 200G ASIC IPU, as well as the first Intel® Blockscale™ ASIC.
- We began high-volume manufacturing of Sapphire Rapids, Raptor Lake, and Ponte Vecchio in 2022, with shipments beginning in Q4 2022.

Investing in at-scale manufacturing

To help accelerate our IDM 2.0 strategy, we are investing in manufacturing capacity around the world. We broke ground on two new leading-edge chip factories in Ohio, initially announcing plans to invest more than \$20.0 billion to establish the first advanced semiconductor campus in the “Silicon Heartland”. We also announced our plans to invest up to €80.0 billion in the European Union over the next decade across the semiconductor value chain—from R&D to manufacturing to state-of-the-art packaging technologies. These include a plan to invest up to an initial €17.0 billion to build a leading-edge semiconductor fab mega-site in Germany; to create a new R&D and design hub in France; and to invest in R&D, manufacturing, and foundry services in Ireland, Italy, Poland, and Spain.

To create further financial flexibility while we accelerate our strategy, we announced SCIP, a program that introduces a new funding model to the capital-intensive semiconductor industry. As part of this program, we closed a definitive agreement with Brookfield Asset Management (Brookfield), creating an equity partnership whereby we and Brookfield own 51% and 49%, respectively, of the newly formed entity, Arizona Fab LLC (Arizona Fab). We expect Arizona Fab will invest up to \$30.0 billion in expanded manufacturing infrastructure at our Ocotillo campus in Chandler, Arizona.

We also look to acquisitions to supplement and strengthen our capital. In Q1 2022, we entered into a definitive agreement to acquire Tower Semiconductor Ltd. (Tower) in a cash-for-stock transaction. Tower is a leading foundry for analog semiconductor solutions. The acquisition is expected to advance our IDM 2.0 strategy by accelerating our global end-to-end foundry business. While we continue to work to close within the first quarter of 2023, the transaction may close in the first half of 2023, subject to certain regulatory approvals and customary closing conditions.

Strengthening focus on the core business

We reorganized our business units in a way that is designed to accelerate the execution and innovation of our company by allowing us to capture long-term growth in both large traditional markets and high-growth emerging markets, while providing increased transparency, focus, and accountability.

We announced the implementation of cost-cutting measures, including a slower pace of hiring and restructuring actions, designed to reduce operating expenditures and manage the business toward our long-term financial strategy.

We completed the IPO of Mobileye, building on Mobileye’s revenue growth and record of innovation and unlocking value for Intel stockholders.

Committing to positive global impact

In April 2022, we announced our commitment to achieve net-zero greenhouse gas emissions across our global operations (Scope 1 and 2) by 2040 and to increase the energy efficiency and lower the carbon footprint of our products and platforms.

Our Strategy

The entire world is becoming digital as technology is increasingly central to every aspect of human existence. As we look ahead to the next decade, we expect to see continued movement to digital for everything—the way we work, learn, connect, develop, and operate. Semiconductors are the underlying technology powering the digitization of everything, and this is being accelerated by five superpowers: ubiquitous compute, pervasive connectivity, cloud-to-edge infrastructure, AI, and sensing. Together these superpowers combine to amplify, and reinforce each other, and will exponentially increase the world's need for computing by packing even more processing capability onto ever-smaller microchips. We intend to lead the industry by harnessing these superpowers for our customers' growth and our own.

We are uniquely positioned with the depth and breadth of our software, silicon and platforms, and packaging and process technology with at-scale manufacturing. With these strengths and the tailwinds of the superpowers driving digital disruption, our strategy to win is focused on four key themes: product leadership, open platforms, manufacturing at scale, and our people.

Our Priorities



Product Leadership

Lead and democratize compute with Intel x86 and xPU. Our product offerings provide end-to-end solutions, scaling from edge computing to 5G networks, the cloud, and the emerging fields of AI and autonomous driving, to serve an increasingly smart and connected world.

At our core is the x86 computing ecosystem, which supports an extensive and deep universe of software applications, with billions of lines of code written and optimized for x86 CPUs. We continue to advance this ecosystem with x86 microarchitectures focused on performance, which push the limits of low latency and single-threaded application performance, and microarchitectures focused on efficiency, which are designed for computing throughput efficiency to enable scalable multithreaded performance. Our innovative new 13th Gen client processors (Raptor Lake) combine both performance cores and efficient cores in a performance hybrid architecture that can direct workloads to the right core depending on whether they require higher performance or power efficiency. We can also combine these architectural advances with our innovations in process and packaging technology, as in our next-generation Intel Xeon data center CPU (Sapphire Rapids), which utilizes performance cores on multiple compute tiles connected through our EMIB packaging technology in a scalable design, rather than being built on a monolithic silicon die.

Beyond the CPU, we are delivering a growing family of xPU products, which encompass client and data center GPUs, IPUs, FPGAs, and other accelerators. The xPU approach recognizes that different workloads benefit from different computing architectures, and our broad portfolio helps meet our customers' increasingly diverse computing needs. As part of our strategy, we seek to develop and offer leading products across each of these architectural categories. Our vision is that our products will help enable a future in which every human can have one petaflop of computing power and one petabyte of data less than one millisecond away.

Open Platforms

We aim to deliver open software and hardware platforms with industry-defining standards. Around the globe, companies are building their networks, systems, and solutions on open standards-based platforms. Intel has helped set the stage for this movement, with our historic contributions in developing standards such as CXL, Thunderbolt™, and PCI Express* (PCIe*). We also contributed to the design, build, and validation of open-source products in the industry such as Linux*, Android*, and others. The world's developers constantly innovate and expand the capabilities of these open platforms while increasing their stability, reliability, and security. In addition, microservices have enabled the development of flexible, loosely coupled services that are connected via application programming interfaces to create end-to-end processes. We use industry collaboration, co-engineering, and open-source contributions to accelerate software innovation. Through our oneAPI initiative, developers use a unified language across CPUs, GPUs, and FPGAs to cut down on development time and to enhance productivity. We also deliver a steady stream of open-source code and optimizations for projects across virtually every platform and usage model. We are committed to co-engineering and jointly designing, building, and validating new products with software industry leaders to accelerate mutual technology advancements and help new software and hardware work better together. Our commitment extends to developers through our developer-first approach based on openness, choice, and trust.

Ultimately, we believe our pivot to a software-defined, silicon-enhanced strategy will enable us to realize value at all layers of the stack. This should allow us to continue to monetize foundational and ecosystem enabling software through hardware sales, limited licensing, and customer-enabling service offerings. Additionally, we intend to expand our software portfolio by developing and monetizing software solutions, services, and platforms with SaaS, software subscriptions, and other business models. We expect to focus on applied AI, trust and security, and cloud performance for our SaaS and subscription-based software and we plan to launch our first security SaaS product, Project Amber (an independent attestation service), in 2023.

Manufacturing at Scale

IDM 2.0, the next evolution and expansion of our IDM model, is a differentiated strategy that combines three capabilities:

Internal factory network. Our global, internal factory network has been foundational to our success, enabling product optimization, improved economics, and supply resilience. We intend to remain a leading developer of process technology and a major manufacturer of semiconductors and will continue to build the majority of our products in our factories.

Strategic use of foundry capacity. We expect to expand our use of third-party foundry manufacturing capacity, which will provide us with increased flexibility and scale to optimize our product roadmaps for cost, performance, schedule, and supply. Our use of foundry capacity will include manufacturing for a range of modular tiles on advanced process technologies.

System foundry. We are building a world-class foundry business to meet the growing long-term global demand for semiconductors. We plan to differentiate our foundry offerings from those of others through a combination of leading-edge packaging and process technology, committed capacity in the US and Europe available for customers globally, and a world-class IP portfolio that will include x86 cores, as well as other ecosystem IP. The current foundry model enabled explosion of ecosystem innovation at the wafer level. We believe this established model has historically served the industry well, but a new mindset is needed in our new era of chipmaking. As innovation evolves, we see the rack has collapsed into a system and the system has collapsed into an advanced package. We are building out a system foundry that has four components: wafer fabrication, packaging, chiplet standard, and software.

The system foundry involves engaging with customers at multiple levels, from basic wafer manufacturing to helping define and implement their desired system architecture. We intend to build our customers' silicon designs and deliver full end-to-end customizable products built with our advanced packaging technology.

We believe our IDM 2.0 strategy enables us to deliver leading process technology and products to meet growing long-term demand using internal and external capacity, while leveraging our core strengths to provide foundry services to others and providing superior capacity, supply resilience, and an advantageous cost structure.

Our People

Our world-class talent is at the heart of everything we do. Together we strive to have a positive effect on business, society, and the planet. Delivering on our strategy and growth ambitions requires attracting, developing, and retaining top talent from across the world. Our people build our technology, unlock new business opportunities, and work with our partners and customers to create global impact.

Fostering a culture of empowerment, inclusion, and accountability is also core to our strategy. We are committed to creating an inclusive workplace where the world's best engineers and technologists can fulfill their dreams and create technology that improves the life of every person on the planet.

Growth Imperative

We are investing to position the company for accelerated long-term growth, focusing on both our core businesses and our growth businesses. In our client and server businesses, our strategy is to invest to strengthen the competitiveness of our product roadmap and to explore new opportunities. We believe we have significant opportunities to grow and gain share in graphics; mobility, including autonomous driving; networking and edge; and foundry services.

Focus on Innovation and Execution

We are focused on executing our product and process roadmap and accelerating our cadence of innovation. We have set a detailed process and packaging technology roadmap and announced key architectural innovations to further our goal of delivering leadership products in every area in which we compete. We are returning our culture to its roots in innovation and execution, drawing on principles established by our former CEO Andy Grove that emphasize discipline and accountability. This includes re-establishing OKRs throughout the organization to drive a common purpose.

To help us execute toward our IDM 2.0 strategy, we are leveraging our Smart Capital approach. This approach is designed to enable us to adjust quickly to opportunities in the market, while managing our margin structure and capital spending. The key elements of Smart Capital include:

- **Smart capacity investments.** We are aggressively building out manufacturing shell space, which gives us flexibility in how and when we bring additional capacity online based on milestone triggers such as product readiness, market conditions, and customer commitments.
- **Government incentives.** We are continuing to work with governments in the US and Europe to advance incentives for domestic manufacturing capacity for leading-edge semiconductors.
- **SCIP.** We are accessing strategically aligned capital to increase our flexibility and help efficiently accelerate and scale manufacturing build-outs. This type of co-investment also demonstrates how private capital is unlocked and becomes a force multiplier for government incentives for semiconductor manufacturing expansion.
- **Customer commitments.** IFS is working closely with potential customers and exploring their willingness to make advance payments to secure capacity. This provides us with the advantage of committed volume, de-risking investments while providing capacity corridors for our foundry customers.
- **External foundries.** We intend to continue our use of external foundries where their unique capabilities support our leadership products.

Our Capital

We deploy various forms of capital to execute our strategy in a way that seeks to reflect our corporate values, help our customers succeed, and create value for our stakeholders.

Capital	Strategy	Value
Financial	 Leverage financial capital to invest in ourselves and drive our strategy, provide returns to stockholders and supplement and strengthen our capabilities through acquisitions.	We strategically invest financial capital to create long-term value and provide returns to our stockholders.
Intellectual	 Invest significantly in R&D and IP to enable us to deliver on our accelerated process technology roadmap, introduce leading x86 and xPU products, and develop new businesses and capabilities.	We develop IP to enable next-generation products, create synergies across our businesses, expand into new markets, and establish and support our brands.
Manufacturing	 Build manufacturing capacity efficiently to meet the growing long-term global demand for semiconductors, aligned with our IDM 2.0 strategy.	Our geographically balanced manufacturing scope and scale enable us to provide our customers with a broad range of leading-edge products.
Human	 Build a diverse, inclusive, and safe work environment to attract, develop, and retain top talent needed to build transformative products.	Our talented employees enable the development of solutions and enhance the intellectual and manufacturing capital critical to helping our customers win the technology inflections of the future.
Social and Relationship	 Build trusted relationships for both Intel and our stakeholders, including employees, suppliers, customers, local communities, and governments.	We collaborate with stakeholders on programs to empower underserved communities through education and technology, and on initiatives to advance accountability and capabilities across our global supply chain, including accountability for the respect of human rights.
Natural	 Strive to reduce our environmental footprint through efficient and responsible use of natural resources and materials used to create our products.	With our proactive efforts, we seek to mitigate climate and water impacts, achieve efficiencies, and lower costs, and position ourselves to respond to the expectations of our stakeholders.

Comprehensive ESG and Corporate Responsibility Strategy: RISE

Our commitment to corporate responsibility and sustainability leadership is deeply integrated throughout our business. We strive to create an inclusive and positive work environment where every employee has a voice and a sense of belonging, and we are proactive in our efforts to reduce our environmental footprint through efficient and responsible use of natural resources and materials.

We continue to raise the bar for ourselves and leverage our leadership position in the global technology ecosystem to make greater strides in corporate responsibility and apply technology to address social and environmental challenges. Through our **RISE** strategy, we aim to create a more **responsible**, **inclusive**, and **sustainable** world, **enabled** by our technology and the expertise and passion of our employees. In addition to our 2030 RISE goals established in 2020, in April 2022 we announced our commitment to achieve net-zero greenhouse gas emissions across our global operations (Scope 1 and 2) by 2040 and to increase the energy efficiency and lower the carbon footprint of our products and platforms. These are ambitious goals that strengthen our commitment to sustainable business practices under our RISE strategy. Our corporate responsibility strategy is designed to increase the scale of our work through collaboration with our stakeholders and other organizations; we know that we cannot achieve the broad social impact to which we aspire by acting alone. More information about our RISE goals, including progress we have made toward achieving them, is included in our Corporate Responsibility Report¹.

¹ The contents of our Corporate Responsibility Report are referenced for general information only and are not incorporated by reference in this Form 10-K.



Financial Capital

We take a disciplined approach to our financial capital allocation strategy, which continues to focus on building stockholder value and is driven by our priority to invest in the business and capacity and our capital needs. We also seek to pay competitive dividends and, from time-to-time, engage in mergers and acquisitions with a focus on adjacencies and complementary technology. As we invest in our IDM 2.0 strategy and implement our next phase of capacity expansions and the acceleration of our process technology roadmap, our allocation priorities have shifted more heavily toward investing in the business and away from stock repurchases. In the long term, we will continue to look for opportunities to further our strategy through acquisitions while remaining disciplined on capital allocation.

Cash from Operating Activities \$B



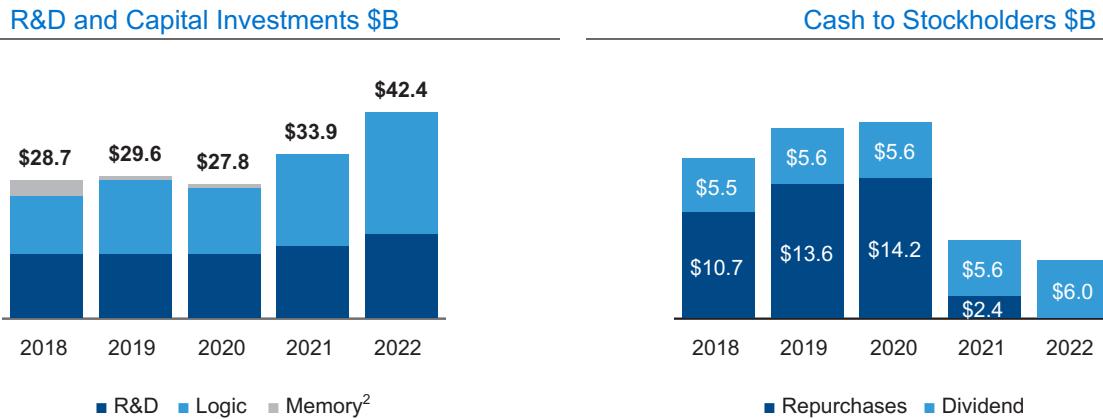
Our Financial Capital Allocation Strategy

Invest in the Business

Our first allocation priority is to invest in R&D and capital spending to capitalize on the opportunity presented by the world's demand for semiconductors. We also respond to changing business and economic conditions. We adjusted and refocused our capital investment for 2022 and in the short term, while accelerating the deployment of our Smart Capital strategy.

Return Excess Cash to Stockholders

Our capital allocation strategy includes returning excess cash to stockholders. We achieve this through our dividend policy and when permissible, stock repurchases. We expect our future stock repurchases to continue to be significantly below our levels from 2021 and recent preceding years due to our current curtailment of this program.



Acquire and Integrate

Our capital allocation strategy also includes opportunistic investment in and acquisition of companies that complement our strategic objectives. We look for acquisitions that supplement and strengthen our capital and R&D investments. Our key acquisitions over the last three years include the pending acquisition of Tower and our 2020 acquisition of Moovit to accelerate Mobileye's MaaS offering.

We take action when investments do not strategically align to our key priorities, and in 2022 we completed the first closing of the divestiture of our NAND memory business and began winding down our Intel Optane memory business. Additionally, in 2020 we completed the divestiture of the majority of our Home Gateway Platform, a division of CCG.

¹ See "Non-GAAP Financial Measures" within MD&A.

² 2021 and 2022 capital investments in Memory are not presented due to the divestiture of the NAND memory business announced in October 2020. 2018-2020 capital investments presented include Memory.



Research and Development

R&D investment is critical to enable us to deliver on our accelerated process technology roadmap, introduce leading products, and develop new businesses and capabilities in the future. We seek to protect our R&D efforts through our IP rights and may augment R&D initiatives by acquiring or investing in companies, entering into R&D agreements, and directly purchasing or licensing technology.

Areas Key to Product Leadership

We have intensified our focus on areas key to product leadership. Our objective with each new generation of products is to improve user experiences and value through advances in performance, power, cost, connectivity, security, form factor, and other features. We also focus on reducing our design complexity, re-using IP, and increasing ecosystem collaboration to improve our efficiency.

Process and packaging. Our leading-edge process and packaging technology and world-class IP portfolio are key to the success of our strategy. This year, we have reaffirmed our commitment to achieving process technology leadership in 2025 by planning to deliver five technology nodes in four years. In addition, we have solidified our process and packaging offerings to external customers through IFS.

- We introduced further optimizations to our Intel 7 process node, which is now in production for our 13th Gen Intel Core processors (Raptor Lake).
- Intel 4, taking advantage of EUV, is a node that is designed to deliver significant density scaling and approximately 20% performance-per-watt improvement over Intel 7. Meteor Lake is scheduled to be our first high-volume client product on Intel 4.
- We expect Intel 3 to deliver further logic scaling and up to 18% performance-per-watt improvement over Intel 4. Intel 3 is our first advanced node offered to IFS customers and is optimized for the needs of Data Center products.
- Intel 20A will follow Intel 3 and will introduce two breakthrough technologies that we expect will deliver up to 15% performance-per-watt improvement over Intel 3: RibbonFET and PowerVia. RibbonFET, our implementation of a gate-all-around transistor, is designed to deliver faster transistor switching speeds while achieving the same drive current as multiple fins, but in a smaller footprint. PowerVia is our unique industry-first implementation of backside power delivery that is designed to optimize signal transmission by eliminating the need for power routing on the front side of the wafer.
- Intel 18A, our second IFS advanced node offering, improves on Intel 20A by delivering ribbon innovation for design optimization and line width reduction. Intel 18A is on schedule and expected to deliver an additional 10% improvement in performance per watt over Intel 20A.
- Beyond Intel 18A, we have already initiated definition and development of our next two process nodes and continue to define, build, and develop the next-generation High Numerical Aperture EUV lithography into our process technology roadmap.
- Our family of 3D advanced packaging technology will usher in the next generation of Foveros technology, enabling us to mix multiple top die tiles with multiple base tiles across mixed fab nodes, giving Intel and our customers greater flexibility for disaggregated chip designs. Our future Foveros Direct technology should scale interconnect pitch below 10µm, enable direct copper-to-copper bonding for low-resistance interconnects, and blur the boundary between wafer and package.

xPU architecture. We believe the future is a diverse mix of scalar, vector, matrix, and spatial architectures deployed in CPU, GPU, accelerator, and FPGA sockets, enabled by a scalable software stack and integrated into systems by advanced packaging technology. We are building processors that span several major computing architectures, moving toward an era of heterogeneous computing:

- **CPU.** We started shipping our 4th Gen Intel Xeon Scalable processors (Sapphire Rapids) based on Intel 7 with the new Golden Cove core, built-in AI acceleration, cryptographic acceleration, and advanced security capabilities. We also launched our 13th Gen Intel Core processors (Raptor Lake), which will scale from thin and light laptops to enthusiast desktop and notebook platforms. These are based on a hybrid architecture utilizing Raptor Cove performance cores and Gracemont power-efficient cores and are socket-compatible with Alder Lake systems.
- **GPU and HPC.** Following the Q1 2022 launch of the first Intel® Arc™-branded laptop GPUs (A3 series), in Q4 2022 we launched the high-performance desktop GPUs (A7 series). Intel Arc GPUs offer dedicated graphics capability to power premium laptop and desktop experiences. Intel Arc A-Series GPUs come with advanced technologies to enable immersive gaming and powerful content creation in modern, portable designs. In Q4 2022, we also introduced the Intel® Max Series product family with two leading-edge products for high-performance computing and AI: Intel® Xeon® CPU Max Series (also known as Sapphire Rapids HBM) and Intel® Data Center GPU Max Series (also known as Ponte Vecchio). These new products will power the upcoming Aurora supercomputer at Argonne National Laboratory and will help progress our vision of increasing the computing power of every human.
- **Interconnect.** Mount Evans, Intel's first ASIC IPU, is designed to address the complexity of diverse and dispersed data centers. An IPU is designed to enable cloud and communication service providers to reduce overhead and free up performance for CPUs.
- **Matrix Accelerator.** In Q2 2022, we launched our second-generation deep learning processors for training and inference: Habana Gaudi2* and Habana Greco*. These new processors address an industry gap by providing customers with high-performance,

high-efficiency, deep-learning compute choices for both training workloads and inference deployments in the data center, while lowering the AI barrier to entry for companies of all sizes.

Software. Software unleashes the potential of our hardware platforms across all workloads, domains, and architectures.

- In 2022, oneAPI adoption continued to expand across the industry. oneAPI enables developers to build cross-architecture applications using a single code base across CPUs, GPUs, and FPGAs to reduce development time and enhance productivity. Our oneAPI-based tools take advantage of unique hardware features and lower software development and maintenance costs. Developers can choose the best architecture for the problem at hand without rewriting their entire code base, accelerating their time to value.
- We seek to accelerate adoption of oneAPI and Intel software developer tools through diverse ecosystem activities, including developer training, summits, centers of excellence, and access to Intel hardware and software through a developer cloud. The Intel® DevCloud, currently in public beta release, will host global users spanning AI, data science, high-performance computing, media and graphics, and other accelerated computing workloads.
- We believe AI will be ubiquitous, and with our tools and the broad open software ecosystem, we are well-positioned to scale AI. We optimize for the most widely used AI frameworks and libraries, including TensorFlow, Pytorch, Scikit-learn, NumPy, XGBoost, and Spark, with certain optimizations delivering up to 100 times performance improvements to support end-to-end AI. We also develop innovative Intel software to accelerate developer productivity, such as OpenVINO™, Intel® Neural Compressor, BigDL, and AI software reference kits.
- We seek to continually improve our system and foundational-level software in support of our client, data center, networking, and graphics products, delivering AI-optimized software across the stack, including BIOS, firmware, simulation, operating systems, and virtualization.

IP Rights

We own and develop significant IP and related IP rights around the world that support our products, services, R&D, and other activities and assets. Our IP portfolio includes patents, copyrights, trade secrets, trademarks, mask works, and other rights. We actively seek to protect our global IP rights and to deter unauthorized use of our IP and other assets.

We have obtained patents in the US and other countries. Because of the fast pace of innovation and product development, our products are often obsolete before the patents related to them expire, and in some cases our products may be obsolete before the patents are granted. As we expand our product offerings into new areas, we also seek to extend our patent development efforts. In addition to developing patents based on our own R&D efforts, we may purchase or license patents from third parties.

The software that we distribute, including software embedded in our products, is entitled to copyright and other IP protection. To distinguish our products from our competitors' products, we have obtained trademarks and trade names for our products, and we maintain cooperative advertising programs with customers to promote our brands and to identify products containing genuine Intel components. We also protect details about our processes, products, and strategies as trade secrets, keeping confidential the information that we believe provides us with a competitive advantage.

Efforts to protect our IP can be difficult, particularly in countries that provide less protection to IP rights and in the absence of harmonized international IP standards. Competitors and others may already have IP rights covering similar products. There is no assurance that we will be able to obtain IP rights covering our own products or that we will be able to obtain IP licenses from other companies on favorable terms or at all. For a discussion of IP-related risks, see "Risk Factors" within Other Key Information. While our IP rights are important to our success, our business as a whole is not significantly dependent on any single patent, copyright, or other IP right.



Manufacturing Capital

As the guardians of Moore's Law, we continuously innovate to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. This makes possible new leadership products with higher performance while balancing power efficiency, cost, and size.

Our IDM 2.0 strategy allows us to deliver leadership products using internal and external capacity while leveraging our core strengths to provide foundry services to others. IDM 2.0 combines three capabilities. First, we will continue to build most of our products in Intel fabs. Second, we expect to expand our use of third-party foundry capacity to manufacture a range of modular tiles on advanced process technologies. Third, we are building a world-class foundry business with IFS, which we expect will combine leading-edge packaging and process technology, committed capacity in the US and Europe, and a world-class IP portfolio that will include x86 cores, as well as other ecosystem IP.

Network and Supply Chain

In 2022, our factories performed well in a highly dynamic environment, where we adapted to rapid demand shifts and industry component shortages affecting us and our customers. We continue to work across our supply chain to minimize disruptions, improve productivity, and increase overall capacity and output to meet customer expectations.

Our global supply chain supports internal partners across architecture, product design, technology development, manufacturing and operations, sales and marketing, and business units, and our supply ecosystem comprises thousands of suppliers globally. Our mission is to enable product and process leadership, industry-leading total cost of ownership, and on-time and uninterrupted supply for our customers. We supplement our own manufacturing capacity through our use of third-party foundries.

As of the end of 2022, we had nine manufacturing sites in production — five wafer fabrication facilities and four assembly and test facilities. The following map shows these factory sites and the countries where we have a significant R&D and/or sales presence. In our continued response to COVID-19, we maintained the operational measures put in place in 2020 and 2021 to enable a continued safe environment for our employees and the operation of our manufacturing sites.

Our manufacturing facilities are primarily used for silicon wafer manufacturing, assembling, and testing of our platform products. We operate in a network of manufacturing facilities integrated as though they were one factory to provide the most flexible supply capacity, allowing us to better analyze our production costs and adapt to changes in capacity needs. Our new process technologies are transferred from a central development fab to each manufacturing facility. After transfer, the network of factories and the development fab collaborate to continue driving operational improvements. This enables fast ramp of the operation, quick learning, and quality control.

We are expanding manufacturing capacity across multiple sites, including Arizona, Ireland, Israel, and Oregon as well as New Mexico and Malaysia for advanced packaging. This year, we broke ground on our new site in Ohio and officially added Germany to our roadmap.





Human Capital

Our human capital strategy is grounded in our belief that our people are fundamental to our success. Delivering on our strategy and growth ambitions requires attracting, developing, and retaining top talent across the world. We are committed to creating an inclusive workplace where the world's best engineers and technologists can fulfill their dreams and create technology that improves the life of every person on the planet. We invest in our highly skilled workforce of 131,900 people by creating practices, programs, and benefits that support the evolving world of work and our employees' needs.

Fostering a culture of empowerment, inclusion, and accountability is also core to our strategy. We are focused on reinvigorating our culture to strengthen our execution and accelerate our cadence of innovation. Our values—customer first, fearless innovation, results driven, one Intel, inclusion, quality, and integrity—inspire us and are key to delivering on our purpose. All employees are responsible for upholding these values, the Intel Code of Conduct, and Intel's Global Human Rights Principles, which form the foundation of our policies and practices and ethical business culture.

Talent Management

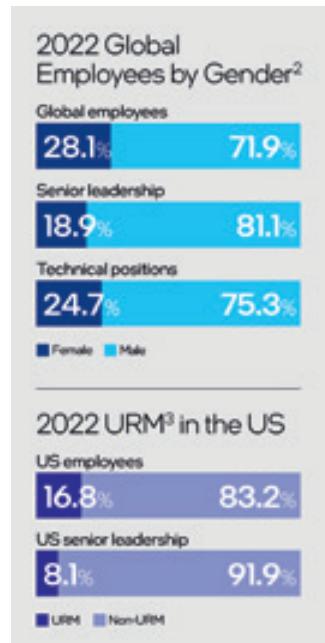
We continue to see significant competition for talent throughout the semiconductor industry. Though we slowed the pace of hiring in the second half of 2022 in line with macroeconomic forecasts, financial performance, and cost-cutting measures, and took actions to rebalance our workforce, the investments we are making to accelerate our process technology require continued and focused efforts to attract and retain talent—especially technical talent. Our undesired turnover rate¹ was 5.6% in both 2022 and 2021.

We invest significant resources to develop the talent needed to remain at the forefront of innovation and make Intel an employer of choice. We offer extensive training programs and provide rotational assignment opportunities and are working to update our job architecture to help employees create custom learning curricula for building skills and owning their careers. To further support the growth and development of our people, we continue to increase mentoring in our technical community, drive engagement through employee resource groups, and promote health and wellness resources to all our people. Through our annual Employee Experience Survey and Manager Development Feedback Survey, employees can voice their perceptions of the company, their managers, their work experience, and their learning and development opportunities. Our employees' voices are important to enable our culture of continuous improvement, and as a result, we link a portion of our executive and employee performance bonus to participation in our Employee Experience Survey. Our performance management system is designed to support our cultural evolution and to increase our focus on disciplined OKRs.

Inclusion

Diversity and inclusion are core elements of Intel's values and instrumental to driving innovation and positioning us for growth. Over the past decade, we have taken actions to integrate diversity and inclusion expectations into our culture, performance and management systems, leadership expectations, and annual bonus metrics. We are proud of what we have accomplished to advance diversity and inclusion, but we recognize we can achieve more, including beyond the walls of Intel. Our RISE strategy and 2030 goals set our global ambitions for the rest of the decade, including doubling the number of women in senior leadership; doubling the number of underrepresented minorities in US senior leadership; increasing the percentage of employees who self-identify as having a disability to 10%; and exceeding 40% representation of women in technical roles, including engineering positions and other roles with technical job requirements. To drive accountability, we continue to link a portion of our executive and employee compensation to diversity and inclusion metrics.

We have committed our scale, expertise, and reach through our comprehensive RISE strategy to work with customers and other stakeholders to accelerate the adoption of inclusive business practices across industries. As part of the Alliance for Global Inclusion, we worked with a coalition of technology companies to create a Global Inclusion Index Survey, which serves as a benchmark for companies to track diversity and inclusion improvements, provide information on current best practices, and highlight opportunities to improve outcomes across industries. The results of the second Global Inclusion Index Survey were published in 2022 and shared with business leaders across industries. The number of companies that completed the inclusion index in 2022 nearly doubled compared to in 2021. This collective effort will allow the industry to more clearly identify actions needed to advance progress on closing persistent gaps and advancing more inclusive practices in workplaces, industry, and society. The survey results for 2022 showed participants making progress in many of these areas. We will also continue to collaborate on initiatives that expand the diverse pipeline of talent for our industry, advance social equity, make technology fully inclusive, and expand digital readiness for millions of people around the world.



¹ Undesired turnover includes all regular Intel employees who voluntarily left Intel, but does not include Intel contract employees, interns, or employees who separated from Intel due to divestiture, retirement, voluntary separation packages, death, job elimination, or redeployment.

² Senior leadership refers to salary grades 10+ and equivalent grades. While we present male and female, we acknowledge this is not fully encompassing of all gender identities.

³ The term underrepresented minority (URM) is used to describe diverse populations, including Black/African American, Hispanic, and Native American employees in the US.

Compensation and Benefits

We structure pay, benefits, and services to meet the varying needs of our employees. Our total rewards package includes market-competitive pay, broad-based stock grants and bonuses, an employee stock purchase plan, healthcare and retirement benefits, paid time off and family leave, parent reintegration, fertility assistance, flexible work schedules, sabbaticals, and on-site services. Since 2019, we have achieved gender pay equity globally and we continue to maintain race/ethnicity pay equity in the US. We achieve pay equity by closing the gap in average pay between employees of different genders or race/ethnicity in the same or similar roles after accounting for legitimate business factors that can explain differences, such as location, time at grade level, and tenure. We have also advanced transparency in our pay and representation data by publicly releasing our EEO-1 survey pay data since 2019. We believe that our holistic approach toward pay equity, representation, and creating an inclusive culture enables us to cultivate a workplace that helps employees develop and progress in their careers at all levels. Our “hybrid-first” approach to working was informed by employees surveyed around the globe and involves the majority of our employees splitting their time between working remotely and in the office. Hybrid-first and remote work options cast a wider recruitment net and support our ambition to hire the best global talent. Currently, there is no company-wide mandate on the number of days per week employees should be on site or how they should collaborate. Our goal is to enable remote and on-site work where it drives the best output, while ensuring our employees have equitable access to systems, resources, and opportunities that allow them to succeed.

Health, Safety, and Wellness

Our commitment to Intel's Environmental, Health, and Safety Policy is to provide a safe and injury-free workplace. We regularly invest in programs designed to improve physical, mental, and social well-being. We provide access to a variety of innovative, flexible, and convenient health and wellness programs, including on-site health centers, and we aim to increase awareness of and support for mental and behavioral health. In support of our RISE goals, we will continue to build our strong safety culture and drive the global expansion of our corporate wellness program through employee education and engagement activities.



Social and Relationship Capital

We are committed to engaging in initiatives that support our communities and help us develop trusted relationships with our stakeholders. Proactive engagement with our stakeholders and investments in social impact initiatives, including those aligned with the United Nations Sustainable Development Goals, advance our position as a leading corporate citizen and create shared value for Intel, our global supply chain, and our communities.

Economic and social. The health of our business and local economies depends in part on continued investments in innovation. We provide high-skill, high-paying jobs around the world, many of which are manufacturing and R&D jobs located in our own domestic and international factories. As we expand operations in Arizona, Oregon, Ohio, and Europe, we are building a pipeline of qualified workers through our talent strategy and the many investments we are making in education. We also benefit economies through our R&D ecosystem spending, sourcing activities, employee spending, and tax payments. We make sizable capital investments and provide leadership in public-private partnerships to spur economic growth and innovation.

We stand at the forefront of new technologies that are increasingly being used to empower individuals, companies, and governments around the world to solve global challenges. We aim to empower people through education and advance social initiatives to create career pathways into the technology industry. This includes our global Intel Digital Readiness Programs, such as AI for Youth and AI for Workforce, scaled in partnership with governments and institutions to empower individuals with digital readiness and AI skills. Additionally, we invest in multi-year partnerships with historically Black colleges and universities in the US to increase the number of Black/African Americans who pursue electrical engineering, computer engineering, and computer science fields. Our employees and retirees share their expertise through volunteer initiatives in the communities where we operate, volunteering approximately 2.8¹ million hours over the past three years. These efforts contribute to our RISE goal to volunteer 10 million hours over a decade. COVID-19 presented challenges over the last few years for in-person volunteering, but we continued to see an outpouring of support from employees for virtual volunteering, donations, and innovative technology projects to support our communities, and in 2022, a return to more in-person volunteering. Since 2020, we announced and further expanded upon the Intel RISE Technology Initiative, which provides an expanded channel to build deeper relationships with our customers and partners aligned with our corporate purpose and work to create shared value through our RISE strategy. Specifically, we are funding projects in areas such as using technology to improve health and safety, making technology more inclusive while expanding digital readiness, and carbon-neutral computing to help address climate change.

Human rights commitment. We are committed to maintaining and improving processes to avoid complicity in human rights violations related to our operations, supply chain, and products. We have established an integrated approach to managing human rights across our business, including senior-level management involvement, with board-level oversight. We also meet throughout the year with external stakeholders and experts on human rights to continue to inform and evolve our human rights policies and oversight processes. While we do not always know, nor can we control, what products our customers create or the applications end users may develop, we do not tolerate our products being used to violate human rights. When we become aware of a concern that our products are being used by a business partner in connection with abuses of human rights, our policies require that we restrict or cease business with the third party until we have high confidence that our products are not being used to violate human rights.

¹ This is a preliminary estimate. The final number will be reported in our 2022-23 Corporate Responsibility Report, to be issued later in 2023.

Supply Chain Responsibility

We actively manage our supply chain to help reduce risk, improve product quality, achieve environmental and social goals, and improve overall performance and value creation for Intel, our customers, and our suppliers. To drive responsible and sustainable practices throughout our supply chain, we have robust programs to educate and engage suppliers that support our global manufacturing operations. We actively collaborate with other companies and lead industry initiatives on key issues such as improving transparency around climate and water impacts in the global electronics supply chain and, as part of our RISE strategy, we are advancing collaboration across our industry on responsible minerals sourcing. Through these efforts we help set electronics industry-wide standards, develop audit processes, and conduct training.

Over the past decade, we have directly engaged with our suppliers to verify compliance and build capacity to address risks of forced and bonded labor and other human rights issues. We perform supplier audits and identify critical direct suppliers to engage through capability-building programs, which help suppliers build sustainability acumen and verify compliance with the Responsible Business Alliance and our Code of Conduct. We also engage with indirect suppliers through our programs on forced and bonded labor, responsible minerals, and supplier diversity. To achieve our RISE goals, we are significantly expanding the number of suppliers covered by our engagement activities. The supply chain environmental team is also actively engaging suppliers to measure and reduce their greenhouse gas emissions footprints, and the resulting impact on our footprint, in order to meet our long-term emissions reductions goals.

Our commitment to diversity and inclusion also extends to our suppliers. We believe a diverse supply chain supports greater innovation and value for our business. We have set additional spending targets with women-owned suppliers outside the US and with minority-owned suppliers globally to accelerate progress toward our goal to increase global annual spending with diverse suppliers by 100% to reach \$2 billion in annual spending by 2030. We continue to only retain or use outside law firms in the US that are above average on diversity of their equity partners and apply a similar rule to firms used by our tax department, including non-legal firms.



Natural Capital

Driving to the lowest possible environmental footprint as we grow helps us create efficiencies, support our communities, and respond to the needs of our stakeholders. We invest in environmental projects and set company-wide environmental targets to drive reductions in greenhouse gas emissions, energy and water use, and waste generation. We build energy efficiency into our products to help our customers lower their own emissions, energy usage and costs, and we collaborate with policymakers and other stakeholders to use technology to address environmental challenges.

In April 2022, we announced our new goal to reach net-zero greenhouse gas emissions in our operations by 2040, creating an important target to strengthen our commitment to sustainable business practices. Our 2030 RISE goals continue to be important milestones to drive to higher levels of operational efficiency, including a goal of a 10% reduction in our greenhouse gas emissions on an absolute basis by 2030. We continue to take action on emissions reduction strategies focused on emissions abatement, additional investments in renewable electricity, process and equipment optimization, and energy conservation. Our RISE strategy also focuses on addressing climate change impacts upstream and downstream in the value chain. This includes improving product energy efficiency and increasing our "handprint"—the ways in which Intel technologies can help others reduce their footprints, including Internet of Things solutions that enable intelligence in machines, buildings, supply chains, and factories, and make electrical grids smarter, safer, and more efficient.

In Q3 2022, we completed our inaugural green bond issuance of \$1.3 billion principal amount of senior notes. We are using the proceeds from the green bond offering to fund projects that support our investments in sustainable operations, which can include items such as green buildings, energy efficiency, circular economy and waste management, greenhouse gas emissions reductions, water stewardship, and renewable energy. The first annual green bond impact report will be published in 2023 to provide an update on the allocation of the net proceeds.

Energy

We focus on reducing our own climate change impact, and over the past two decades have reduced our direct and indirect greenhouse gas emissions associated with energy consumption. Through our RISE goals, we have committed to a goal of conserving 4 billion kWh of energy this decade. We have conserved approximately 973 million kWh¹ of energy cumulatively since 2020. We also invest in renewable electricity and on-site alternative energy projects in support of our 2030 goal to achieve 100% renewable electricity use across our global operations. In 2022, continuing our practice of linking a portion of our executive and employee performance bonus to our corporate sustainability metrics, we linked a portion of the performance bonus to our 2022 target to reach 90% renewable electricity use globally. We reached our target and achieved approximately 91%¹ renewable electricity usage globally in 2022.

¹ This is a preliminary estimate. The final number will be reported in our 2022-23 Corporate Responsibility Report, to be issued later in 2023.

Water Stewardship

Water is essential to the semiconductor manufacturing process. We use ultrapure water to remove impurities from our silicon wafers, and we use fresh and reclaimed water to run our manufacturing facility systems. Through our RISE goals, we have committed to achieve net positive water globally, and as part of that effort, conserve 60 billion gallons of water in this decade. Water conservation reduces the amount of water needed from fresh water sources; we have conserved approximately 26.2 billion gallons¹ of water and enabled restoration of approximately 6.6 billion gallons¹ of water since 2020. In 2022, we linked a portion of our executive and employee performance bonus to our targets to conserve 8.5 billion gallons of water and restore 2.5 billion gallons of water to local watersheds, both of which we achieved.



Circular Economy and Waste Management

We have long been committed to waste management, recycling, and circular economy strategies that enable the recovery and productive re-use of waste streams. Our 2030 goals include a target of zero total waste² to landfill, as well as implementation of circular economy strategies for 60% of our manufacturing waste streams in partnership with our suppliers. We continue to focus on opportunities to upcycle waste by improving waste segregation practices and collaborating with our suppliers to evaluate new technologies for waste recovery.

Governance and Disclosure

We are committed to transparency around our carbon footprint and climate risk, and use the framework developed by the TCFD to inform our disclosure on climate governance, strategy, risk management, and metrics and targets. For governance and strategy, we follow an integrated approach to address climate change, with multiple teams responsible for managing climate-related activities, initiatives, and policies, with senior-level management involvement and board-level oversight, including the Corporate Governance and Nominating Committee. We describe our overall risk management processes in our Proxy Statement, and describe our climate-related risks and opportunities in our annual Corporate Responsibility Report, the Intel Climate Change Policy, and "Risk Factors" within this Form 10-K. In addition to what is included within this Form 10-K, information about and progress toward our RISE goals is included in our Corporate Responsibility Report. Our Corporate Responsibility Report also includes a mapping of our disclosure to the TCFD and SASB frameworks. The Corporate Responsibility Report and our CDP Climate Change Survey are available on our website and are published annually.³

¹ This is a preliminary estimate. The final number will be reported in our 2022-23 Corporate Responsibility Report, to be issued later in 2023.

² Intel defines zero waste as less than 1%.

³ The contents of our website and our Corporate Responsibility Report, Climate Change Policy, and CDP Climate Change Survey are referenced for general information only and are not incorporated by reference in this Form 10-K.

Management's Discussion and Analysis

Our Products

We are a global IDM of CPUs and related solutions that we design, develop, manufacture, market, sell, support and service. Our CPUs and related solutions are incorporated in computing and related end products and services, and utilized globally by consumers, enterprises, governments, and educational organizations. Our customers primarily include OEMs, ODMs, cloud service providers, and other equipment manufacturers that we market and sell to directly through our global sales and marketing organizations and indirectly through channel partners. We manufacture our products at our fabrication and assembly and test facilities located throughout the world.

Our CPU and related product offerings provide end-to-end solutions, scaling from edge computing to 5G networks, the cloud, and the emerging fields of AI and autonomous driving. Products, such as our gaming CPUs, may be sold directly to end consumers, or they may be further integrated by our customers into end products such as notebooks and storage servers. Combining some of these products—for example, integrating FPGAs with Intel Xeon processors in a data center solution—enables incremental synergistic value and performance. We launched new products in 2022, such as the 12th Gen Intel Core HX processors, the final products in our Alder Lake family; Raptor Lake, our 13th Gen Intel 7 client product; and Sapphire Rapids, the first of our 4th Gen Intel Xeon Scalable processors. We also added to our graphics offerings with the introduction of Ponte Vecchio and Alchemist.



Our diverse product line includes CPU and chipset, an SoC, or a multichip package based on Intel® architecture that processes data and controls other devices in a system. The primary CPU products in CCG are our Intel Core processors, which include designs specifically for notebook and desktop applications. The primary CPU product in DCAI is our Intel Xeon processor, which includes solutions for data center compute, networking, and the intelligent edge. The primary offerings of NEX include Intel Xeon, Intel Core, and Intel Atom® processor products.

During 2022, we managed our business through the operating segments that are presented below and have included the 2022, 2021 and 2020 financial results for each segment. "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements of this Form 10-K reconciles our segment revenues presented below to our total revenues, and our segment operating margin (loss) presented below to our total operating margin (loss), for each of the periods presented. We have also included a discussion of our 2022, 2021 and 2020 consolidated results of operations and related information subsequent to the operating segment discussion below.



Client Computing Group

Overview

We are committed to advancing PC experiences by delivering an annual cadence of leadership products and deepening our relationships with industry partners to co-engineer and deliver leading platform innovation. We engage in an intentional effort focused on long-term operating system, system architecture, hardware, and application integration that enables industry-leading PC experiences. We will embrace these opportunities by simplifying and focusing our roadmap, ramping PC capabilities even more aggressively, and designing PC experiences even more deliberately. By doing this, we believe we will continue to fuel innovation across Intel, providing a growing source of IP, scale, and cash flow.

% Intel Revenue



Key Developments

- Our revenue was \$31.7 billion, down 23% in 2022, driven by macroeconomic weakness that negatively impacted PC TAM, particularly in the consumer, education and small/medium business markets. Operating margin was \$6.3 billion, down 60% year over year primarily due to lower notebook and desktop revenue, higher unit costs, increased investments in leadership products, and higher inventory reserves.
- COVID-related dynamics like work- and learn-from-home solidified the PC as an essential tool in the post-pandemic world. We launched our 12th Gen Intel Core H, S, U, and P-series processors and introduced our 13th Gen Intel Core processor family starting with our desktop processors, the second iteration of our performance hybrid architecture built on Intel 7 process technology.
- We worked with industry partners to co-engineer and deliver more than 153 verified Intel® Evo™ designs and grew the commercial market segment with the launch of our Intel vPro® platform with the 12th Gen Intel Core processor and commercial offerings.

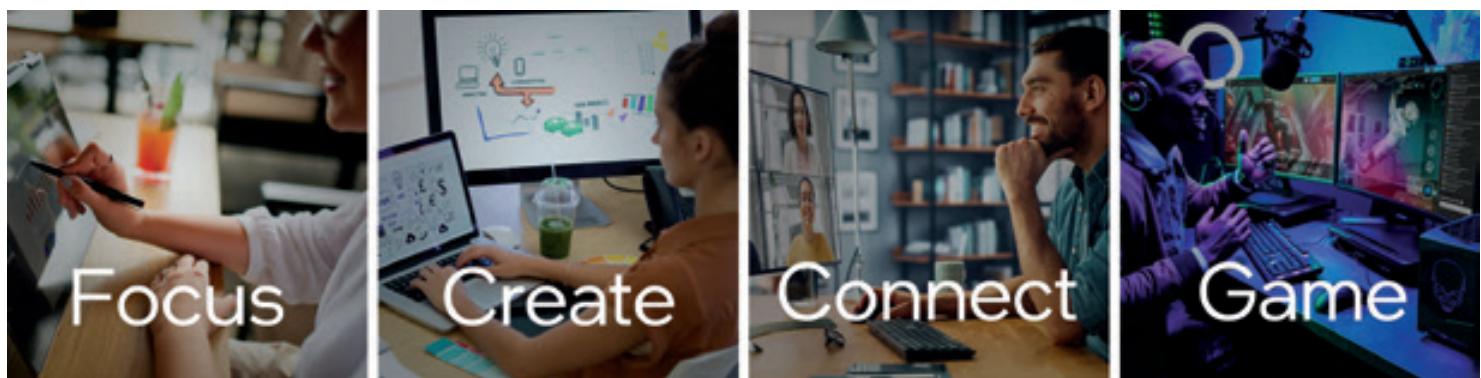
Market and Business Overview

Market Trends and Strategy

In 2022, the PC business experienced one of the most challenging years in recent history, resulting from a softening macroeconomic environment and inflationary pressures. Despite these headwinds in 2022—which resulted in a double-digit TAM decline¹—PC usage remains strong, demonstrating the increased utility and value of the PC and we believe ultimately supporting a TAM well above pre-pandemic levels, once this period of adjustment subsides. The significant behavior changes that took shape amid the pandemic solidified the PC as an essential tool in people's lives.

PC density, including PCs per household, increased during the pandemic, which irreversibly changed the way we focus, create, connect, and care for each other². In addition, the installed base of PCs per student continues to grow compared to pre-pandemic levels. Commercial growth opportunities also remain as corporations expand the size of their PC fleets, while also replacing older devices. Currently, approximately 200 million commercial devices are more than four years old³. The experience and capabilities delivered on new PCs are dramatically better today, reinforcing the opportunity to drive a refresh cycle among enterprise customers.

As we continue on our strategy to develop more competitive products and more capabilities for customers, we are designing our product roadmap to drive product leadership grounded in a philosophy of openness and choice. We deliver value to our customers by leveraging our engineering capabilities and working with our partners across an open, innovative ecosystem to deliver technology that drives every major vector of the computing experience, including performance, battery life, connectivity, graphics, and form factors to create the most advanced PC platforms.



Products and Competition

We released our 13th Gen Intel Core desktop processors, the second generation of our performance hybrid architecture, which combines efficient-cores and performance-cores to deliver performance and experiences that are scalable across all PC market segments. The 13th Gen processor family is expected to deliver uncompromised computing performance for every PC segment and out to the edge. In total, we expect to deliver more than 500 designs from partners across major multinational corporations and leading manufacturers.

We operate in a particularly competitive market. In processors, we compete with AMD and vendors who design applications processors based on ARM architecture, such as Qualcomm Inc. (Qualcomm), and, increasingly, Apple Inc. (Apple), with its M1 and M2 products. We expect this competitive environment to continue to intensify in 2023.

Our role as a technology leader is more important than ever, and our commitment to creating an open ecosystem is critical to delivering on our ambition. This is why we embrace and collaborate with a vibrant ecosystem of OEM partners to identify innovation vectors and deliver leadership technologies together. The breadth of a robust ecosystem like Microsoft Windows/x86 is a powerful combination, bringing together hundreds of companies around the globe and creative and innovative advancements that are not possible for one company to deliver alone.

Unique to Intel, we innovate beyond the CPU to deliver premium PC experiences with Intel Evo and Intel vPro platforms. More than 150 advanced laptop designs have been built on the Intel Evo platform, and we test and verify these to confirm they deliver key experience indicators such as responsiveness, battery life, instant wake, and connectivity. Intel vPro is designed for enterprise needs and delivers increased productivity improvements, connectivity, security features, and remote manageability.

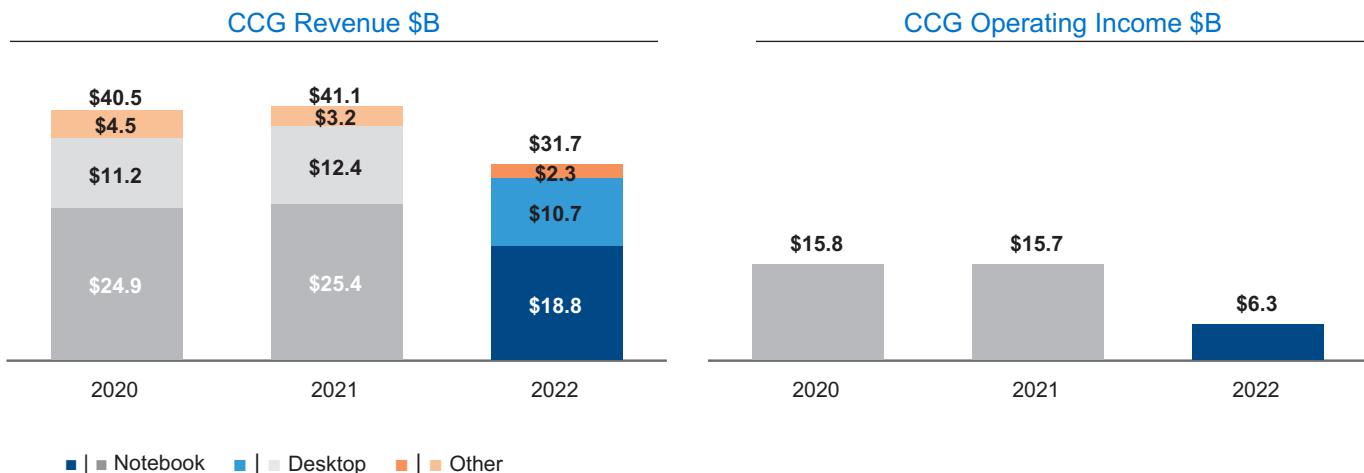
Through our efforts to increase internal and external capacity, supply availability for our products has improved, which enables us to service our customers in a more consistent and responsive manner. We have also seen near-term improvements in industry-wide constraints, which include improvements in third-party component availability and a stabilization of lead times for those components. We remain committed to further remove bottlenecks of third-party components and prepare for longer term demand growth.

¹ Source: Intel calculated 2022 TAM derived from industry analyst reports.

² Source: Intel calculated PC density from industry analyst reports.

³ Source: Intel calculated volume of devices over four years old from industry analyst reports and internal data.

Financial Performance



Revenue Summary

2022 vs. 2021

- Notebook revenue was \$18.8 billion, down \$6.7 billion from 2021. Notebook unit sales decreased 36%, driven by lower demand in the consumer and education market segments, and notebook ASPs increased 15% due to an increased mix of commercial and consumer products and a lower mix of education products.
- Desktop revenue was \$10.7 billion, down \$1.8 billion from 2021. Desktop unit sales decreased 19%, driven by lower demand in the consumer and education market segments, and desktop ASPs increased 5%, primarily from an increased mix of commercial products.
- Other revenue was \$2.3 billion, down \$923 million from 2021, primarily driven by the continued ramp down from the exit of our 5G smartphone modem business and lower demand for our wireless and connectivity products.

2021 vs. 2020

- Notebook revenue increased \$546 million. Notebook unit sales increased 8%, driven by consumer and commercial recovery from COVID-19 lows offset by 6% lower ASPs due to strength in consumer and education market segments.
- Desktop revenue increased \$1.3 billion. Desktop unit sales increased 8%, driven by recovery in desktop demand driven by consumer and commercial recovery from COVID-19 lows, and ASP increased 3%, driven by commercial recovery from COVID-19.
- Other revenue decreased \$1.3 billion, primarily driven by the continued ramp down from the exit of our 5G smartphone modem and Home Gateway Platform businesses, partially offset by strength in wireless and connectivity.

Operating Income Summary

Operating income decreased 60% year over year, and operating margin was 20% in 2022 and 38% in 2021.

(In Millions)	
\$ 6,266	2022 Operating Income
(3,047)	Lower gross margin from notebook revenue
(2,183)	Higher notebook and desktop unit cost primarily from increased mix of Intel 7 products
(1,306)	Lower gross margin from desktop revenue
(1,284)	Higher operating expenses driven by increased investments in leadership products
(969)	Higher period charges primarily driven by inventory reserves taken in 2022
(320)	Lower CCG other product gross margin driven by lower demand for our wireless and connectivity products and the continued ramp down from the exit of our 5G smartphone modem business
(262)	Higher period charges primarily associated with the ramp of Intel 4
(162)	Higher period charges related excess capacity charges
192	Lower period charges due to a benefit related to insurance proceeds received for business interruption and property damage that occurred in 2020
(97)	Other
\$ 15,704	2021 Operating Income
(840)	Higher period charges primarily associated with ramp up of Intel 4 and subsequent ramp down of 14nm
(675)	Higher operating expenses driven by increased investment in leadership products
(290)	Lower gross margin from notebook revenue
(140)	Higher period charges driven by less sell-through of reserves on products in 2021 as compared to in 2020, and additional reserves taken in 2021
1,080	Higher gross margin from desktop revenue
660	Lower unit cost primarily due to cost improvements in 10nm SuperFin
165	Lower period charges primarily driven by a decrease in engineering samples
(56)	Other
\$ 15,800	2020 Operating Income

Data Center and AI



Overview

DCAI delivers industry-leading workload-optimized solutions to cloud service providers and enterprise customers, along with silicon devices for communications service providers and high-performance computing customers. We are uniquely positioned to deliver solutions to help solve our customers' most complex challenges with the depth and breadth of our hardware and software portfolio combined with silicon and platforms, advanced packaging, and at-scale manufacturing made possible by being the world's only IDM at scale. Our customers and partners include cloud hyperscalers, MNCs, small and medium-sized businesses, independent software vendors, systems integrators, communications service providers, and governments around the world.

% Intel Revenue



Key Developments

- Our revenue was \$19.2 billion, down 15% in 2022, driven by challenging macroeconomic conditions and industry supply constraints, that both negatively impacted TAM, in addition to competitive pressures and product execution delays. Operating margin was \$2.3 billion, down 73% year over year, primarily due to top-line headwinds paired with process node acceleration and increased investments in leadership products.
- We began high-volume manufacturing of 4th Gen Intel Xeon Scalable processors and started shipping to customers, including Amazon Web Services and Google Cloud.
- We launched five new Intel FPGA products, including the Intel® Agilex™ FPGA, which extends capabilities to cost-optimized, lower-power, and small-form factor applications, including embedded and edge. We also launched Habana Gaudi2 and Habana Greco, our second-generation deep-learning processors for training and inference.
- We introduced an innovative service-based security implementation, named Project Amber, which provides customers and partners with a secure foundation for confidential computing, secure and responsible AI, and quantum-resistant crypto in the quantum era.

Market and Business Overview

Market Trends and Strategy

Data is a significant force in society and is generated daily at an unprecedented pace. The desire to harness insights from data to drive better outcomes for businesses and society is ever-expanding. AI is nearly pervasive in all applications, creating the potential for intelligence everywhere, and enabling powerful new uses of compute resources across all market segments. The installed base of Intel Xeon processors combined with our rich portfolio of heterogeneous compute solutions (FPGAs, GPUs, IPUs, and AI accelerators) position us to lead in this high-growth area. DCAI is integral to our growth in AI through deep investments in the AI ecosystem, developer tools, frameworks, technologies, and open standards to drive a scalable path forward.

We take a system-level approach that supplies the necessary hardware and software that are optimized for power and performance. Our technology is differentiated at the system level and in high-growth workloads based on our integrated hardware acceleration engines and software. For example, architected into our Intel Xeon processors are Intel® Advanced Matrix Extensions (Intel® AMX) for AI acceleration; Intel® Software Guard Extensions (Intel® SGX), providing enclaves of protected memory to deliver enhanced security for sensitive data; and Intel® Crypto Acceleration that delivers breakthrough performance across a host of important cryptographic algorithms. This is the type of acceleration and differentiated performance that we believe will continue to drive our value and growth across our customer base.

Products and Competition

Our products and services include:

- A portfolio of hardware, including Intel Xeon processors, Intel Agilex and Intel® Stratix® FPGAs, Intel® eASIC™ devices, Habana Gaudi and Habana Greco AI accelerators.
- Platform enabling and validation in partnership with ODMs, OEMs, and independent software vendors.
- Optimized solutions for leading workloads such as AI, cryptography, security, and networking, leveraging differentiated features supporting diverse compute environments.

We offer customers a broad portfolio of silicon and software designed to provide workload-optimized performance. Our hardware portfolio comprises CPUs, domain-specific accelerators, and FPGAs. Each of these is designed to support the performance, agility, and security that our customers demand. This hardware portfolio strategy and investment in complementary software enable users to execute their workloads with low latency and on the most appropriate hardware for their needs.

Our competitors include AMD, providers of GPU products such as NVIDIA, companies developing their own custom silicon, and new entrants developing ARM- and RISC-V-based products customized for specific data center workloads. We expect this competitive landscape to continue.

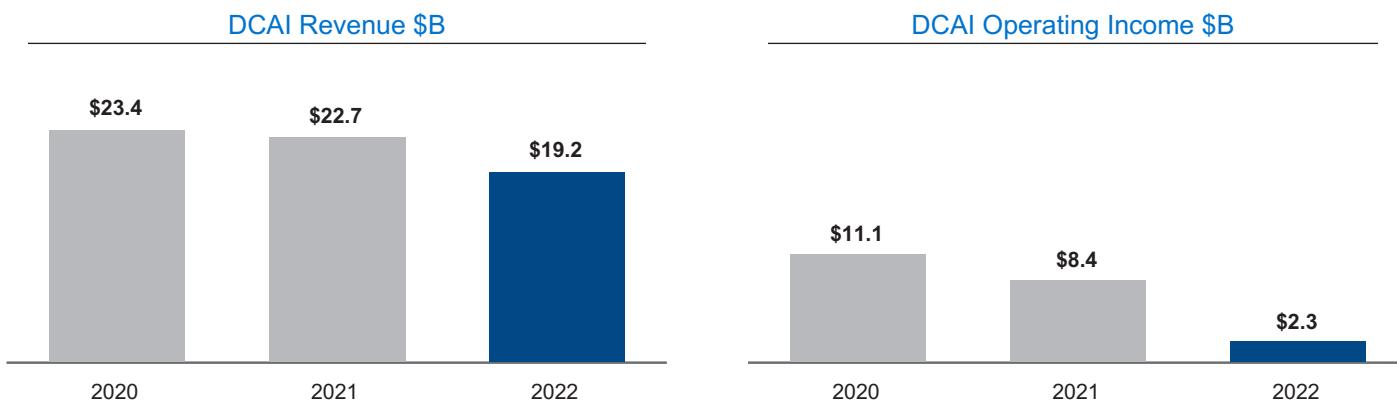
The Intel Xeon Scalable processor family delivers advanced CPUs for the data center, the network, and edge, driving industry-leading performance, manageability, and security with differentiated features and capabilities. All major hyperscale customers have deployed services using 3rd Gen Intel Xeon processors. The 4th Gen Intel Xeon Scalable processors will ramp up throughout 2023. Our 4th generation introduces new accelerators to provide more options for developers to adapt to changes and optimize for workloads, such as AI, analytics, networking, storage, and high-performance computing.

Our Habana Gaudi AI training accelerator is at the forefront of AI solutions for data centers and in 2022, the second generation of deep learning processors for training and inference were launched with Habana Gaudi2 and Habana Greco. These new processors address an industry gap by providing customers with high-performance, high-efficiency deep learning compute choices for both training workloads and inference deployments in the data center while lowering the AI barrier to entry for companies of all sizes.

Our FPGA and structured ASIC portfolio enhances Intel's ability to meet the needs of customers in the data center, across the network, and at the edge. We are shipping our Intel Agilex FPGA family, featuring industry-leading FPGA fabric performance, power efficiency, and transceiver performance. We released our Intel eASIC N5X device family (Diamond Mesa) for low-latency 5G network acceleration, hyperscale acceleration and storage, AI, and edge applications. We also introduced an FPGA-based IPU (Oak Springs Canyon) that enables superior security capabilities and allows our hyperscale customers to isolate the infrastructure from the tenant workloads running on Intel Xeon.

The ubiquity of Intel Xeon in the installed base, along with our heterogeneous compute solutions combined with software that unlocks the value of our hardware, enable our customers to develop highly differentiated solutions. Our integrated approach has created significant value for Intel, our customers and our partners by helping us mitigate risks, reduce costs, build brand value, and identify new market opportunities to apply our technology to address our customers' and society's most complex issues.

Financial Performance



Revenue Summary

2022 vs. 2021

Revenue was \$19.2 billion, down \$3.5 billion from 2021, due to a decrease in server revenue, partially offset by higher other DCAI revenue. Server volume decreased 16% from 2021, led by enterprise customers in a competitive environment, and due to customers tempering purchases to reduce existing inventories in a softening data center market. Server ASPs decreased 5% from 2021, driven by a higher mix of revenue from hyperscale customers. Other DCAI revenue increased 14% due to growth in our FPGA business.

2021 vs. 2020

Revenue was \$22.7 billion, down \$722 million, primarily due to lower server revenue, partially offset by increased revenue from other DCAI products. Server volume decreased 4%, driven by an increasingly competitive environment, partially offset by recovery in government and broader market products.

Operating Income Summary

Operating income decreased 73% year over year, and operating margin was 12% in 2022 and 37% in 2021.

(In Millions)		2022 Operating Income
\$	2,288	
(3,330)		Lower gross margin from server revenue
(1,139)		Higher period charges primarily associated with the ramp up of Intel 4
(1,001)		Higher operating expenses driven by increased investments in leadership products
(671)		Higher server unit cost from increased mix of 10nm SuperFin products
(441)		Higher period charges driven by inventory reserves taken in 2022
(305)		Higher other period charges primarily related to product development costs
(189)		Higher period charges related to excess capacity charges
702		Higher gross margin from DCAI other product revenue
223		Lower period charges due to a benefit related to insurance proceeds received for business interruption and property damage that occurred in 2020
\$	8,439	2021 Operating Income
(1,050)		Higher DCAI server unit cost primarily from increased mix of 10nm SuperFin products
(820)		Higher period charges primarily driven by ramp up of Intel 4 and subsequent ramp down of 14nm
(725)		Lower gross margin from server revenue
(475)		Higher operating expenses driven by investment in leadership products
(65)		Higher period charges driven by increased engineering samples
375		Higher gross margin from other DCAI product revenue
130		Lower period charges driven by absence of reserves taken in 2020, partially offset by reserves recorded in 2021
(7)		Other
\$	11,076	2020 Operating Income

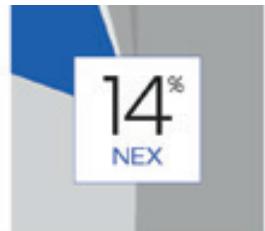
Network and Edge



Overview

NEX lifts the world's networks and edge compute systems from inflexible fixed-function hardware to general-purpose compute, acceleration, and networking devices running cloud native software on programmable hardware. We work with partners and customers to deliver and deploy intelligent edge platforms that allow software developers to achieve agility and to drive automation using AI for efficient operations while securing the integrity of their data at the edge. We have a broad portfolio of hardware and software platforms, tools, and ecosystem partnerships for the rapid digital transformation happening from the cloud to the edge. We are leveraging our core strengths in process, software, and manufacturing at scale to grow traditional markets and to accelerate entry into emerging ones.

% Intel Revenue



Key Developments

- Our revenue was \$8.9 billion, up 11% in 2022, driven by the cloud networking and telecommunications market segments. Most notably, we saw strength in our Ethernet ASPs and in 5G product demand. Operating margin was \$740 million, down \$971 million year over year primarily due to higher investments in product roadmap leadership and process node acceleration, and higher inventory reserves.
- We announced the Mount Evans IPU, Intel's first dedicated ASIC-based IPU, the Intel Xeon D-1700 series, the Intel Xeon D-2700 series, and the 4th Gen Intel Xeon processor with Intel® vRAN Boost.
- We continue to update solutions to improve developers' digital strategies and to accelerate market adoption of edge and AI applications. We announced 12th Gen Intel Core Processors for Internet of Things Edge and the Intel® Geti™ computer vision platform with OpenVINO toolkit built in.
- We continue to work with our ecosystem partners like Ericsson, Nokia, Cisco, Dell Technologies, HPE, Lenovo, Amazon, Google, and Microsoft to drive the software defined transformation of the world's network and edge infrastructure and accelerate AI driven automation of physical operations.

Market and Business Overview

Market Trends and Strategy

The Internet is undergoing a shift toward a cloud-to-edge infrastructure, combining unrivaled scale and capacity in the cloud with faster response times at nearby edges. As AI inference is transforming and automating every industry—from factories to smart cities and hospitals—the demand for high-performance computing at the edge has expanded exponentially. Networks are moving toward software, becoming more programmable and flexible.

Our network and edge solutions aim to (1) move the world's networks to run in software on Intel technologies at the core of cloud data centers, the public Internet, and public and private 5G/6G networks; (2) deploy and run software that monitors and controls factories, cities, commerce, energy, and healthcare on Intel technologies; and (3) run every workload at the edge, between the cloud and the end user, whether deployed by a CSP, CoSP, or an alternative service provider.

Products and Competition

With a greater emphasis on systems and solutions designed to harness the growth of data processed at the edge to yield insights, our competitive landscape has shifted beyond application-specific standard product vendors to include cloud, network, and AI computing platform providers.

Today, we speed the deployment of network and edge computing solutions based on our open software frameworks and broad silicon portfolio to address a broad range of applications in many markets.

Cloud Networking: Our cloud customers require uncompromised data center network performance and reliability. Intel® Intelligent Fabric allows customers to program network behavior from end to end, from one Intel Xeon server to the next, through Intel® Ethernet NICs, IPUs, and Ethernet Switch ASICs. This control gives customers the ability to advance and differentiate their cloud infrastructure based on the unique needs of their business. The IPU, a new class of product introduced by Intel, is an open and programmable compute platform that frees up more compute cycles for customers by running infrastructure workloads in a separate, secure, and isolated set of CPU cores. Our Intel® Silicon Photonics Optical Transceivers are the backbone of the data center network, building reliable optical links on an industry-leading manufacturing process.

Telecommunications Networks: Intel led the world's shift to running networking workloads in software and created network function virtualization, providing customers with more efficient, cost-effective, and programmable platforms. Now we are leading the first wave of 5G core network deployments and demonstrating that 5G base stations can be almost entirely built from software running on Intel Xeon processors with Intel vRAN Boost.

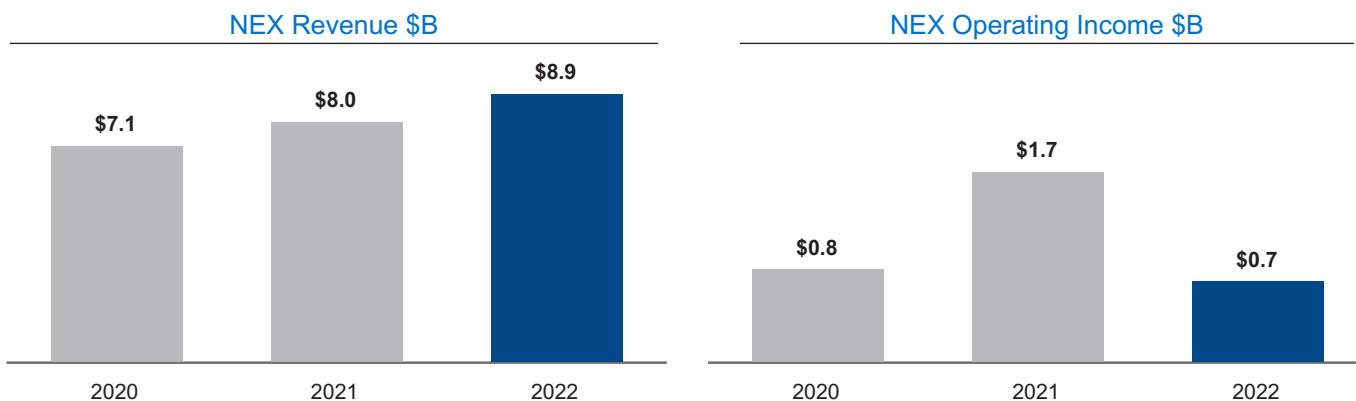
Our growth comes from moving fixed-function networks onto Intel Xeon Scalable processors and Intel Xeon D processors running our FlexCore and FlexRAN™ software. Our customers are tier-one global communication service providers and their equipment suppliers. Our software-based cloud RAN platform allows operators to deploy the fastest cloud-native 5G infrastructure quickly and efficiently at scale to meet the needs of their end customers.

On-premises Edge: More than just a silicon provider, we partner with companies to design and deliver solutions to help a wide range of customers transform their businesses and take advantage of the rapidly increasing number of connected devices and customers. We develop high-performance compute platforms that solve for technology and business use cases that scale across vertical industries and embedded markets such as retail, banking, hospitality, education, manufacturing, energy, healthcare, and medical.

A common architecture from intelligent edge platforms based on our Intel Xeon, Intel Core, Intel Atom and vision processing unit silicon portfolio reduces complexity in the ecosystem and helps our customers create, store, and process data at the edge, analyzing it faster and acting on it sooner. Software frameworks like the OpenVINO toolkit enable software developers to deploy new automation solutions on Intel hardware, particularly for those running AI inference workloads.

Software and Platforms: Our customers' need for flexibility, programmability, and versatility drives workloads toward software and away from fixed-function hardware. As networking in the cloud, core network, 5G, and private networks move to software, and as our edge customers increasingly deploy AI inference applications, we aim to simplify innovation on Intel hardware. We support our customers with open, containerized software frameworks, such as Intel® Smart Edge, the OpenVINO toolkit, and the Infrastructure Programmer Developer Kit, enabling the network to continue to improve and evolve without locking customers into a single solution. Intel Geti software is designed to enable teams to rapidly develop AI models, and its intuitive computer vision solution is designed to reduce the time needed to build models by easing the complexities of model development and harnessing greater collaboration between teams at the edge.

Financial Performance



Revenue Summary

2022 vs. 2021

Revenue was \$8.9 billion, up \$897 million from 2021, driven by higher Ethernet ASPs and increased demand for 5G products, partially offset by lower demand for Network Xeon. Ethernet demand declined in Q4 2022 due to lower server demand, and Edge demand declined in Q4 2022 due to macroeconomic factors.

2021 vs. 2020

Revenue was \$8.0 billion, up \$844 million, primarily driven by higher demand for Edge products amid recovery from the economic impacts of COVID-19, as well as a recovery in cloud networking revenue. These increases were partially offset by a reduction in the 5G networking volume from elevated levels in 2020.

Operating Income Summary

Operating income decreased 57% year over year, and operating margin was 8% in 2022 and 21% in 2021.

(In Millions)		
\$	740	2022 Operating Income
(530)		Higher operating expenses driven by increased investments in leadership products
(461)		Higher period charges primarily associated with the ramp up of Intel 4
(359)		Higher period charges driven by reserves taken in 2022 and lack of sell-through of reserves compared to 2021
(150)		Higher period charges primarily due to other product enhancements
(98)		Lower gross margin from Network Xeon revenue
522		Higher gross margin from Ethernet revenue
191		Lower unit cost primarily from 10nm SuperFin products
(86)		Other
\$	1,711	2021 Operating Income
895		Lower NEX unit cost due to cost improvements in the 10nm SuperFin process
285		Lower period charges due to reserve sell through and a decrease in engineering samples
215		Higher gross margin from NEX revenue, primarily driven by Ethernet and Edge
(300)		Higher operating expenses primarily due to roadmap investments
(220)		Higher period charges primarily associated with the ramp of Intel 4
(10)		Other
\$	846	2020 Operating Income

Mobileye



Overview

Mobileye is a global leader in driving assistance and self-driving solutions. Our product portfolio is designed to encompass the entire stack required for assisted and autonomous driving, including compute platforms, computer vision, and machine learning-based perception; mapping and localization, driving policy, and active sensors in development. We pioneered ADAS technology more than 20 years ago, and have continuously expanded the scope of our ADAS offerings while leading the evolution to autonomous driving solutions. Our unique assets in ADAS allow for building a scalable self-driving stack that meets the requirements for both robotaxi and consumer-owned autonomous vehicles. Our customers and strategic partners include major global OEMs, Tier 1 automotive system integrators, and public transportation operators.

% Intel Revenue



Key Developments

- We achieved record revenue in 2022 of \$1.9 billion, up 35%, primarily driven by higher demand for EyeQ® products and the introduction of Mobileye SuperVision*. Operating income was \$690 million, up 25%, primarily due to higher revenues partially offset by increased investments in leadership products.
- 2022 was a very active year as we launched EyeQ-based systems into 233 different vehicle models, achieved a record-setting volume of projected future design wins, including wins for our next-generation EyeQ6 chip, and advanced solutions such as Cloud-enhanced ADAS and Mobileye SuperVision*.
- On October 26, 2022, we completed the IPO of Mobileye class A common shares (class A shares), and certain other equity financing transactions, which represented approximately 6% of the capital stock of Mobileye, and our class A shares began trading on the Nasdaq Global Select Market under the symbol "MBLY".

Market and Business Overview

Market Trends and Strategy

While the automotive industry has moderately recovered from the effects of the COVID-19 pandemic and from acute supply chain shortages, with approximately 6% growth in global vehicle production year over year, production in 2022 was still roughly 8% below 2019 levels. We expect ADAS volumes to continue to grow faster than overall global vehicle production in the coming years and anticipate long-term ADAS growth from continued increases in the percentage of vehicles that are equipped with basic ADAS features from the factory. In addition to potential volume growth, our portfolio of advanced solutions has the potential to drive higher average system price over time.

Beyond ADAS solutions, we believe that the availability of AVs will cause a significant transformation in mobility, including vehicle ownership and utilization. We expect that AV technology will eventually be accessed by consumers through shared-vehicle MaaS networks and in consumer-owned and operated AVs. We are pursuing this market trend by using our eyes-on/hands-off Mobileye SuperVision* solution as a baseline to scale to our eyes-off/hands-off Chauffeur* consumer AV product in a variety of operational design domains. As it relates to AMaaS, we intend to primarily go to market by supplying Mobileye Drive* self-driving system to transportation network companies, public transit operators, and suppliers of AV-ready vehicle platforms. In some cases, we expect to bundle our Mobileye Drive self-driving system with Moovit's urban mobility and transit intelligence application and its global user base.

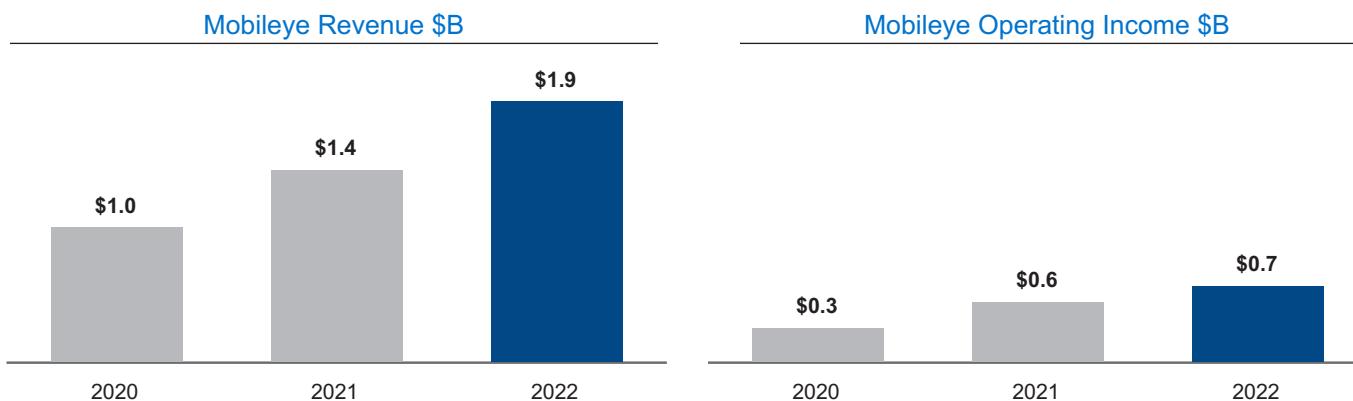
Products and Competition

We currently ship a variety of ADAS solutions to a large number of global automakers. We are recognized for our top-rated safety solutions globally, and since 2007, we have introduced numerous industry-first ADAS products.

We are building a robust portfolio of end-to-end ADAS and autonomous driving solutions to provide the capabilities needed for the future of autonomous driving, leveraging a comprehensive suite of purpose-built software and hardware technologies. We pioneered “base” ADAS features to enhance vehicle safety and to meet global regulatory requirements and safety ratings with our driver assist solution and we have since created new categories of ADAS with our cloud-enhanced driver assist and premium driver assist offerings such as Mobileye SuperVision*. By leveraging Mobileye SuperVision’s full-surround computer vision and True Redundancy*, we are developing Chauffeur, our consumer AV solution and Mobileye Drive, our Level 4 autonomous driving solution designed for fleet deployment. Though our current offerings to Tier 1 and OEM customers do not include cameras, radars, lidar systems, or other sensors (except in particular cases), we have radar and lidar products that are currently in advanced development stages, which we intend to offer to customers in the future.

The ADAS and autonomous driving industries are highly competitive. In the ADAS and consumer AV market, we face competition primarily from other external providers, including Tier 1 automotive suppliers and silicon providers, and in-house solutions developed by OEMs. Our Tier 1 customers may be developing or may in the future develop competing solutions. In the autonomous driving market, including AMaaS and consumer AV, we face competition from technology companies; internal development teams from the automakers themselves, sometimes in combination with investments in early-stage autonomous vehicle technology companies, Tier 1 automotive companies, and robotaxi providers.

Financial Performance



Revenue and Operating Income Summary

2022 vs. 2021

Revenue was \$1.9 billion, up \$483 million from 2021, primarily driven by higher demand for EyeQ products and Mobileye SuperVision* systems. Operating income was \$690 million, up \$136 million from 2021, primarily due to higher revenue, partially offset by increased investments in leadership products.

2021 vs. 2020

Revenue was \$1.4 billion, up \$419 million, driven by improvement in global vehicle production, recovery from the economic impacts of COVID-19, and increasing adoption of ADAS compared to 2020. Operating income was \$554 million, up \$231 million, due to higher revenue driven by improvement in global vehicle production, recovery from the economic impacts of COVID-19, and increasing adoption of ADAS compared to 2020.

Accelerated Computing Systems and Graphics



Overview

AXG delivers products and technologies designed to help our customers solve the toughest computational problems. Our vision is to enable persistent and immersive computing, at scale and accessible by billions of people within milliseconds, which drives an incredible demand for compute—from endpoints to data centers. Our portfolio includes CPUs for high-performance computing and GPUs targeted for a range of workloads and platforms, from gaming and content creation on client devices to delivering media and gaming in the cloud, and the most demanding high-performance computing and AI workloads on supercomputers. To address new market opportunities and emerging workloads, we also develop solutions such as custom accelerators with blockchain acceleration.

% Intel Revenue



Key Developments

- Our revenue was \$837 million, up 8% in 2022. Operating loss was \$1.7 billion, compared to a loss of \$1.2 billion in 2021, primarily due to increased inventory reserves taken and investments in our product roadmap.
- We launched our Intel Arc A-series GPUs, also known as Alchemist, which offer industry-leading advanced features, including hardware accelerated ray tracing, Xe Super Sampling AI-driven upscaling technology, and Intel® Deep Link technology.
- We launched Ponte Vecchio, the first Xe-based GPU optimized for high-performance computing and AI workloads.

Market and Business Overview

Market Trends and Strategy

We are surrounded by immersive and visual content. Technology has made great advances in computer graphics, gaming and media, and AI supercomputing technologies that have enabled us to push toward simulating everything. The pursuit of simulating everything is driving the demand for accelerated computing. To address that opportunity, we are developing products that cover gaming and content creation, and that can enable consumers to experience immersive, photo-realistic virtual worlds. Our high-performance computing products are intended to power supercomputers that simulate our world from submicron levels to the entire galaxy. We are also building tailored products and have custom design services that we believe will unlock additional market opportunities.

We leverage Intel's expansive portfolio of IP cores and technologies, from our process and packaging to our x86 architecture and a rich set of open software tools, libraries, drivers, and operating systems. We build upon the core foundation and combine our scalable X[®] Architecture and acceleration IP blocks to address the accelerated computing market.

Products and Competitiveness

We operate in a very competitive market. NVIDIA is a competitor in the GPU and CPU market for high-performance computing and AI, as well as graphics solutions for content creation and gaming. AMD is also a competitor in the client and server segments with its line of GPUs and CPUs. CSPs are both customers and indirect competitors as they integrate vertically.

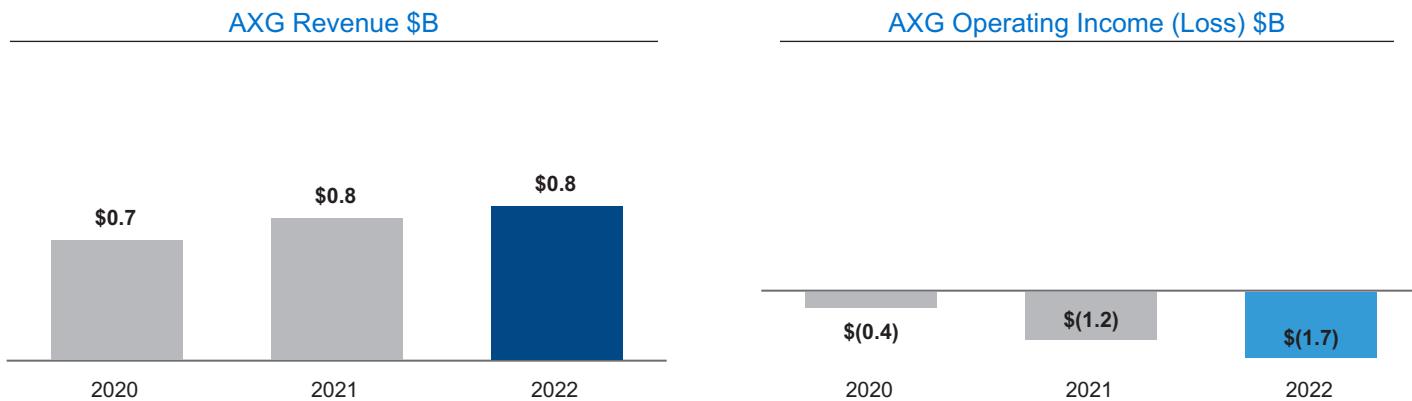
Our advanced and groundbreaking X[®] Architecture excels at rendering content and accelerating computing that scales from the client to the data center. We empower the industry with open and scalable toolkits and software libraries that enable heterogeneous compute through our oneAPI programming model. Intel Arc graphics is our high-performance graphics offering for gaming, content creation, and emerging opportunities to enable persistent and immersive computing. To provide a valuable user experience and bring Intel Arc graphics to market, we work with hundreds of software partners to deliver games and applications that are designed to work seamlessly with our products. We also collaborate with the ecosystem to integrate new functionality and features that take advantage of both our hardware and software technologies to boost performance and enable high-quality rendering and fluid frame rates.

High-performance computing takes advantage of our CPUs and GPUs to power supercomputers that tackle the most computationally challenging problems of our increasingly complex world. Today, many of the world's supercomputers are based on Intel Xeon processors. Our CPU roadmap strategy is to build upon this foundation and extend to higher compute and memory bandwidth for workloads with increasingly large data sets.

Our flagship data center GPU, Ponte Vecchio, is designed to take on the most demanding AI and high-performance computing workloads. Combining Ponte Vecchio with Intel Xeon processors can supercharge a platform's compute density. Our oneAPI cross-architecture programming model is architected to leverage the broad software ecosystem of Intel Xeon processors so that software developers can work across a range of CPUs and accelerators with a single code base.

With a rich portfolio and a strong roadmap for leadership in visual computing, supercomputing, and custom computing, we have a unique opportunity to define the future of computing and accelerate growth for Intel.

Financial Performance



Revenue and Operating Income (Loss) Summary

2022 vs. 2021

Revenue was \$837 million, up \$63 million from 2021. We had an operating loss of \$1.7 billion, compared to an operating loss of \$1.2 billion in 2021, due to increased inventory reserves taken and investments in our product roadmap.

2021 vs. 2020

Revenue was \$774 million, up \$123 million primarily due to increased demand for our integrated graphics portfolio. We had an operating loss of \$1.2 billion, compared to an operating loss of \$403 million in 2020, primarily driven by a charge incurred on a federal contract of \$333 million and ongoing investments in the business.

Intel Foundry Services



Overview

As the first Open System Foundry, we offer customers differentiated full stack solutions created from the best of Intel and the foundry industry ecosystem, delivered from a secure and sustainable source of supply with an array of flexible business models to enable customers to lead in their industry. In addition to a world-class foundry offering enabled by a rich ecosystem, customers have access to our expertise and technologies, including cores, accelerators, and advanced packaging such as EMIB. Our early customers and strategic partners include traditional fabless customers, cloud service providers, automotive customers, and military, aerospace, and defense firms. We also offer mask-making equipment for advanced lithography used by many of the world's leading-edge foundries.

% Intel Revenue



Key Developments

- Our revenue was \$895 million, up 14% in 2022, primarily driven by higher sales of MBMW tools. Operating loss was \$320 million, compared to a loss of \$23 million in 2021, primarily due to increased spending to drive strategic growth.
- We have secured anchor customers and are engaged with seven of ten of the industry's largest foundry customers. Since beginning production in late 2021 with Amazon Web Services as our lead customer, our packaging business expanded to other customers during the year. We expect MediaTek to be a lead silicon customer using Intel 16 process technology to create smart edge devices, with production expected to begin in 2024.
- We launched the IFS Accelerator program, a comprehensive ecosystem alliance designed to help foundry customers seamlessly bring their silicon products from idea to implementation. IFS Accelerator taps the leading capabilities available in the industry to accelerate customer innovation on IFS manufacturing platforms. It features innovative ecosystem partner companies across each of the five alliances of the program: EDA, IP, Design Services, Cloud, and USMAG Alliances.
- In Q1 2022, we entered into a definitive agreement to acquire Tower in a cash-for-stock transaction. The acquisition is expected to advance our IDM 2.0 strategy by accelerating our global end-to-end open systems foundry business. While we continue to work to close within the first quarter of 2023, the transaction may close in the first half of 2023, subject to certain regulatory approvals and customary closing conditions. Tower is a leading foundry for analog semiconductor solutions.
- We continue to grow the Foundry organization and have hired over 50 leaders from the foundry and fabless industry to complement the talent recruited within Intel. The pending acquisition of Tower would further expand our talent pool. This combination of internal and external talent will help us deliver the best of Intel and the foundry industry to our customers.

Market and Business Overview

Market Trends and Strategy

The chip industry is undergoing a structural transformation driven by:

- The digitization of everything, accelerated by the five superpowers: compute, pervasive connectivity, cloud-to-edge infrastructure, AI, and sensing.
- A generational shift in computer architectures: a move from SoC to chiplets, increased tailoring of chips to workloads, and instruction set diversification.
- The vertical integration into chip making by OEMs and CSPs.
- Increasing costs of R&D and capacity for advanced node technologies.
- Supply chain risk highlighted by the pandemic and geo-political issues.

These transformation trends are driving significant semiconductor market growth in leading-edge advanced nodes driven by Mobile, Compute, and Automotive applications. The increasing heterogeneity of chips increases the complexity of designing chips with optimized PPAC that are manufacturable with high yield. Additionally, integrating these diverse chips into systems becomes more complex and requires optimized interconnects and a software stack that can easily accept this diversity of chips without compromising PPAC. This is causing a paradigm shift from focusing on optimizing devices to focusing on optimizing the system, known as system technology co-optimization. In this new paradigm, customers require solutions that address every layer of the application stack, rather than just the chip itself.

Additionally, the COVID-19 pandemic and recent geo-political issues have highlighted the world's dependence on semiconductors and the vulnerable supply chain that underpins the industry. Approximately 88% of the world's semiconductor manufacturing capacity is in Asia, and only 4.5% is in the US¹.

Products and Competition

We seek to address this tectonic shift in the industry by creating an open system foundry that enables our customers to lead in their industries by creating full-stack solutions from their choice of the best of Intel and the ecosystem. The open system foundry has four components: wafer fabrication, packaging, chiplet standard, and software. The open system foundry involves engaging with customers at multiple levels, from basic wafer manufacturing to helping define and implement their desired system architecture. We intend to build our customers' silicon design and deliver full end-to-end capabilities to produce their products, built with our advanced packaging technology and delivered from a resilient, geo-diverse and sustainable source of supply.

The foundation of our IFS strategy is a world-class foundry offering consisting of process technologies complemented by a robust ecosystem for IP, EDA, and design services. Chips created with IFS can be packaged using our advanced packaging technologies or by OSATs and connected by optimized interconnects that we will help drive as standard for the industry, such as, UCIe. We expect to accelerate our customers' designs by providing services and software that leverage our vast experience in designing systems of chips, and by providing cores from Intel and the ecosystem that are optimized for Intel process technologies. The combination of cores and accelerators can be seamlessly integrated into systems using oneAPI. These offerings will accelerate customer time to value with PPAC-optimized systems delivered from a reliable supply chain.

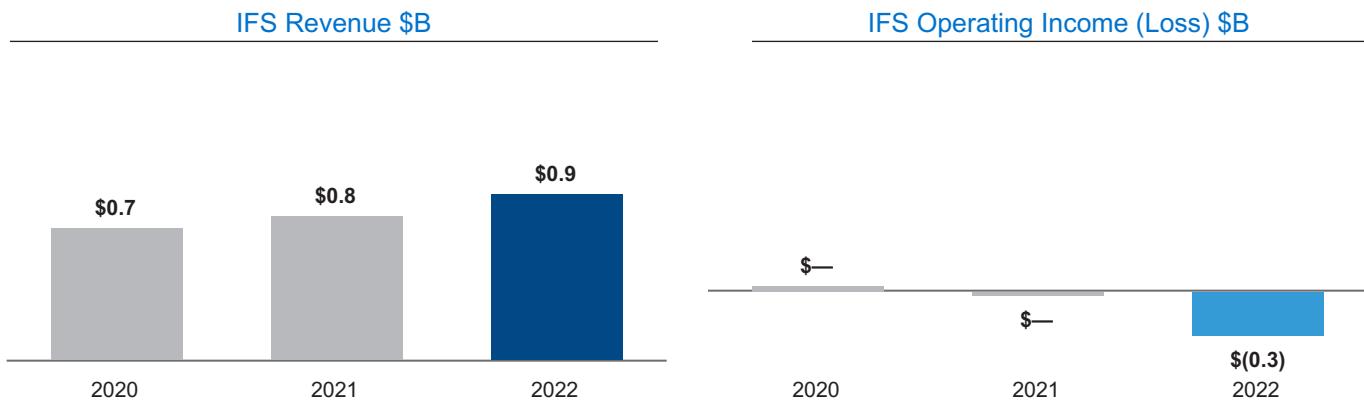
Our competitors are mostly pure-play foundries that focus on delivering a pure-play foundry offering from fabrication plants based in Asia. Of the five major semiconductor foundries, Taiwan Semiconductor Manufacturing Corporation (TSMC), Samsung, Global Foundries (GF), United Microelectronics Corporation (UMC) and Semiconductor Manufacturing International Corporation, only Samsung is an IDM and foundry, and only GF is headquartered in the US. TSMC and Samsung are the only companies with advanced technologies below 10nm, and TSMC leads the market with 53% market share, followed by Samsung at 18% in 2021². Neither Samsung nor TSMC currently offer its most advanced nodes outside of Asia and both have limited advanced-node capacity in the US.

We believe the open system foundry model will deliver differentiated capabilities to help our customers lead in their industries while bringing stability to the global semiconductor supply chain. The interest we are seeing from customers demonstrates that our strategy and offerings are resonating, and we look to continue to build on this in 2023 and in prospective periods.

¹Source: 2022 Gartner Worldwide Foundry Capacity Forecast by Region, 2020-2026.

²Source: TrendForce.

Financial Performance



Revenue and Operating Income (Loss) Summary

2022 vs. 2021

Revenue was \$895 million, up \$109 million from 2021, primarily driven by higher sales of MBMW tools. We had an operating loss of \$320 million, compared to an operating loss of \$23 million from 2021, primarily due to increased spending to drive strategic growth.

2021 vs. 2020

Revenue was \$786 million, up \$71 million from 2020, primarily due to higher revenue from certain design services. We had an operating loss of \$23 million, compared to operating income of \$45 million in 2020, due to ongoing investments in the business.

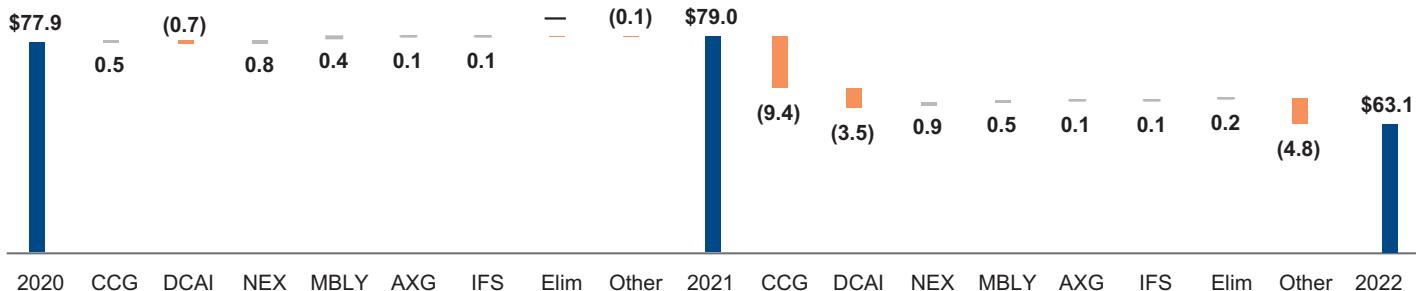
Consolidated Results of Operations

For additional key highlights of our results of operations, see "A Year in Review."

Years Ended (In Millions, Except Per Share Amounts)	December 31, 2022		December 25, 2021		December 26, 2020	
	Amount	% of Net Revenue	Amount	% of Net Revenue	Amount	% of Net Revenue
Net revenue	\$ 63,054	100.0 %	\$ 79,024	100.0 %	\$ 77,867	100.0 %
Cost of sales	36,188	57.4 %	35,209	44.6 %	34,255	44.0 %
Gross margin	26,866	42.6 %	43,815	55.4 %	43,612	56.0 %
Research and development	17,528	27.8 %	15,190	19.2 %	13,556	17.4 %
Marketing, general and administrative	7,002	11.1 %	6,543	8.3 %	6,180	7.9 %
Restructuring and other charges	2	— %	2,626	3.3 %	198	0.3 %
Operating income	2,334	3.7 %	19,456	24.6 %	23,678	30.4 %
Gains (losses) on equity investments, net	4,268	6.8 %	2,729	3.5 %	1,904	2.4 %
Interest and other, net	1,166	1.8 %	(482)	(0.6)%	(504)	(0.6)%
Income before taxes	7,768	12.3 %	21,703	27.5 %	25,078	32.2 %
Provision for (benefit from) taxes	(249)	(0.4)%	1,835	2.3 %	4,179	5.4 %
Net income	8,017	12.7 %	19,868	25.1 %	20,899	26.8 %
Less: Net income attributable to non-controlling interests	3	—	—	—	—	—
Net income attributable to Intel	\$ 8,014	—	\$ 19,868	—	\$ 20,899	—
Earnings per share attributable to Intel—diluted	\$ 1.94		\$ 4.86		\$ 4.94	

Revenue

Segment Revenue Walk \$B



2022 results were impacted by an uncertain macroeconomic environment, with slowing consumer and enterprise demand, persistent inflation, and higher interest rates, which we believe impacts our target markets and creates a high level of uncertainty with our customers. We expect the macroeconomic uncertainty and the challenging market environment will extend into 2023.

2022 vs. 2021

2022 revenue was \$63.1 billion, down \$16.0 billion, or 20%, from 2021. CCG revenue was down 23% from 2021 due to lower notebook and desktop volume in the consumer and education market segments, and lower revenue due to the continued ramp down from the exit of our 5G smartphone modem business and lower demand for our wireless and connectivity products. Notebook volume decreased, driven by lower demand in the consumer and education market segments, while ASPs increased due to the resulting product mix. Desktop volume decreased, driven by lower demand in the consumer and education market segments while ASPs increased due to an increased mix of commercial products. DCAI revenue decreased 15% from 2021 due to lower server demand from enterprise customers, and due to customers tempering purchases to reduce existing inventories in a softening data center market. The decrease was partially offset by higher revenue from our FPGA business. Server ASPs decreased due to customer and product mix. NEX revenue increased 11% from 2021, driven by higher Ethernet ASPs and increased demand for 5G products, partially offset by lower demand for Network Xeon. Mobileye revenue increased 35% from 2021, primarily driven by higher demand for EyeQ products and Mobileye Supervision* systems. The decrease in our "all other" revenue was due to revenue from the divested NAND memory business of \$4.3 billion recognized in 2021, for which historical results are recorded in "all other," and \$584 million of revenue recognized in 2021 from a prepaid customer supply agreement.

Incentives offered to certain customers to accelerate purchases and to strategically position our products with customers for market segment share purposes, particularly in CCG, contributed approximately \$1.7 billion to our revenue during Q4 2022, the impacts of which were contemplated in our financial guidance for Q1 2023, as included in our Form 8-K dated January 26, 2023. We expect CCG demand in Q1 2023 to be impacted as customers work through additional inventory.

2021 vs. 2020

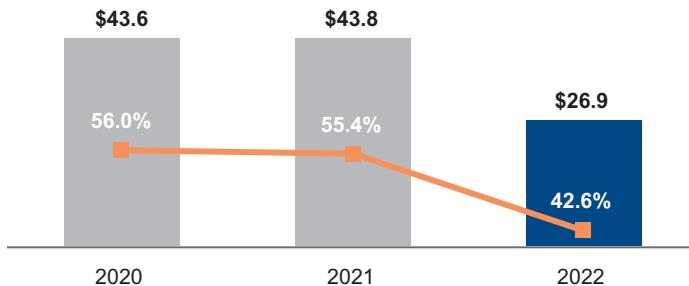
2021 revenue was \$79.0 billion, up \$1.2 billion, or 1%, from 2020. NEX revenue increased 12% from 2020, primarily driven by higher demand for edge products amid recovery from the economic impacts of COVID-19 as well as a recovery in cloud networking revenue, partially offset by a reduction in the 5G networking volume from elevated levels in 2020. CCG revenue was up 1% from 2020, due to higher notebook and desktop volume driven by consumer and commercial recovery from COVID-19 lows, partially offset by lower revenue due to the continued ramp down from the exit of our 5G smartphone modem business. Notebook ASPs decreased due to the resulting product mix from higher demand in the consumer and education market segments, while desktop ASPs increased driven by commercial recovery from COVID-19. Mobileye revenue increased 43% from 2020, driven by improvement in global vehicle production, recovery from the economic impacts of COVID-19, and increasing adoption of ADAS. DCAI revenue decreased 3% from 2020 due to lower server revenue, partially offset by increased revenue from other DCAI products. Server volume decreased due to an increasingly competitive environment, partially offset by recovery in government and broader market products.

Gross Margin

We derived most of our overall gross margin in 2022 from the sale of products in the CCG and DCAI operating segments. Our overall gross margin dollars in 2022 decreased by \$16.9 billion, or 39%, compared to 2021, and in 2021 increased by \$203 million, or approximately flat, compared to 2020.

Gross Margin \$B

(Percentages in chart indicate gross margin as a percentage of total revenue)



(In Millions)

\$	2022 Gross Margin
	(4,673) Lower gross margin from CCG revenue, driven by notebook and desktop revenue
	(3,330) Lower gross margin from DCAI server revenue
	(2,663) Higher unit cost primarily from increased mix of Intel 7 products and 10nm SuperFin
	(2,159) Higher period charges primarily driven by inventory reserves taken in 2022
	(2,012) Higher period charges primarily associated with the ramp up of Intel 4 and other product enhancements
	(1,995) Lower gross margin related to the divested NAND memory business
	(723) Optane inventory impairment related to the wind down of our Intel Optane memory business
	(584) Lack of revenue recognized in Q1 2021 from a prepaid customer supply contract
	(313) Higher stock-based compensation
	(423) Higher period charges due to excess capacity charges
	(204) Corporate charges from patent settlement
	484 Lower period charges due to a benefit related to insurance proceeds received for business interruption and property damage that occurred in 2020
	522 Higher gross margin from NEX Ethernet revenue
	702 Higher gross margin from DCAI other product revenue
	422 Other
\$	43,815
	2021 Gross Margin
	790 Higher gross margin from CCG revenue, driven by desktop revenue partially offset by notebook
	584 Prepaid customer supply agreement settled and recognized to revenue in Q1 2021
	505 Lower unit cost primarily due to cost improvements in 10nm SuperFin
	471 Higher gross margin related to the NAND memory business
	375 Higher gross margin from DCAI other product revenue
	262 Lower period charges due to reserve sell through, partially offset by reserves taken in 2021
	215 Higher gross margin from NEX revenue, primarily driven by Ethernet and Edge
	(1,880) Higher period charges primarily associated with ramp up of Intel 4 and subsequent ramp down of 14nm
	(725) Lower gross margin from DCAI server revenue
	(394) Other
\$	43,612
	2020 Gross Margin

In 2022, we made, and in the next several years we expect to continue to make, capital investments in furtherance of our IDM 2.0 strategy. As of December 31, 2022, our capital investments classified as construction in progress totaled \$36.7 billion. These assets are ready for use but have not yet been placed into service and have not yet begun depreciating. As these construction in progress assets are placed into service, we expect to incur depreciation expense that impacts future production costs and, ultimately, cost of sales. To the extent we are unable to grow our revenues to offset these production costs, our gross margin and operating income will be unfavorably affected. Additionally, we could incur asset impairments on property, plant and equipment assets if our IDM 2.0 strategy is not successful.

Effective January 2023, we increased the estimated useful life of certain production machinery and equipment from 5 years to 8 years. We made this change to better reflect the economic value of our machinery and equipment over time. We considered several factors in making this determination, including current usage and expected re-use of machinery and equipment, changes in machinery and equipment technology, future planned cadence between node transitions, a shift to longer duration on trailing-edge technologies, and overall changes in our technology roadmap. Our analysis supported a change in useful life and is consistent with the execution of our IDM 2.0 strategy. This change in estimate will be applied prospectively beginning Q1 2023. When compared to the estimated useful life in place as of the end of 2022, we expect total depreciation expense in 2023 to be reduced by as much as \$4.2 billion. We expect this change will result in an approximately \$2.6 billion increase to gross margin, a \$400 million decrease in R&D expenses, and a \$1.2 billion decrease in ending inventory values.

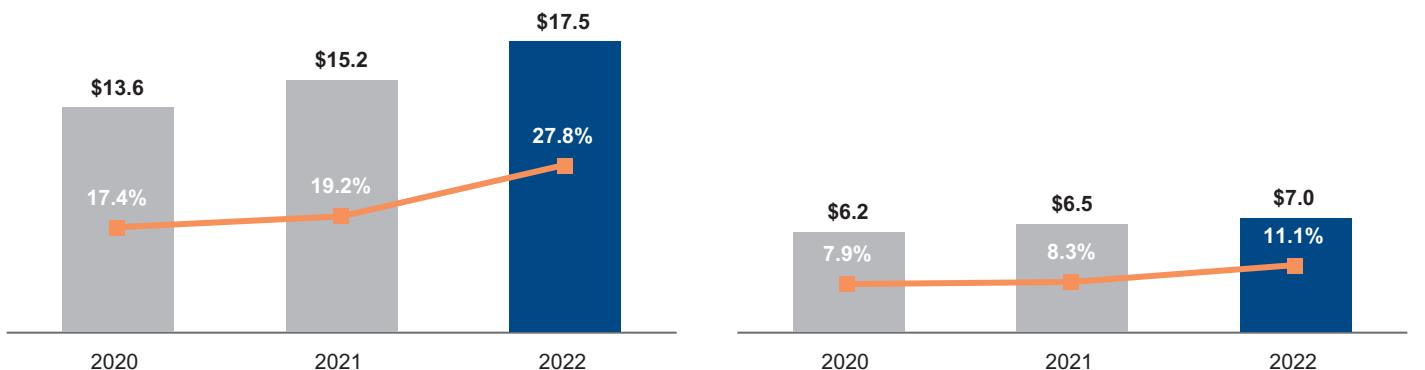
Operating Expenses

Total R&D and MG&A expenses for 2022 were \$24.5 billion, up 13% compared to 2021. These expenses represent 38.9% of revenue for 2022 and 27.5% of revenue for 2021. In support of our strategy, we continue to make significant investments to accelerate our process technology roadmap. This requires increased investments in R&D and continued focused efforts to attract and retain talent. In the second half of 2022, we implemented certain cost-cutting measures, including a slower pace of hiring and other restructuring actions, while at the same time continued to improve our product execution in response to the continued decline in the broader macroeconomic environment.

Research and Development \$B

Marketing, General and Administrative \$B

(Percentages indicate expenses as a percentage of total revenue)



Research and Development

2022 vs. 2021

R&D spending increased by \$2.3 billion, or 15%, driven by the following:

- + Investments in our process technology
- + Increase in corporate spending
- + Investments in our businesses to drive strategic growth
- Incentive-based cash compensation

2021 vs. 2020

R&D spending increased by \$1.6 billion, or 12%, driven by the following:

- + Investments in our businesses to drive strategic growth
- + Investments in our process technology
- + Incentive-based cash compensation

Marketing, General and Administrative

2022 vs. 2021

MG&A spending increased by \$459 million, or 7%, driven by the following:

- + Increase in corporate spending
- Incentive-based cash compensation

2021 vs. 2020

MG&A spending increased by \$363 million, or 6%, driven by the following:

- + Increase in corporate spending
- + Incentive-based cash compensation

Restructuring and Other Charges

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Employee severance and benefit arrangements	\$ 1,038	\$ 48	\$ 124
Litigation charges and other	(1,187)	2,291	67
Asset impairment charges	151	287	7
Total restructuring and other charges	\$ 2	\$ 2,626	\$ 198

In the third quarter of 2022, the 2022 Restructuring Program was approved to rebalance our workforce and operations to create efficiencies and improve our product execution in alignment with our strategy. We expect that our 2022 Restructuring Plan, in conjunction with other initiatives, will reduce our cost structure and allow us to reinvest certain of these cost savings in resources and capacity to develop, manufacture, market, sell, and deliver our products in furtherance of our strategy. We expect these actions to be substantially completed by the end of 2023, but this is subject to change.

Litigation charges and other includes a \$1.2 billion benefit in 2022 from the annulled penalty related to an EC fine that was recorded and paid in 2009, and a charge of \$2.2 billion in 2021 related to the VLSI litigation.

Gains (Losses) on Equity Investments and Interest and Other, Net

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Ongoing mark-to-market adjustments on marketable equity securities	\$ (787)	\$ (130)	\$ (133)
Observable price adjustments on non-marketable equity securities	299	750	176
Impairment charges	(190)	(154)	(303)
Sale of equity investments and other	4,946	2,263	2,164
Gains (losses) on equity investments, net	\$ 4,268	\$ 2,729	\$ 1,904
Interest and other, net	\$ 1,166	\$ (482)	\$ (504)

Gains (Losses) on Equity Investments, Net

Ongoing mark-to-market adjustments recognized in 2022 and 2021 were primarily driven by our investment in Montage Technology, Co. Ltd. (Montage); mark-to-market adjustments recognized in 2020 were primarily driven by our investments in Montage and Cloudera. We sold our interest in Cloudera in 2020.

In 2021, we recognized \$471 million in observable price adjustments related to our investment in Beijing Unisoc Technology Ltd.

In 2022, the sale of McAfee Corp. (McAfee) consumer business was completed and we received \$4.6 billion in cash for the sale of our remaining share of McAfee, recognizing a \$4.6 billion gain in *Sale of equity investments and other*. In 2021, we recognized McAfee dividends of \$1.3 billion, which included a special dividend of \$1.1 billion paid in connection with the sale of McAfee's enterprise business, and recognized \$228 million related to the partial sale of our investment in McAfee. We recognized McAfee dividends of \$126 million in 2020.

In 2022, we also recognized \$278 million of initial fair value adjustments in *Sale of equity investments and other* related to five companies that went public; in 2021, we recognized \$447 million of initial fair value adjustments related to four companies that went public; in 2020, we recognized \$1.1 billion from Montage becoming marketable and \$606 million related to four other equity investments that went public.

Interest and Other, Net

In 2022, we recognized a gain of \$1.0 billion from the first closing of the divestiture of our NAND memory business.

Provision for (Benefit from) Taxes

Years Ended (Dollars in Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Income before taxes	\$ 7,768	\$ 21,703	\$ 25,078
Provision for (benefit from) taxes	\$ (249)	\$ 1,835	\$ 4,179
Effective tax rate	(3.2)%	8.5 %	16.7 %

Our effective tax rate decreased in 2022 compared to 2021, primarily driven by a higher proportion of our income being taxed in non-US jurisdictions and a change in tax law from 2017 Tax Reform related to the capitalization of R&D expenses that went into effect in January 2022. In 2022 we recognized a benefit from taxes as compared to a provision for taxes in 2021 as the higher proportion of our income being taxed in non-US jurisdictions and the change in tax law from 2017 Tax Reform were only partially offset by the tax costs associated with the gains recognized from the equity sale of McAfee and the divestiture of our NAND memory business.

Our effective tax rate decreased in 2021 compared to 2020, primarily driven by one-time tax benefits due to the restructuring of certain non-US subsidiaries as well as a higher proportion of our income in non-US jurisdictions. As a result of the restructuring, we established deferred tax assets and released the valuation allowances of certain foreign deferred tax assets. The majority of these deferred tax assets established in 2021 fully offset the deferred tax liabilities recognized in 2020 driven by a change in our permanent reinvestment assertion with respect to undistributed earnings in China, as a result of our divestiture of our NAND memory business.

Liquidity and Capital Resources

We believe we have sufficient sources of funding to meet our business requirements for the next 12 months and in the longer term. Cash generated by operations, supplemented by our total cash and investments¹, is our primary source of liquidity for funding our strategic business requirements. Our short-term funding requirements include capital expenditures for worldwide manufacturing and assembly and test, including investments in our process technology roadmap; working capital requirements; and potential and pending acquisitions, strategic investments, and dividends. This includes a commitment of \$5.4 billion associated with our pending acquisition of Tower. See "Note 10: Acquisitions and Divestitures" within the Notes to Consolidated Financial Statements for further information. Our long-term funding requirements incrementally contemplate investments in significant manufacturing expansion plans and investments to accelerate our process technology. These plans include an investment to build two new fabs in Arizona and capacity expansions in Ohio and Europe and involve utilizing SCIP and smart capacity investments, both elements of our Smart Capital strategy. We also expect to benefit from government incentives; any incentives above our current expectations would enable us to increase the pace and size of our investments. Conversely, incentives below our expectations would increase our anticipated cash requirements. We expect our planned capital investments to continue to put pressure on our adjusted free cash flow in the short term.

As we invest in multiple expansions, we expect our capital expenditures to continue to be higher than historical levels for the next several years. We expect to adjust the cadence of our investments based on the execution of our roadmap and changing business conditions. As of December 31, 2022, we had commitments for capital expenditures of \$22.7 billion for 2023 and had \$8.3 billion in capital expenditures committed in the long term. As of December 31, 2022, other purchase obligations and commitments in 2022 under our binding commitments for purchases of goods and services were \$3.1 billion, with an additional \$7.6 billion committed in the long term.

Additionally, as we have faced industry shortages of substrates and other components, we have increasingly entered into long-term agreements with suppliers and foundry service providers, some of which involve prepayments that will help us secure future supply. These prepayments accelerate cash outflows into the near term, and we expect to apply the prepayments to future purchases, resulting in a positive impact on our liquidity in subsequent periods.

We have additional obligations as part of our ordinary course of business, beyond those committed for capital expenditures and other purchase obligations and commitments for purchases of goods and services. For example, see "Note 19: Commitments and Contingencies" within the Notes to Consolidated Financial Statements for information about our lease obligations, which include supply agreements structured as leases, "Note 8: Income Taxes" within the Notes to Consolidated Financial Statements for information about our tax obligations including impacts from Tax Reform enacted in 2017 for the one-time transition tax on previously untaxed foreign earnings, and "Note 13: Borrowings" within the Notes to Consolidated Financial Statements for information about our debt obligations. The expected timing of payments of our obligations is estimated based on current information. Timing of payments and actual amounts paid may be different, depending on the timing of receipt of goods or services, or changes to agreed-upon amounts for some obligations. In addition, some of our purchasing requirements are not current obligations and are therefore not included in the amounts above. For example, some of these requirements are not handled through binding contracts or are fulfilled by vendors on a purchase order basis within short time horizons.

When assessing our current sources of liquidity, we include our total cash and investments¹ as shown in the following table:

(In Millions)	Dec 31, 2022	Dec 25, 2021
Cash and cash equivalents	\$ 11,144	\$ 4,827
Short-term investments	17,194	24,426
Loans receivable and other	463	240
Total cash and investments¹	\$ 28,801	\$ 29,493
Total debt	\$ 42,051	\$ 38,101

¹ See "Non-GAAP Financial Measures" within MD&A

We maintain a diverse investment portfolio that we continually analyze based on issuer, industry, and country. Substantially all of our investments in debt instruments are in investment-grade securities.

Other potential sources of liquidity include our commercial paper program and our automatic shelf registration statement on file with the SEC, pursuant to which we may offer an unspecified amount of debt, equity, other securities, and non-recourse factoring arrangements with third-party financial institutions. Under our commercial paper program, we have an ongoing authorization from our Board of Directors to borrow up to \$10.0 billion and, as of December 31, 2022, we had \$3.9 billion of commercial paper obligations outstanding. During 2022, we issued a total of \$6.0 billion aggregate principal amount of senior notes, including our inaugural green bond issuance of \$1.3 billion principal amount. We are using the proceeds from the green bond offering to fund projects that support our investments in sustainable operations. We intend to use the proceeds from the remainder of the offering for general corporate purposes, including, but not limited to, refinancing our outstanding debt and funding for working capital and capital expenditures. We received proceeds of \$600 million in the aggregate from the sale of bonds issued by the Industrial Development Authority of the City of Chandler, Arizona (CIDA). We amended our \$5.0 billion variable-rate revolving credit facility, extending that maturity date by one year to March 2027 and transitioning the interest terms from LIBOR to term SOFR. In November 2022, we entered into a \$5.0 billion, 364-day variable rate revolving credit facility. We repaid \$1.6 billion of our senior notes that matured in May 2022; \$1.0 billion due July 2022; \$1.9 billion due December 2022; and \$400 million due November 2023. We settled \$138 million bonds issued by the Oregon Business Development Commission in March 2022. As of December 31, 2022, we had no borrowings outstanding on the revolving credit facilities.

Our sources of liquidity in 2022 also included total net proceeds of \$1.0 billion from the completion of Mobileye's IPO in the fourth quarter of 2022, after which we retained 94% of Mobileye's capital stock.

Our cash and investments and related cash flows may be affected by certain discretionary actions we may take with customers and suppliers to accelerate or delay certain cash receipts or payments to manage liquidity for our strategic business requirements. In the second half of 2022 these actions included, among others, negotiating with suppliers to optimize our payment terms and conditions, adjusting the timing of cash flows associated with customer sales programs and collections, managing inventory levels and purchasing practices, and selling certain of our accounts receivable on a non-recourse basis to third-party financial institutions. While such actions have benefited, and may further benefit, cash flow in the near term, we may experience a corresponding detriment to cash flow in future periods as these actions cease or as the impact of these actions reverse or normalize.

Our cash flows for each period were as follows:

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Net cash provided by operating activities	\$ 15,433	\$ 29,456	\$ 35,864
Net cash used for investing activities	(10,477)	(24,449)	(21,524)
Net cash provided by (used for) financing activities	1,361	(6,045)	(12,669)
Net increase (decrease) in cash and cash equivalents	\$ 6,317	\$ (1,038)	\$ 1,671

Operating Activities

Cash provided by operating activities is net income adjusted for certain non-cash items and changes in assets and liabilities.

For 2022 compared to 2021, the \$14.0 billion decrease in cash provided by operating activities was primarily driven by lower 2022 net income after adjusting for non-cash items, including the gain on the sale of McAfee and the pre-tax gain from the divestiture of our NAND business; partially offset by 2022 cash-favorable working capital changes compared to 2021.

For 2021 compared to 2020, the \$6.4 billion decrease in cash provided by operating activities was primarily driven by a decrease in net working capital contributions and cash paid to settle a prepaid customer supply agreement in Q1 2021, partially offset by a McAfee special dividend received in Q3 2021.

Investing Activities

Investing cash flows consist primarily of capital expenditures; investment purchases, sales, maturities, and disposals; cash used for acquisitions; and proceeds from divestitures. Our capital expenditures were \$24.8 billion in 2022 (\$18.7 billion in 2021 and \$14.3 billion in 2020).

The decrease in cash used for investing activities in 2022 compared to 2021 was primarily due to increased maturities and sales of short-term investments, proceeds from the divestiture of our NAND business, and proceeds from the sale of our remaining share of McAfee, partially offset by an increase in capital expenditures.

The increase in cash used for investing activities in 2021 compared to 2020 was primarily due to an increase in capital expenditures, partially offset by lower 2021 purchases of short-term investments, net of maturities and sales.

Financing Activities

Financing cash flows consist primarily of payment of dividends to stockholders, issuance and repayment of short-term and long-term debt, repurchases of common stock, and proceeds from the sale of shares of common stock through employee equity incentive plans.

Cash provided by financing activities in 2022 compared to cash used for financing activities in 2021 primarily due to higher commercial paper and debt issuances, our 2022 curtailment of common stock repurchases, proceeds from the Mobileye IPO, and partner contributions for joint investments; partially offset by higher 2022 debt repayments. Our total dividend payments were \$6.0 billion in 2022 compared to \$5.6 billion in 2021. We have paid a cash dividend in each of the past 121 quarters.

The decrease in cash used for financing activities in 2021 compared to 2020 was primarily due to a decrease in repurchases of common stock and a decrease in repayments of debt and debt conversions, partially offset by a decrease in cash provided by long-term debt issuances.

Critical Accounting Estimates

The methods, assumptions, and estimates that we use in applying our accounting policies may require us to apply judgments regarding matters that are inherently uncertain. We consider an accounting policy to be a critical estimate if: (1) we must make assumptions that were uncertain when the judgment was made, and (2) changes in the estimate assumptions, or selection of a different estimate methodology, could have a significant impact on our financial position and the results that we report in our Consolidated Financial Statements. While we believe that our estimates, assumptions, and judgments are reasonable, they are based on information available when the estimate was made.

Refer to "Note 2: Accounting Policies" within the Notes to Consolidated Financial Statements for further information on our critical accounting estimates, which are as follows, as well as our significant accounting policies:

- **Inventories**—the transition of manufacturing costs to inventory, net of factory excess capacity costs. Inventory reflected at the lower of cost or net realizable value considering forecasted future demand and market conditions;
- **Long-lived assets**—the valuation methods and assumptions used in assessing the impairment and evaluation of useful lives of property, plant and equipment, identified intangibles, and impairment of goodwill, including the determination of asset groupings and the identification and allocation of goodwill to reporting units;
- **Non-marketable equity investments**—the valuation estimates and assessment of impairment and observable price adjustments; and
- **Loss contingencies**—the estimation of when a loss is probable and reasonably estimable.

Non-GAAP Financial Measures

In addition to disclosing financial results in accordance with US GAAP, this document contains references to the non-GAAP financial measures below. We believe these non-GAAP financial measures provide investors with useful supplemental information about our operating performance, enable comparison of financial trends and results between periods where certain items may vary independent of business performance, and allow for greater transparency with respect to key metrics used by management in operating our business and measuring our performance. These non-GAAP financial measures are used in our performance-based RSUs and our cash bonus plans.

Starting in the first quarter of 2022, we incrementally exclude from our non-GAAP results share-based compensation and all gains and losses on equity investments. The adjustment for all gains and losses on equity investments includes the ongoing mark-to-market adjustments previously excluded from our non-GAAP results.

Our non-GAAP financial measures reflect adjustments based on one or more of the following items, as well as the related income tax effects where applicable. Income tax effects have been calculated using an appropriate tax rate for each adjustment, as applicable. These non-GAAP financial measures should not be considered a substitute for, or superior to, financial measures calculated in accordance with US GAAP, and the financial results calculated in accordance with US GAAP and reconciliations from these results should be carefully evaluated.

Non-GAAP adjustment or measure	Definition	Usefulness to management and investors
NAND memory business	We completed the first closing of the divestiture of our NAND memory business to SK hynix on December 29, 2021 and fully deconsolidated our ongoing interests in the NAND OpCo Business in the first quarter of 2022.	We exclude the impact of our NAND memory business in certain non-GAAP measures. While the second closing of the sale is still pending and subject to closing conditions, we deconsolidated this business in Q1 2022 and management does not view the historical results of the business as a part of our core operations. We believe these adjustments provide investors with a useful view, through the eyes of management, of our core business model and how management currently evaluates core operational performance. In making these adjustments, we have not made any changes to our methods for measuring and calculating revenue or other financial statement amounts.

Non-GAAP adjustment or measure	Definition	Usefulness to management and investors
Acquisition-related adjustments	<p>Amortization of acquisition-related intangible assets consists of amortization of intangible assets such as developed technology, brands, and customer relationships acquired in connection with business combinations. Charges related to the amortization of these intangibles are recorded within both cost of sales and MG&A in our US GAAP financial statements. Amortization charges are recorded over the estimated useful life of the related acquired intangible asset, and thus are generally recorded over multiple years.</p>	<p>We exclude amortization charges for our acquisition-related intangible assets for purposes of calculating certain non-GAAP measures because these charges are inconsistent in size and are significantly impacted by the timing and valuation of our acquisitions. These adjustments facilitate a useful evaluation of our current operating performance and comparison to our past operating performance and provide investors with additional means to evaluate cost and expense trends.</p>
Share-based compensation	<p>Share-based compensation consists of charges related to our employee equity incentive plans.</p>	<p>We exclude charges related to share-based compensation for purposes of calculating certain non-GAAP measures because we believe these adjustments provide better comparability to peer company results and because these charges are not viewed by management as part of our core operating performance. We believe these adjustments provide investors with a useful view, through the eyes of management, of our core business model, how management currently evaluates core operational performance, and additional means to evaluate expense trends, including in comparison to other peer companies.</p>
Patent settlement	<p>A portion of the charge from our IP settlements represents a catch-up of cumulative amortization that would have been incurred for the right to use the related patents in prior periods. This charge related to prior periods is excluded from our non-GAAP results; amortization related to the right to use the patents in the current and ongoing periods is included.</p>	<p>We exclude the catch-up charge related to prior periods for purposes of calculating certain non-GAAP measures because this adjustment facilitates comparison to past operating results and provides a useful evaluation of our current operating performance.</p>
Optane inventory impairment	<p>Beginning in 2022, we initiated the wind-down of our Intel Optane memory business.</p>	<p>We exclude these impairments for purposes of calculating certain non-GAAP measures because these charges do not reflect our current operating performance. This adjustment facilitates a useful evaluation of our current operating performance and comparisons to past operating results.</p>
Restructuring and other charges	<p>Restructuring charges are costs associated with a formal restructuring plan and are primarily related to employee severance and benefit arrangements. Other charges include a benefit in Q1 2022 related to the annulled EC fine, a charge in Q1 2021 related to the VLSI litigation, periodic goodwill and asset impairments, certain pension charges, and costs associated with restructuring activity.</p>	<p>We exclude restructuring and other charges, including any adjustments to charges recorded in prior periods, for purposes of calculating certain non-GAAP measures because these costs do not reflect our core operating performance. These adjustments facilitate a useful evaluation of our core operating performance and comparisons to past operating results and provide investors with additional means to evaluate expense trends.</p>
(Gains) losses on equity investments, net	<p>(Gains) losses on equity investments, net consists of ongoing mark-to-market adjustments on marketable equity securities, observable price adjustments on non-marketable equity securities, related impairment charges, and the sale of equity investments and other.</p>	<p>We exclude these non-operating gains and losses for purposes of calculating certain non-GAAP measures because it provides better comparability between periods. The exclusion reflects how management evaluates the core operations of the business.</p>
Gains (losses) from divestiture	<p>Gains (losses) are recognized at the close of a divestiture, or over a specified deferral period when deferred consideration is received at the time of closing. Based on our ongoing obligation under the NAND wafer manufacturing and sale agreement entered into in connection with the first closing of the sale of our NAND memory business on December 29, 2021, a portion of the initial closing consideration was deferred and will be recognized between first and second closing.</p>	<p>We exclude gains or losses resulting from divestitures for purposes of calculating certain non-GAAP measures because they do not reflect our current operating performance. These adjustments facilitate a useful evaluation of our current operating performance and comparisons to past operating results.</p>

Non-GAAP adjustment or measure	Definition	Usefulness to management and investors
Tax Reform	Adjustments for Tax Reform reflect the impact of a change in tax law from 2017 Tax Reform related to the capitalization of R&D costs.	We exclude the impacts of this 2022 change in US tax treatment of R&D costs for purposes of calculating certain non-GAAP measures as we believe these adjustments facilitate a better evaluation of our current operating performance and comparison to past operating results.
Adjusted free cash flow	We reference a non-GAAP financial measure of adjusted free cash flow, which is used by management when assessing our sources of liquidity, capital resources, and quality of earnings. Adjusted free cash flow is operating cash flow adjusted for (1) additions to property, plant and equipment, net of proceeds from capital grants and partner contributions, (2) payments on finance leases, and (3) proceeds from the McAfee equity sale.	This non-GAAP financial measure is helpful in understanding our capital requirements and sources of liquidity by providing an additional means to evaluate the cash flow trends of our business. Since the 2017 divestiture, McAfee equity distributions and sales have contributed to operating and free cash flow, and while the McAfee equity sale in Q1 2022 would typically be excluded from adjusted free cash flow as an equity sale, we believe including the sale proceeds in adjusted free cash flow facilitate a better, more consistent comparison to past presentations of liquidity.
Total cash and investments	Total cash and investments is used by management when assessing our sources of liquidity, which include cash and cash equivalents, short-term investments, and loans receivable and other.	This non-GAAP measure is helpful in understanding our capital resources and liquidity position.

Following are the reconciliations of our most comparable US GAAP measures to our non-GAAP measures presented:

Years Ended (In Millions, Except Per Share Amounts)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Net revenue	\$ 63,054	\$ 79,024	\$ 77,867
NAND memory business	—	(4,306)	(4,967)
Non-GAAP net revenue	\$ 63,054	\$ 74,718	\$ 72,900
Gross margin percentage	42.6 %	55.4 %	56.0 %
Acquisition-related adjustments	2.1 %	1.6 %	1.6 %
Share-based compensation	1.0 %	0.4 %	0.4 %
Patent settlement	0.3 %	— %	— %
Optane inventory impairment	1.1 %	— %	— %
NAND memory business	— %	0.6 %	1.8 %
Non-GAAP gross margin percentage	47.3 %	58.1 %	59.8 %
Earnings per share—diluted¹	\$ 1.94	\$ 4.86	\$ 4.94
Acquisition-related adjustments	0.37	0.36	0.33
Share-based compensation	0.76	0.50	0.44
Patent settlement	0.05	—	—
Optane inventory impairment	0.18	—	—
Restructuring and other charges	—	0.64	0.05
(Gains) losses on equity investments, net	(1.04)	(0.67)	(0.45)
(Gains) losses from divestiture	(0.28)	—	—
NAND memory business	—	(0.33)	(0.22)
Tax Reform	(0.20)	—	—
Income tax effects	0.06	(0.06)	(0.03)
Non-GAAP earnings per share—diluted	\$ 1.84	\$ 5.30	\$ 5.06

¹ For the year ended December 31, 2022, the impact of non-controlling interest to our non-GAAP adjustments is insignificant and thus is not included in our reconciliation of non-GAAP measures.

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020	Dec 28, 2019	Dec 29, 2018
Net cash provided by operating activities	\$ 15,433	\$ 29,456	\$ 35,864	\$ 32,618	\$ 29,757
Net additions to property, plant, and equipment	(23,724)	(18,567)	(14,086)	(15,948)	(14,649)
Payments on finance leases	(345)	—	—	—	—
Sale of equity investment	4,561	—	—	—	—
Adjusted free cash flow	\$ (4,075)	\$ 10,889	\$ 21,778	\$ 16,670	\$ 15,108
Net cash used for investing activities	\$ (10,477)	\$ (24,449)	\$ (21,524)	\$ (13,579)	\$ (11,638)
Net cash provided by (used for) financing activities	\$ 1,361	\$ (6,045)	\$ (12,669)	\$ (17,864)	\$ (18,533)

Other Key Information

Sales and Marketing

Customers

We sell our products primarily to OEMs, ODMs, and cloud service providers. ODMs provide design and manufacturing services to branded and unbranded private-label resellers. In addition, our customers include other manufacturers and service providers, such as industrial and communication equipment manufacturers and other cloud service providers who buy our products through distributor, reseller, retail, and OEM channels throughout the world. For more information about our customers, including customers who accounted for greater than 10% of our net consolidated revenue, see "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements.

Our worldwide reseller sales channel consists of thousands of indirect customers—systems builders that purchase Intel processors and other products from our distributors. Certain of our microprocessors and other products are also available in direct retail outlets.

Sales Arrangements

Our products are sold through distribution channels throughout the world. Sales of our products are frequently made via purchase order acknowledgments that contain standard terms and conditions covering matters such as pricing, payment terms, and warranties, as well as indemnities for issues specific to our products, such as patent and copyright indemnities. Because our customers generally order from us on a purchase order basis, they can typically cancel, change, or delay product purchase commitments with little or no notice to us and without penalty. From time to time, we may enter into additional agreements with customers covering, for example, changes from our standard terms and conditions, new product development and marketing, and private-label branding. Our sales are routinely made using electronic and web-based processes that allow customers to review inventory availability and track the progress of specific goods ordered. Pricing on particular products may vary based on volumes ordered and other factors. We also offer discounts, rebates, and other incentives to customers to increase acceptance of our products and technology.

In accordance with contract terms, the revenue for combined performance obligations and standalone product sales is recognized at the time of product shipment from our facilities or delivery to the customer location, as determined by the agreed-upon shipping terms. Our standard terms and conditions of sale typically provide that payment is due at a later date, usually 30 days after shipment or delivery. We assess credit risk through quantitative and qualitative analysis. From this analysis, we establish shipping and credit limits and determine whether we will seek to use one or more credit support protection devices, such as obtaining a parent guarantee, standby letter of credit, or credit insurance. Credit losses may still be incurred due to bankruptcy, fraud, or other failure of the customer to pay.

Our sales to distributors are typically made under agreements allowing for price protection on unsold merchandise and a right of return on stipulated quantities of unsold merchandise. Under the price protection program, we give distributors credits for the difference between the original price paid and the current price that we offer. Our products typically have no contractual limit on the amount of price protection, nor is there a limit on the time horizon under which price protection is granted. The right of return granted generally consists of a stock rotation program in which distributors can exchange certain products based on the number of qualified purchases made by the distributor.

Distribution

Distributors typically handle a wide variety of products, including those that compete with our products, and fill orders for many customers. Customers may place orders directly with us or through distributors. We have several distribution warehouses that are located in proximity to key customers.

Seasonal Trends

Historically, our net revenue has typically been higher in the second half of the year than in the first half of the year, accelerating in the third quarter and peaking in the fourth quarter. In 2021, continued strong COVID-driven notebook demand in the first half of the year contributed to a flatter trend than we historically observe. In 2022, we had a flatter trend than we historically observe as we experienced the uncertainty and impacts, including demand volatility and supply chain disruption, of current macroeconomic conditions, the potential for a recession, and the risk for continued COVID-related disruptions or shutdowns.

Marketing

Our global marketing objectives are to build a strong, well-known, differentiated, and meaningful Intel corporate brand that drives preference with businesses and consumers, and to offer a limited number of meaningful and valuable brands in our portfolio to aid businesses and consumers in making informed choices about technology purchases. The Intel Core processor family and the Intel Atom, Celeron®, Pentium®, Intel® Movidius™, and Intel Xeon trademarks make up our key CPU brands. This year, we introduced the Intel® Max Series product family with two leading-edge products for high-performance computing (AI): the Intel Xeon CPU Max Series (also known as Sapphire Rapids HBM) and Intel Data Center GPU Max Series (also known as Ponte Vecchio).

We promote brand awareness and preference and generate demand through our own direct marketing, as well as through co-marketing programs. Our direct marketing activities primarily include advertising through digital and social media and television, as well as consumer and trade events, industry and consumer communications, and press relations. We market to consumer and business audiences and focus on building awareness and generating demand for our products. Our key messaging focuses on increased performance, improved energy efficiency, and other capabilities such as connectivity.

Certain customers participate in cooperative advertising and marketing programs. These cooperative advertising and marketing programs broaden the reach of our brands beyond the scope of our own direct marketing. Certain customers are licensed to place Intel® logos on computing devices containing our microprocessors and processor technologies, and to use our brands in their marketing activities. The program partially reimburses customers for marketing activities for products featuring Intel brands, subject to customers meeting defined criteria. These marketing activities primarily include advertising through digital and social media and television, as well as press relations. We have also entered into joint marketing arrangements with certain customers.

Quantitative and Qualitative Disclosures About Market Risk

We are affected by changes in currency exchange and interest rates, as well as equity and commodity prices. Our risk management programs are designed to reduce, but may not eliminate, the impacts of these risks. All of the following potential changes are based on sensitivity analyses performed on our financial positions as of December 31, 2022 and December 25, 2021. Actual results may differ materially.

Currency Exchange Rates

We are exposed to currency exchange risks of non-US-dollar-denominated investments in debt and equity instruments and loans receivable, and may economically hedge this risk with foreign currency contracts, such as currency forward contracts or currency interest rate swaps. Gains or losses on these non-US-currency investments are generally offset by corresponding losses or gains on the related hedging instruments.

Substantially all of our revenue is transacted in US dollars. However, a significant portion of our operating expenditures and capital purchases are incurred in other currencies, primarily the Israeli shekel, the Malaysian ringgit, the European Union euro, the Japanese yen, and the Chinese yuan. We have established currency risk management programs to protect against currency exchange rate risks associated with non-US dollar forecasted future cash flows and existing non-US dollar monetary assets and liabilities. We may also hedge currency risk arising from funding of foreign currency-denominated future investments. We may utilize foreign currency contracts, such as currency forwards or option contracts in these hedging programs. We considered the historical trends in currency exchange rates and determined that it was reasonably possible that a weighted average adverse change of 10% in currency exchange rates could be experienced in the near term. Such an adverse change, after taking into account balance sheet hedges only and offsetting recorded monetary asset and liability positions outstanding as of December 31, 2022 and December 25, 2021, would result in an adverse impact on income before taxes of less than \$64 million and less than \$38 million, respectively.

Interest Rates

We are exposed to interest rate risk related to our fixed-rate investment portfolio and outstanding debt. The primary objective of our investment policy is to preserve principal and provide financial flexibility to fund our business while maximizing yields, which generally track the SOFR. We generally enter into interest rate contracts to convert the returns on our fixed-rate debt investment with remaining maturities longer than six months into SOFR-based returns. We also entered into swaps to convert fixed-rate coupon payments into floating-rate coupon payments for a portion of our existing indebtedness. Gains or losses on these instruments are generally offset by corresponding losses or gains on the related hedging instruments.

A hypothetical change in benchmark interest rates of 1%, after taking into account investment hedges, would have resulted in a change in the fair value of our investment portfolio of less than \$100 million as of December 31, 2022 and as of December 25, 2021.

Taking into account floating-rate debt and fixed-rate debt that is swapped to floating-rate debt, a hypothetical increase in interest rates of 1% would result in an increase in annual interest expense of approximately \$120 million from debt outstanding as of December 31, 2022 (a hypothetical increase of 1% would have resulted in an increase in annual interest expense of approximately \$132 million from debt outstanding as of December 25, 2021).

Equity Prices

We are exposed to equity market risk through our investments in marketable equity securities, which we typically do not attempt to reduce or eliminate through hedging activities.

As of December 31, 2022, the fair value of our marketable equity securities was \$1.3 billion (\$2.2 billion as of December 25, 2021). The substantial majority of our marketable equity securities portfolio as of December 31, 2022 was concentrated in securities traded on the Chinese Shanghai Stock Exchange Science and Technology Innovation Board. To determine reasonably possible decreases in the market value of our marketable equity securities, we have analyzed the historical market price sensitivity of our portfolio. Assuming a decline of 50% in market prices, the aggregate value of our marketable equity securities could decrease by approximately \$670 million, based on the value as of December 31, 2022 (a decrease in value of approximately \$1.3 billion, based on the value as of December 25, 2021 using an assumed decline of 60%).

We utilize total return swaps to offset changes in liabilities related to the equity market risks of certain deferred compensation arrangements. Gains or losses from changes in fair value of these total return swaps are generally offset by the losses or gains on the related liabilities.

Many of the same factors that could result in an adverse movement of equity market prices affect our non-marketable equity investments, although we cannot always quantify the impacts directly. Financial markets are volatile, which could negatively affect the prospects of the companies we invest in, their ability to raise additional capital, and the likelihood of our ability to realize value in our investments through liquidity events such as IPOs, mergers, and private sales. These types of investments involve a great deal of risk, and there can be no assurance that any specific company will grow or become successful; consequently, we could lose all or part of our investment. Our non-marketable equity securities had a carrying amount of \$4.6 billion as of December 31, 2022 (\$4.1 billion as of December 25, 2021) and include our investment in Beijing Unisoc Technology Ltd. of \$1.1 billion (\$1.1 billion as of December 25, 2021).

Commodity Price Risk

Although we operate facilities that consume commodities, we are not directly affected by commodity price risk to a material degree. We have established forecasted transaction risk management programs to protect against fluctuations in commodity prices. We may use commodity derivatives contracts, such as commodity swaps, in these hedging programs. In addition, we have sourcing plans in place that are designed to mitigate the risk of a potential supplier concentration for our key commodities.

Risk Factors

The following summarizes the material factors that make an investment in our securities speculative or risky. When any one or more of the following risks materialize from time to time, our business, reputation, financial condition, cash flows, and results of operations can be materially and adversely affected, and the trading price of our common stock could decline. These risk factors do not identify all risks that we face; our operations can also be affected by factors that are not presently known to us or that we currently consider to be immaterial to our operations. Due to risks and uncertainties, known and unknown, our past financial results may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. Refer also to the other information set forth in this Form 10-K, including in the MD&A and Financial Statements and Supplemental Details sections.

Changes in product demand can adversely affect our financial results.

Demand for our products is variable and hard to predict. Our products are used in different market segments, and demand for our products varies within or among them. It is difficult to forecast these changes and their impact. For example, we expect the PC TAM to grow over time driven by factors such as a larger installed base, new platforms, shorter replacement cycles, and adoption in new markets; however, the PC industry has been highly cyclical in the past, and these growth expectations may not materialize, or we may fail to capitalize on them. Changes in the demand for our products, particularly our CCG, DCAI, and NEX platform products, have reduced and can in the future reduce our revenue, lower our gross margin, or require us to write down the value of our assets.

Important factors that lead to variation in the demand for our products include:

- business conditions, including downturns in the market segments in which we operate, or in global or regional economies;
- consumer confidence, income levels, and customer capital spending, which can be impacted by changes in market conditions, including changes in government borrowing or spending, taxation, interest rates, the credit market, current or expected inflation, employment, and energy or other commodity prices;
- geopolitical conditions, including trade policies;
- our ability to timely introduce competitive products;
- competitive and pricing pressures, including new product introductions and other actions taken by competitors;
- the level of our customers' inventories and computing capacity;
- customer order patterns and order cancellations, including as a result of maturing product cycles for our products, customers' products, and related products such as operating system upgrade cycles; and disruptions affecting customers, such as the delays in obtaining tools, components, and other supplies as a result of COVID-19-related port shutdowns in China that negatively impacted demand for our business in 2022, as well as the industry substrate and component shortages that negatively impacted demand across several of our businesses in 2021;
- market acceptance and industry support of our products and services, including the introduction and availability of software and other products used together with our products, as well as our foundry services offerings through IFS; and
- customer product needs and emerging technology trends, including changes in the levels and nature of customer and end-user computing workloads, such as work-, hybrid-, and learn-from-home trends.

Due to the complexity of our manufacturing operations, we are not always able to timely respond to fluctuations in demand and we may incur significant charges and costs. Because we own and operate high-tech fabrication facilities, our operations have high costs that are fixed or difficult to reduce in the short term, including our costs related to utilization of existing facilities, facility construction and equipment, R&D, and the employment and training of a highly skilled workforce. To the extent product demand decreases or we fail to forecast demand accurately, our gross margin and operating income can be disproportionately affected due to our high fixed cost structure, which is difficult to reduce in response to lower revenues. We could also be required to write off inventory or record excess manufacturing capacity charges, which would also lower our gross margin and operating income. To the extent the demand decrease is prolonged, our manufacturing or assembly and test capacity could be underutilized, and we may be required to write down our long-lived assets, which would increase our expenses. We may also be required to shorten the useful lives of under-used facilities and equipment and accelerate depreciation. As we continue to make substantial investments in increasing our manufacturing capacity as part of our IDM 2.0 strategy, these underutilization risks may be heightened. Conversely, at times, demand increases or we fail to forecast accurately or produce the mix of products demanded. To the extent we are unable to add capacity or increase production fast enough, we are at times required to make production decisions and/or are unable to fully meet market demand, which can result in a loss of revenue opportunities or market share, legal claims, and/or damage to customer relationships.

Our IDM 2.0 investments in capacity and our process technology roadmap require capital expenditures above our historical levels, and if demand for our IFS business grows rapidly, we anticipate that we would need to accelerate our planned investments to meet that demand. To the extent we do not generate expected cash flows, we may be required to increase our use of external funding sources to fund our investments and operations, which may not be available on favorable terms or at all. Legislation in the US and EU has been adopted to provide government funding for semiconductor manufacturing expansions in those regions, but there is uncertainty as to the amounts and timing of funding we may receive and as to any restrictions on recipients. To the extent such funding is below our expectations, our anticipated cash requirements would increase. Our construction projects to expand capacity require available sources of labor, materials, and equipment. Increasing demand for such sources, including from other foundries; supply constraints, labor shortages, and other adverse market conditions; issues with permits or approvals; on-site incidents; and other construction issues arise from time to time and can result in significant delays and increased costs for our projects, as well as legal and reputational harm.

We face significant competition. The industry in which we operate is highly competitive and subject to rapid technological, geopolitical and market developments; changes in industry standards; changes in customer and end-user needs, expectations, and preferences; and frequent product introductions and improvements. When we do not anticipate or respond to these developments, our competitive position can weaken, and our products or technologies can become uncompetitive or obsolete. Our competitive environment has intensified, and we expect it to continue to do so in the future.

Our products primarily compete based on performance, energy efficiency, integration, ease-of-use, innovative design, features, workload optimization, price, quality, reliability, security, software ecosystem and developer support, time-to-market, reliable product roadmap execution, brand recognition, customer support and customization, and availability. The importance of these factors varies by product and market segment. For example, our competitors have introduced data center and client platform products with performance improvements and additional processor core counts that have contributed to an increasingly competitive environment. In our IOTG business within NEX, for example, interoperability, connectivity, safety, security, industrial use conditions, and long-life support are among the key competitive factors. To the extent our products do not meet our customers' requirements across these factors in an increasingly competitive landscape, our business and results of operation can be harmed.

We face intense competition across our product portfolio from companies offering platform products, such as AMD and Qualcomm; accelerator products such as GPUs, including those offered by NVIDIA; other accelerator products such as ASICs, application-specific standard products, and FPGAs; memory and storage products; connectivity and networking products; and other semiconductor products. Some of these competitors have developed or utilize competing computing architectures and platforms, such as the ARM architecture, and these architectures and platforms can produce beneficial network effects for competitors when an ecosystem of customers and application developers for such architectures and platforms grows at scale. For example, ARM-based products are being used in PCs and servers, which could lead to further development and growth of the ARM ecosystem. We also compete with internally developed semiconductors from OEMs, cloud service providers, and others, some of whom are customers. Some of these customers vertically integrate their own semiconductor designs with their software assets and/or customize their designs for specific computing workloads. For example, in 2020, Apple introduced PC products utilizing its own internally developed ARM-based semiconductor designs in place of our client CPUs, and we face increasing competition from Apple's products and ecosystem.

Most of our competitors rely on third-party foundries, such as TSMC or Samsung Electronics Co., Ltd., and subcontractors for manufacture and assembly and test of their semiconductor components and products. Manufacturing process improvements introduced by TSMC have contributed, and may continue to contribute, to increasingly competitive offerings by our competitors. While we have set out a process technology roadmap to attain future process performance-per-watt parity and leadership relative to TSMC, our plans are subject to a number of risks and we could fail to realize our goals, including due to changes in competitor technology roadmaps, changes affecting our projections regarding our technology or competing technology, and the risks described in the section "We are vulnerable to product and manufacturing-related risks." As an IDM, we have higher capital expenditures and R&D spending than many of our "fabless" competitors. We also face new sources of competition as a result of changes in industry participants through, for example, acquisitions or business collaborations, as well as new entrants, including in China, which could have a significant impact on our competitive position. For example, we could face increased competition as a result of China's programs to promote a domestic semiconductor industry and supply chains.

Introduction of competitive new products and technologies, aggressive pricing, and other actions taken by competitors can harm demand for our products, exert downward pricing pressure on our products, and adversely affect our business. For example, our DCAI revenue and platform ASPs were negatively impacted by the competitive environment during 2022 and 2021. Additionally, a number of business combinations and strategic partnerships in the semiconductor industry have occurred over the last several years, and more could occur in the future. For example, in 2022, Broadcom announced an agreement to acquire VMware, and AMD completed its acquisition of Xilinx, Inc. Consolidation could also lead to fewer customers, partners, or suppliers, any of which could negatively affect our financial results.

If we are not able to compete effectively, our financial results will be adversely affected, including reduced revenue and gross margin, and we may be required to accelerate the write-down of the value of certain assets.

We invest significantly in R&D, and to the extent our R&D efforts are unsuccessful, our competitive position can be harmed, and we may not realize a return on our investments. To compete successfully, we must maintain an effective R&D program, develop new products and manufacturing processes, and improve our existing products and processes, all ahead of competitors. Our R&D efforts intensely utilize our different forms of capital, and we incurred R&D expenses of \$17.5 billion in 2022, \$15.2 billion in 2021 and \$13.6 billion in 2020. We are focusing our R&D efforts across several key areas, including process and packaging technology, our xPU products and features, and software. These include ambitious initiatives, such as our unified oneAPI portfolio of developer tools. We cannot guarantee that all of these efforts will deliver the benefits we anticipate. For example, we previously experienced significant delays in the implementation of our 10nm process technology, and during 2020, we announced that our Intel 4 process technology (formerly 7nm) would be delayed relative to our prior expectations. To the extent we do not timely introduce new manufacturing process technologies that improve performance, performance per watt, and/or transistor density with sufficient manufacturing yields and operational efficiency, relative to competing foundry processes, we can face cost, product performance, and time-to-market disadvantages. In addition, periods of extended investment in R&D and operational strategy can impact our financial condition and planning and may result in periods of higher leverage, operating costs, borrowing costs, and pressure on our credit ratings. Further, we are not always able to timely or successfully develop new products, including as a result of bugs, late changes to features due to customer requests, or other design challenges. For example, in 2022, we announced that the release of our Sapphire Rapids product would be delayed from the first half of 2022 to the second half of 2022. To the extent our R&D efforts do not develop new products on schedule with improvements in areas like performance, performance per watt, die utilization, and core counts, and/or with new features such as optimizations for AI and other workloads, our competitive position can be harmed. We have adopted a disaggregated design approach for some of our future products, in which different processors and components can be manufactured on different processes and connected by advanced packaging technology into a single package. This approach introduces new areas of complexity in design and manufacturability, particularly in the deployment of advanced packaging technologies, several of which are novel, have a limited manufacturing history, and/or have increased costs. Delays or failures in implementing disaggregated designs could adversely affect our ability to timely introduce competitive products. For example, adapting a processor or component design for a new or different manufacturing process involves additional R&D expense and can result in delays in the development of the associated product and higher costs due to the utilization of more advanced and expensive capital equipment.

We do not expect all of our R&D investments to be successful. Some of our efforts to develop and market new products and technologies fail or fall short of our expectations, or are not well-received by customers, who may adopt competing technologies. We make significant investments in R&D, and our investments are growing as we pursue our IDM 2.0 strategy. Our investments at times do not contribute to our future operating results for several years, if at all, and such contributions at times do not meet our expectations or even cover the costs of such investments.

Our investments in new businesses, products, and technologies are inherently risky and do not always succeed. We have entered new areas and introduced new products and services as we seek to capitalize on the opportunities presented by ubiquitous computing, cloud to edge infrastructure, pervasive connectivity, and AI. In recent years, we have expanded our product offerings in areas such as discrete GPUs, mobility solutions, AI accelerators, IPU products, and silicon photonics. As part of our IDM 2.0 strategy, we announced plans to establish IFS as a major provider of foundry capacity to manufacture semiconductors for others and to implement an internal foundry operating model through updates to our processes, systems, and guardrails between our manufacturing and our individual business units. IFS faces competition from well-established competitors such as TSMC and Samsung, and to succeed, we will need to compete effectively across factors such as availability and time-to-market of manufacturing technology; advances in manufacturing processes in areas such as performance, performance per watt, and density; manufacturing capacity; price; margin; ease of use; quality; yields; customer satisfaction; and ecosystem support. Our "big bets" are inherently risky and are not always successful. For example, in 2022, we wound down Intel Optane; in 2020, we agreed to sell our NAND memory business to SK hynix; and in 2019, we exited the 5G smartphone modem business--three of our prior big bets--based on our determination that there was no clear path to profitability for those businesses.

These new and developing areas and products represent a significant portion of our revenue growth opportunity, and they also introduce new sources of competition, including, in some cases, incumbent competitors with established technologies, ecosystems, and customer bases, lower prices, margins, or costs, and greater brand recognition. These developing products and market segments require significant investment, do not always grow as projected or at all, or sometimes adopt competing technologies, and we may not realize an adequate return on our investments. For example, AI and machine learning are increasingly driving innovations in technology, but if we fail to develop leading products for these workloads, or if our customers use competing technologies, we may not realize a return on our investments in these areas. Similarly, while we see significant opportunity in networking infrastructure and the distribution of computing to the network edge, we expect intense competition for this opportunity and may not succeed in our efforts. To be successful, we need to cultivate relationships with customers and partners in these market segments and continue to improve our offerings. Despite our ongoing efforts, there is no guarantee that we will achieve or maintain market demand or acceptance for our products and services in these various market segments or realize an adequate return on our investments, which could lead to impairment of assets and restructuring charges, as well as opportunity costs.

Changes in the mix of products sold can materially impact our financial results. Our pricing and margins vary across our products and market segments due in part to marketability of our products and differences in their features or manufacturing costs. For example, our platform product offerings range from lower-priced and entry-level platforms, such as those based on Intel Atom processors, to higher-end platforms based on Intel Xeon processors. Our adjacent products also typically have significantly lower margins than our higher-priced platform products, and at times are not profitable. To the extent demand shifts from our higher-priced to lower-priced platform products in any of our market segments, or our adjacent products represent a greater share of our mix of products sold, our gross margin percentage has decreased and may decrease again.

We are vulnerable to product and manufacturing-related risks.

We are subject to risks associated with the development and implementation of new manufacturing technologies. Production of integrated circuits is a complex process. We are continually engaged in the development of next-generation process technologies at increasingly advanced nodes as we seek to realize the benefits of Moore's Law. Forecasting our progress and schedule for developing advanced nodes is challenging, and at times we encounter unexpected delays due to the complexity of interactions among steps in the manufacturing process, challenges in using new materials or new production equipment, and other issues. Diagnosing defects in our manufacturing processes often takes a long time, as manufacturing throughput times can delay our receipt of data about defects and the effectiveness of fixes, and defects can be more serious and difficult to resolve than initially understood.

We are not always successful or efficient in developing or implementing new process nodes and manufacturing processes. We experienced significant delays in implementing our 10nm process technology, and in 2020, we encountered a defect mode in the development of our Intel 4 process technology (formerly 7nm) that resulted in delays relative to our prior expectations. In 2022, Sapphire Rapids was also delayed to build in more platform and product validation time. These delays have allowed competitors using third-party foundries such as TSMC to benefit from advancements in manufacturing processes introduced ahead of us by these competing foundries, including improvements in performance, energy efficiency, and other features, which have helped increase the competitiveness of their products. Because of these prior delays in our process technologies, we may experience greater adverse competitive impacts in the event of delays in the development of future manufacturing process technologies and products.

Our efforts to innovate involve significant expense and carry inherent risks, including difficulties in designing and developing next-generation process and packaging technologies, and investments in manufacturing assets and facilities that are made years in advance of the technology introduction. We cannot guarantee that we will realize the expected benefits of next-generation process technologies, including the expected cost, performance, power, and density advantages, or that we will achieve an adequate return on our capital and R&D investments, particularly as development of new nodes has grown increasingly expensive. In such circumstances, we may be required to write down the value of some of our manufacturing assets and facilities, increasing our expenses.

Risks inherent in the development of next-generation process technologies include production timing delays, lower-than-anticipated manufacturing yields, longer manufacturing throughput times, failure to achieve expected performance, power, and area improvements, and product defects and errata. Production timing delays have at times caused us to miss customer product design windows, which can result in lost revenue opportunities and damage to our customer relationships. Furthermore, when the introduction of next-generation process nodes is delayed, adding cores or other competitive features to our products can result in larger die size products, manufacturing supply constraints, and increased product costs. Lower manufacturing yields and longer manufacturing throughput times, compared to previous process nodes, can increase our product costs and adversely affect our gross margins, and can contribute to manufacturing supply constraints. A new process node typically has higher costs compared to a mature node due to factors that include higher depreciation costs and lower yields, and costs and yields at times do not improve at the same rate as on prior nodes. As the die size of our products has increased and our manufacturing process nodes have shrunk, our products and manufacturing processes have grown increasingly complex and more susceptible to product defects and errata, which at times also contribute to production timing delays and lower yields.

From time to time, disruptions in the production process result from errors; defects in materials; delays in obtaining or revising permits and licenses; interruptions in our supply of materials, resources, or production equipment; adverse changes in equipment productivity; and disruptions at our fabrication and assembly and test facilities due to accidents, maintenance issues, power interruptions, equipment malfunctions, or unsafe working conditions—all of which could affect the timing of production ramps and yields. Production issues periodically lead to increased costs and affect our ability to meet product demand, which can adversely impact our business and the results of operations. In addition, delays in our product introductions can cause us to become less competitive and lose revenue opportunities, and our gross margin could be adversely affected because we incur significant costs up front in a product's lifecycle stage and earn revenue to offset these costs over time.

We face supply chain risks. We have a highly complex global supply chain composed of thousands of suppliers. These suppliers provide direct materials for our production processes; supply tools, equipment, and IP (via licenses) for our factories; deliver logistics and packaging services; and supply software, lab and office equipment, and other goods and services used in our business. We also rely on suppliers to provide certain components for our products and to manufacture and assemble and test some of our components and products. From time to time, we are negatively impacted by supply chain issues, including:

- suppliers extending lead times, experiencing capacity constraints, limiting or canceling supply, allocating supply to other customers including competitors, delaying or canceling deliveries, or increasing prices;
- supplier quality issues;
- cybersecurity events, IP or other litigation, manmade or natural disasters, operational failures, or other events that disrupt suppliers;
- long lead times to qualify alternate or additional suppliers, or the unavailability of qualified alternate suppliers; and

- increased legislation, regulation, or stakeholder expectations regarding responsible sourcing practices, such as heightened reporting and other obligations with regard to environmental impacts, the risk of forced labor, or supplier conduct that does not meet such standards, which can result in supply chain disruptions, the loss of a supplier, and the government seizure of goods, as well as cause our compliance costs to increase or result in publicity that negatively affects our reputation.

These and other supply chain issues can increase our costs, disrupt or reduce our production, delay our product shipments, prevent us from meeting customer demand, and damage our customer relationships. They may keep us from successfully implementing our business strategy and can materially harm our business, competitive position, results of operation, and financial condition. From time to time, our customers experience disruptions or shortages in their own supply chains that constrain their demand for our products. During 2022, macroeconomic and geopolitical conditions, as well as outbreaks of COVID-19 in certain regions of the world, caused supply chain disruptions and delays in obtaining tools and other components, while in 2021, the semiconductor industry experienced widespread shortages of substrates and other components and available foundry manufacturing capacity. These shortages have previously limited our ability to supply customer demand in certain of our businesses, such as for our FPGA products, and have adversely affected customer demand for our products, including in our CCG and DCAI businesses, as some customers have been unable to procure sufficient quantities of third-party components used together with our products to produce finished systems. It is difficult to predict the future impact of these shortages when they occur.

To obtain future supply of certain materials and components, particularly substrates, and third-party foundry manufacturing capacity, we have entered into arrangements with some of our suppliers that involve long-term purchase commitments and/or large prepayments. These arrangements may not be adequate to meet our requirements, or our suppliers may fail to deliver committed volumes on time or at all, or their financial condition may deteriorate. If future customer demand over the horizon of such arrangements falls below our expectations, we could have excess or obsolete inventory, unneeded capacity, and increased costs, and our prepayments may not be fully utilized, and in some cases may not be fully recoverable.

We utilize third-party foundries and component suppliers to manufacture or supply certain components and products for areas such as networking, communications, graphics, programmable semiconductor solutions, and memory. As part of our IDM 2.0 strategy, we expect to increase our use of third-party foundries for manufacturing, which will include modular tiles manufactured on advanced foundry process technologies for use in our core computing offerings. Delays in the development of foundries' future manufacturing processes could delay the introduction of products or components we design for such processes, and insufficient foundry capacity could prevent us from meeting customer demand. We typically have less control over delivery schedules, design and manufacturing co-optimization, manufacturing yields, quality, product quantities, and costs for components and products that are manufactured by third parties.

Where possible, we seek to have several sources of supply. However, for certain components, services, materials, and equipment, we rely on a single or a limited number of suppliers, or upon suppliers in a single location. For example, ASML is currently the sole supplier of EUV photolithography tools that we will be deploying in our Intel 4 and other future manufacturing process nodes. These tools are highly complex to develop and produce, and increasingly costly, and from time to time there are increases in lead times or delays in their development and availability, which could delay the development or ramp of our future process nodes. As a further example, a limited number of third-party foundries offer leading-edge manufacturing processes, and these providers are geographically concentrated in Asia. Supplier consolidation or business failures can also reduce the pool of qualified suppliers. Sole- or limited-source suppliers can impact the nature, quality, availability, and pricing of the products and services available to us and intensify the other risks described in this risk factor.

Our disaggregated design strategy introduces additional production risks. Our disaggregated design strategy poses increased logistical risks and challenges, particularly where we decide to manufacture different product components on different process technologies, including third-party foundries' process technologies. To combine components in a single package, they need to be manufactured on a timely basis and in sufficient quantities, while the manufacturing processes we utilize may have differing yields, throughput times, and capacity constraints. We may be required to safely store some components pending the manufacture of others. Delays or quality issues with one component could limit our ability to manufacture the entire completed product. In addition, the packaging technologies used to combine these components can increase our costs and may introduce additional complexity and quality issues. To the extent we are unable to manage these risks, our ability to timely supply competitive products can be harmed and our costs could increase.

We are subject to the risks of product defects, errata, or other product issues. From time to time, we identify product defects, errata (deviations from published specifications), and other product issues, which can result from problems in our product design or our manufacturing and assembly and test processes. Components and products we purchase or license from third-party suppliers, or gain through acquisitions, can also contain defects. Product issues also sometimes result from the interaction between our products and third-party products and software. We face risks if products that we design, manufacture, or sell, or that include our technology, cause personal injury or property damage, even where the cause is unrelated to product defects or errata. These risks may increase as our products are introduced into new devices, market segments, technologies, or applications, including transportation, autonomous driving, healthcare, communications, financial services, and other industrial, critical infrastructure, and consumer uses.

Costs from defects, errata, or other product issues could include:

- writing off some or all of the value of inventory;
- recalling products that have been shipped;
- providing product replacements or modifications;
- providing consideration to customers, including reimbursement for certain costs they incur;
- defending against litigation and/or paying resulting damages; and

- paying fines imposed by regulatory agencies.

These costs could be large and may increase expenses and lower gross margin, and/or result in delay or loss of revenue. Mitigation techniques designed to address product issues, including software and firmware updates, are not always available on a timely basis—or at all—and do not always operate as intended or effectively resolve such issues for all applications. We and third parties, such as hardware and software vendors, make prioritization decisions about which product issues to address, which can delay, limit, or prevent development or deployment of a mitigation and harm our reputation and result in costs. Product defects, errata, or other product issues and/or mitigation techniques can result in product failures, adverse performance and power effects, reboots, system instability or unavailability, loss of functionality, data loss or corruption, unpredictable system behavior, decisions by customers and end users to limit or change the applications in which they use our products or product features, and other issues. Product issues can damage our reputation, negatively affect product demand, delay product releases or deployment, result in legal liability, or make our products less competitive, which could harm our business and financial results. Subsequent events or new information can develop that changes our assessment of the impact of a product issue. In addition, our liability insurance coverage has certain exclusions or may not adequately cover liabilities incurred. Our insurance providers may be unable or unwilling to pay a claim, and losses not covered by insurance could be large, which could harm our financial condition.

We face risks related to security vulnerabilities in our products. We or third parties regularly identify security vulnerabilities with respect to our processors and other products, as well as the operating systems and workloads that run on them and the components that interact with them. Components and IP we purchase or license from third parties for use in our products, as well as industry-standard specifications we implement in our products, are also regularly subject to security vulnerabilities. Our processors and other products are being used in application areas that create new or increased cybersecurity and privacy risks, including applications that gather and process large amounts of data, such as the cloud or Internet of Things, and critical infrastructure and automotive applications. The security vulnerabilities identified in our processors include a category known as side-channel vulnerabilities, such as the variants referred to as "Spectre" and "Meltdown." Additional categories and variants have been identified and are expected to continue to be identified. Publicity about these and other security vulnerabilities has resulted in, and is expected to continue to result in, increased attempts by third parties to identify additional vulnerabilities. Security and manageability features in our products cannot make our products absolutely secure, and these features themselves are subject to vulnerabilities and attempts by third parties to identify additional vulnerabilities. Vulnerabilities are not always mitigated before they become known. We, our customers, and the users of our products do not always promptly learn of or have the ability to fully assess the magnitude or effects of a vulnerability, including the extent, if any, to which a vulnerability has been exploited. Subsequent events or new information can develop that changes our assessment of the impact of a security vulnerability, including additional information learned as we develop and deploy mitigations or updates, become aware of additional variants, evaluate the competitiveness of existing and new products, and address future warranty or other claims or customer satisfaction considerations, as well as developments in the course of any litigation or regulatory inquiries or actions over these matters.

Mitigation techniques designed to address security vulnerabilities, including software and firmware updates or other preventative measures, are not always available on a timely basis—or at all—and at times do not operate as intended or effectively resolve vulnerabilities for all applications. In addition, we are often required to rely on third parties, including hardware, software, and services vendors, as well as our customers and end users, to develop and/or deploy mitigation techniques, and the availability, effectiveness, and performance impact of mitigation techniques can depend solely or in part on the actions of these third parties in determining whether, when, and how to develop and deploy mitigations. Export restrictions may impede our ability to provide updates or patches to customers in certain geographies or that appear on sanctions lists, potentially leaving systems unpatched and open to exploitation. Further, sanctions lists may include third parties with whom we need to interact for coordinated vulnerability disclosure, which may impair our ability to receive information about vulnerabilities and to deliver mitigations for them. We and such third parties make prioritization decisions about which vulnerabilities to address, which can delay, limit, or prevent development or deployment of a mitigation and harm our reputation. Security vulnerabilities and/or mitigation techniques can result in adverse performance or power effects, reboots, system instability or unavailability, loss of functionality, data loss or corruption, unpredictable system behavior, decisions by customers and end users to limit or change the applications in which they use our products or product features, and/or the misappropriation of data by third parties.

Security vulnerabilities and any limitations or adverse effects of mitigation techniques can adversely affect our results of operations, financial condition, customer relationships, prospects, and reputation in a number of ways, any of which may be material. For example, whether or not vulnerabilities involve attempted or successful exploits, they may result in our incurring significant costs related to developing and deploying updates and mitigations, writing down inventory value, defending against product claims and litigation, responding to regulatory inquiries or actions, paying damages, addressing customer satisfaction considerations, providing product replacements or modifications, or taking other remedial steps with respect to third parties. Adverse publicity about security vulnerabilities or mitigations could damage our reputation with customers or users and reduce demand for our products and services. These effects may be greater to the extent that competing products are not susceptible to the same vulnerabilities or if vulnerabilities can be more effectively mitigated in competing products. Moreover, third parties can release information regarding potential vulnerabilities of our products before mitigations are available, which, in turn, could lead to attempted or successful exploits, adversely affect our ability to introduce mitigations, or otherwise harm our business and reputation.

We are subject to risks associated with environmental, health, and safety and product regulations. The design, manufacturing, assembly and test of our products require the use and purchase of materials and chemicals that are subject to a broad array of environmental, health, and safety laws and regulations. Our operations and those of our suppliers are further governed by regulations prohibiting the use of forced labor (e.g., mining conflict minerals), and restrictions on other materials, as well as laws or regulations governing the operation of our facilities, sale and distribution of our products, and use of our real property. The scope and interpretation of such laws and regulations, including the materials they govern, are complex and continue to evolve. The procedures and processes in place under our compliance program may become onerous or increasingly expensive to maintain and cannot guarantee compliance by employees or third parties to whom such laws apply. The amendment or expansion of these laws or regulations, as well as our failure or inability to comply with them (including as a result of acquired entities) can result in regulatory penalties, fines, and legal liabilities; increased costs; additional remediation obligations; suspension of production; alteration, suspension, or termination of our manufacturing and assembly and test processes, including due to an inability to find, afford, or attain adequate substitute materials, equipment, or processes; damage to our reputation; and restrictions on our operations or sales. In addition, the failure or inability to comply by our suppliers of these materials can require us to suspend or alter our production processes and sources, and result in increased risks and costs.

The failure or inability by us or our customers and suppliers to manage the use, transportation, emissions, discharge, storage, recycling, or disposal of hazardous materials can lead to increased costs or future liabilities. Environmental regulations, such as air quality and wastewater requirements, may impede our ability to expand or modify our manufacturing capability in the future. Environmental laws and regulations sometimes require us to acquire additional pollution abatement or remediation equipment, modify product designs, cease the use of a particular material or process, remove or remediate hazardous substances, or incur other expenses or liabilities. Regulations in response to climate change could result in increased manufacturing costs associated with air pollution requirements. For example, semiconductor manufacturing uses perfluorocarbons, which have historically made up a large portion of our direct greenhouse gas emissions. New or increased regulations limiting the use of such compounds, or other greenhouse gas emissions, could require us to install additional abatement equipment, purchase carbon offsets, and/or alter, where feasible, our production processes and sources. In addition, new or increased climate change regulation could increase our energy costs, for example as a result of carbon pricing impacts on electrical utilities. As we expand our manufacturing capacity as part of our IDM 2.0 strategy, the impacts of future regulation could be magnified. Many new materials that we are evaluating for use in our operations are subject to regulation under environmental laws and regulations. These restrictions could harm our business and results of operations by increasing our expenses or requiring us to alter manufacturing and assembly and test processes.

We have established and report on our initiatives, aspirations, and goals related to corporate responsibility matters, which exposes us to numerous risks. A wide range of stakeholders, including governments, customers, employees, and investors, are increasingly focused on and developing expectations regarding corporate responsibility matters such as sustainability, human capital management, data privacy and cyber security, and human rights. This attention has resulted in a variety of required and voluntary reporting regimes that are not harmonized and continue to change. For example, governments around the world have enacted or are contemplating legislation and regulation that may impact how we conduct and/or report on our business by requiring the disclosure and tracking of certain greenhouse emissions and other climate and biodiversity information, and/or cyber security or human capital matters related to our business. Third-party groups and non-profit organizations, among others, have also established standards for rating, or frameworks for reporting, on corporate responsibility initiatives. In response to the evolving stakeholder expectations and new or proposed standards, customers and investors have formalized and expanded their own corporate responsibility goals and expectations that may influence how they assess, invest in, or utilize other businesses. If we fail to set or achieve corporate responsibility initiatives that meet our stakeholders' expectations, that could negatively impact us. Our corporate responsibility initiatives, including our 2030 RISE strategy and related goals, could also expose us to heightened scrutiny and numerous financial, legal, reputational, operational, compliance and other risks, including lost customer opportunities, that could negatively impact us.

Our achievement of initiatives, aspirations, and goals related to corporate responsibility matters, including those related to sustainability, is not guaranteed and is subject to numerous conditions, risks, and expectations; standards, processes, and methodologies that are early in their advancement and continue to evolve; and science for which development is ongoing. Our RISE strategy and related goals, and expectations about costs to achieve those goals, are based on current iterations of varied process and reporting frameworks, as well as management's current expectations regarding the availability, efficiency, development, and cost of particular technologies, consumer trends, and other assumptions, and changes in those items could negatively impact our ability to achieve those goals, or the cost of achieving them. From time to time, we may change, expand, or reduce the standards to which we report or goals that we seek to meet. Our failure or inability to achieve such goals—or the perception by stakeholders of such failure or inability—may negatively affect our reputation or results of operations. Even if achieved, these matters may not result in some or all of the benefits anticipated at the time they were established.

The COVID-19 pandemic could materially adversely affect our financial condition and results of operations.

The COVID-19 pandemic has previously adversely affected significant portions of our business and could have a material adverse effect on our financial condition and results of operations. Authorities in jurisdictions where we operate, or in which our suppliers, customers, or others operate, have imposed, and businesses and individuals have implemented, varied measures to try to manage or contain the virus or treat its impact, such as travel bans and restrictions, quarantines, shelter-in-place/stay-at-home and social distancing orders, shutdowns, and vaccine requirements. These measures have impacted and may further impact our workforce and operations, the operations and demands of our customers, and those of our respective suppliers and partners. We have experienced, and could in the future experience, reduced workforce availability at some of our sites, construction delays, and reduced capacity at some of our suppliers. We have significant manufacturing operations in the US, Ireland, Israel, China, Malaysia, and Vietnam, and some of these countries

continue to take measures in response to the pandemic. Restrictions on our manufacturing or support operations or workforce, similar limitations for our suppliers, and transportation restrictions or disruptions can limit our ability to meet customer demand and could have a material adverse effect on our financial condition and results of operations. Our customers have experienced, and may in the future experience, disruptions in their operations and supply chains, which can result in delayed, reduced, or cancelled orders, or collection risks, and which may adversely affect our results of operations.

The pandemic has caused us to modify our business practices, including with respect to flexible work and social distancing measures. These and other measures introduce additional operational risks, including cybersecurity risks, and have affected the way we conduct our product development, validation, and qualification; customer support; and other activities, which could have a material adverse effect on our operations. The pandemic has also previously resulted in substantial economic uncertainty and volatility and disrupted historical patterns related to demand for our products and services that may impact our ability to accurately predict future demand, trends, or other matters that may impact our financial performance. The degree to which COVID-19 impacts our results will depend on future developments, and there is no certainty that measures we have taken or will take will be sufficient to mitigate the risks posed by the virus. Additional impacts and risks may arise that we or our customers, suppliers, and other partners are not aware of or able to respond to effectively, and which may adversely affect us. The impact of COVID-19 can also exacerbate other risks discussed in these risk factors and throughout this report.

We operate globally and are subject to significant risks in many jurisdictions.

Global or regional conditions can harm our financial results. We have manufacturing, assembly and test, R&D, sales, and other operations in many countries, and some of our business activities are concentrated in one or more geographic areas. Moreover, sales outside the US accounted for 74% of our revenue for the fiscal year ended December 31, 2022, with revenue from billings to China contributing 27% of our total revenue. As a result, our operations and our financial results, including our ability to execute our business strategy, manufacture, assemble and test, design, develop, or sell products, and the demand for our products, are at times adversely affected by a number of global and regional factors outside of our control.

Adverse changes in global or regional economic conditions periodically occur, including recession or slowing growth; changes or uncertainty in fiscal, monetary, or trade policy; higher interest rates; tighter credit; inflation; lower capital expenditures by businesses, including on IT infrastructure; increases in unemployment; and lower consumer confidence and spending. Adverse changes in economic conditions can significantly harm demand for our products and make it more challenging to forecast our operating results and make business decisions, including regarding prioritization of investments in our business. An economic downturn or increased uncertainty may also lead to increased credit and collectability risks, higher borrowing costs or reduced availability of capital and credit markets, reduced liquidity, adverse impacts on our suppliers, failures of counterparties including financial institutions and insurers, asset impairments, and declines in the value of our financial instruments.

We can be adversely affected by other global and regional factors that periodically occur, including:

- geopolitical and security issues, such as armed conflict and civil or military unrest, political instability, human rights concerns, and terrorist activity, including, for example, geopolitical tensions and conflict affecting Israel, where our Mobileye business headquarters and certain of our fabrication facilities are located;
- natural disasters, public health issues (including pandemics), and other catastrophic events;
- inefficient infrastructure and other disruptions, such as supply chain interruptions, materials shortages or delays, and large-scale outages or unreliable provision of services from utilities, transportation, data hosting, or telecommunications providers;
- formal or informal imposition of new or revised export, import, or doing-business regulations, including trade sanctions, tariffs, and changes in the ability to obtain export licenses, which could be changed without notice;
- government restrictions on, or nationalization of, our operations in any country, or restrictions on our ability to repatriate earnings from or distribute compensation or other funds in a particular country;
- adverse changes relating to government grants, tax credits, or other government incentives, including more favorable incentives provided to competitors;
- differing employment practices and labor issues, including restricted access to talent;
- ineffective legal protection of our IP rights in certain countries;
- local business and cultural factors that differ from our current standards and practices;
- continuing uncertainty regarding social, political, immigration, and tax and trade policies in the US and abroad; and
- fluctuations in the market values of our domestic and international investments, and in the capital and credit markets, which can be negatively affected by liquidity, credit deterioration or losses, interest rate changes, financial results, political risk, sovereign risk, or other factors.

For example, in 2022, in response to Russia's war with Ukraine, numerous countries and organizations have imposed financial and other sanctions and export controls against Russia and Belarus, while businesses, including Intel, have limited or suspended Russian operations. Russia has likewise imposed currency restrictions and regulations and may further take retaliatory trade or other actions, including the nationalization of foreign businesses. These and other actions have exposed the company to the risks described herein and to additional uncertainty and risks regarding increases to supply, commodity, and other costs, damage to our reputation, and cyberattacks; and may increase the likelihood, or amplify the impacts, of other risks, including those highlighted in these risk factors and throughout this report.

We are also subject to risks related to the cessation of US dollar LIBOR. Certain of our derivatives and floating-rate investments reference US dollar LIBOR, and a portion of our indebtedness bears interest at variable interest rates, primarily based on US dollar LIBOR. No new US dollar LIBOR-based activity can be conducted after 2021, and US dollar LIBOR will be unavailable for use in our existing contracts and financial instruments beyond June 30, 2023. While reasonable alternatives to LIBOR have been introduced into markets, our transition from LIBOR to alternative reference rates could result in an increase in our interest expense and/or a reduction in our interest income.

We are subject to risks related to trade policies and regulations. Trade policies and disputes at times result in increased tariffs, trade barriers, and other protectionist measures, which can increase our manufacturing costs, make our products less competitive, reduce demand for our products, limit our ability to sell to certain customers, limit our ability to procure components or raw materials, or impede or slow the movement of our goods across borders. Increasing protectionism and economic nationalism may lead to further changes in trade policies and regulations, domestic sourcing initiatives, or other formal and informal measures that could make it more difficult to sell our products in, or restrict our access to, some markets.

In particular, trade tensions between the US and China have led to increased tariffs and trade restrictions, including tariffs applicable to some of our products, and have affected customer ordering patterns. The US has imposed restrictions on the export of US-regulated products and technology to certain Chinese technology companies, including certain of our customers. These restrictions have reduced our sales and continuing or future restrictions could adversely affect our financial performance, result in reputational harm to us, or lead such companies to develop or adopt technologies that compete with our products. It is difficult to predict what further trade-related actions governments may take, which may include trade restrictions and additional or increased tariffs and export controls imposed on short notice, and we may be unable to quickly and effectively react to or mitigate such actions.

Trade disputes and protectionist measures, or continued uncertainty about such matters, could result in declining consumer confidence and slowing economic growth or recession, and could cause our customers to reduce, cancel, or alter the timing of their purchases with us. Sustained geopolitical tensions could lead to long-term changes in global trade and technology supply chains, and decoupling of global trade networks, which could have a material adverse effect on our business and growth prospects.

Laws and regulations can have a negative impact on our business. We are subject to laws and regulations worldwide that differ among jurisdictions, affecting our operations in areas including, but not limited to: IP ownership and infringement; tax; import and export requirements; anti-corruption; foreign exchange controls and cash repatriation restrictions; data privacy and localization requirements; competition; advertising; employment and labor; product regulations; environment, health, and safety requirements; and consumer laws. Compliance with such requirements can be onerous and expensive and may otherwise impact our business operations negatively. For example, unfavorable developments with evolving laws and regulations worldwide related to 5G or autonomous driving technology and MaaS may limit global adoption, impede our strategy, or negatively impact our long-term expectations for our investments in these areas. Expanding privacy legislation and compliance costs of privacy-related and data-protection measures could adversely affect our customers and their products and services, particularly in cloud, Internet of Things, and AI applications, which could in turn reduce demand for our products used for those workloads.

Our policies, controls, and procedures designed to help provide for compliance with applicable laws cannot provide assurance that our employees, contractors, suppliers, or agents will not violate such laws or our policies. Violations of these laws and regulations can result in fines; criminal sanctions against us, our officers, or our employees; prohibitions on the conduct of our business; and damage to our reputation. The technology industry is subject to intense media, political, and regulatory scrutiny, which can increase our exposure to government investigations, legal actions, and penalties.

We are affected by fluctuations in currency exchange rates. We are exposed to adverse as well as beneficial movements in currency exchange rates. Although most of our sales occur in US dollars, expenses may be paid in local currencies. An increase in the value of the dollar can increase the real cost to our customers of our products in those markets outside the US where we sell in dollars, and a weakened dollar can increase the cost of expenses such as payroll, utilities, tax, and marketing expenses, as well as overseas capital expenditures. We also conduct certain investing and financing activities in local currencies. Our hedging programs may not be effective to offset any, or more than a portion, of the adverse impact of currency exchange rate movements; therefore, changes in exchange rates can harm our results of operations and financial condition.

Changes in our effective tax rate may impact our net income. A number of factors can impact our effective tax rate, which could reduce or increase our net income, including:

- changes in the volume and mix of profits earned and location of assets across jurisdictions with varying tax rates;
- the resolution of issues arising from tax audits, including payment of interest and penalties;
- changes in the valuation of our deferred tax assets and liabilities, and in deferred tax valuation allowances;
- adjustments to income taxes upon finalization of tax returns;
- increases in expenses not deductible for tax purposes, including impairments of goodwill;
- changes in available tax credits;
- changes in our ability to secure new, or renew existing, tax holidays and incentives;
- changes in US federal, state, or foreign tax laws or their interpretation, including changes in the US to the taxation of manufacturing enterprises and of non-US income and expenses, and changes resulting from the adoption by countries of the Organization for Economic Co-operation and Development recommendations or other legislative actions;

- changes in accounting standards; and
- our decision to repatriate non-US earnings for which we have not previously provided for local country withholding taxes incurred upon repatriation.

Catastrophic events can have a material adverse effect on our operations and financial results. Our operations and business, and those of our customers and suppliers, can be disrupted by natural disasters; industrial accidents; public health issues; cybersecurity incidents; interruptions of service from utilities, transportation, telecommunications, or IT systems providers; manufacturing equipment failures; or other catastrophic events. For example, we have at times experienced disruptions in our manufacturing processes as a result of power outages, improperly functioning equipment, and disruptions in supply of raw materials or components, including due to cybersecurity incidents affecting our suppliers. Our headquarters and many of our operations and facilities are in locations that are prone to earthquakes and other natural disasters. Global climate change can result in certain natural disasters occurring more frequently or with greater intensity, such as drought, wildfires, storms, sea-level rise, and flooding, and could disrupt the availability of water necessary for the operation of our fabrication facilities, including our facilities located in water-sensitive regions such as Arizona and Israel. In addition, to the extent we are unable to successfully manage and conserve water resources, our reputation could be harmed. In recent years, the west coast of the US has experienced significant wildfires, including in Oregon, where we have major manufacturing facilities, and in California, where we are headquartered. The long-term effects of climate change on the global economy and the technology industry in particular are unclear but could be severe.

Catastrophic events could make it difficult or impossible to manufacture or deliver products to our customers, receive production materials from our suppliers, or perform critical functions, which could adversely affect our revenue and require significant recovery time and expenditures to resume operations. While we maintain business recovery plans, some of our systems are not fully redundant and we cannot be sure that our plans will fully protect us from such disruptions. Furthermore, even if our operations are unaffected or recover quickly, if our customers or suppliers cannot timely resume their own operations due to a catastrophic event, we may experience reduced or cancelled orders or disruptions to our supply chain that may adversely affect our results of operations.

We maintain a program of insurance coverage for a variety of property, casualty, and other risks. The types and amounts of insurance we obtain vary depending on availability, cost, and decisions with respect to risk retention. Some of our policies have large deductibles and broad exclusions. In addition, one or more of our insurance providers may be unable or unwilling to pay a claim. Losses not covered by insurance may be large, which could harm our results of operations and financial condition.

Damage to our reputation can damage our business. Our reputation is a critical factor in our relationships with customers, employees, governments, suppliers, and other stakeholders. Our failure to address, or the appearance of our failure to address, issues that give rise to reputational risk, including those described throughout these risk factors, could significantly harm our reputation and our brands. Our reputation can be impacted by catastrophic events; incidents involving unethical behavior or misconduct; product quality, security, or safety issues; allegations of legal noncompliance; internal control failures; corporate responsibility and governance issues; data breaches; workplace safety incidents; environmental incidents; our response to climate change, including our greenhouse gas emission levels; the use of our products for illegal or objectionable applications, including AI and machine learning applications that present ethical, regulatory, or other issues; marketing practices; media statements; the conduct of our suppliers or representatives; and other issues, incidents, or statements that, whether actual or perceived, result in adverse publicity. To the extent we fail to respond quickly and effectively to address corporate crises, the ensuing negative public reaction could significantly harm our reputation and our brands and could lead to increases in litigation claims and asserted damages or subject us to regulatory actions or restrictions.

Damage to our reputation could reduce demand for our products and adversely affect our business and operating environment. It could reduce investor confidence in us, adversely affecting our stock price. It may also limit our ability to be seen as an employer of choice when competing for highly skilled employees. Moreover, repairing our reputation and brands may be difficult, time-consuming, and expensive.

We are subject to cybersecurity and privacy risks.

We face risks related to cybersecurity threats and incidents. We regularly face attempts by others to gain unauthorized access through the Internet, or to introduce malicious software, to our IT systems. Individuals or organizations, including malicious hackers, state-sponsored organizations, insider threats including employees and third-party service providers, or intruders into our physical facilities, at times attempt to gain unauthorized access and/or corrupt the processes used to design and manufacture our hardware products and our associated software and services. Due to the widespread use of our products, we are a frequent target of computer hackers and organizations that intend to sabotage, compromise, take control of, or otherwise corrupt our manufacturing or other processes, products, and services. We are also a target of malicious attackers who attempt to gain access to our network or data centers or those of our suppliers, customers, partners, or end users; steal proprietary information related to our business, products, employees, suppliers, and customers; interrupt our systems and services or those of our suppliers, customers, or others; or demand ransom to return control of such systems and services. Such attempts are increasing in number and in technical sophistication, and if successful, expose us and the affected parties to risk of loss or misuse of proprietary or confidential information or disruptions of our business operations, including our manufacturing operations. Our IT infrastructure also includes products and services provided by third parties, and these providers can experience breaches of their systems and products, or provide inadequate updates or support, which can impact the security of our systems and our proprietary or confidential information. In addition, we are a global company with operations and employees around the world. We face risks related to the use or misuse, inadvertent or otherwise, of our IT systems by employees, vendors, and other individuals with access to our systems.

From time to time, we encounter intrusions or unauthorized access to our network, products, services, or infrastructure, as well as those of third parties who provide products and services to us. For example, in the fourth quarter of 2020, our Habana Labs subsidiary's network was breached, resulting in unauthorized third-party access of certain confidential information, in connection with a suspected unsuccessful ransomware attack. The breach was confined to our subsidiary's network and has not had a material impact on Habana Labs' business. We are also subject to risks associated with attacks involving our supply chain, such as the compromise of IT infrastructure management software provided by SolarWinds Corporation, reported in the fourth quarter of 2020. During 2021, we have observed an increase in ransomware attacks in our supply chain. In December 2021, a vulnerability named "Log4Shell" was reported for the widely used Java logging library, Apache Log4j 2. We reviewed the use of this library within our software product portfolio and in our IT environment, but the steps we have taken to mitigate the vulnerability may not be sufficient to mitigate all related risks. To date, cybersecurity incidents have not resulted in a material adverse impact to our business or operations, but there can be no guarantee we will not experience such an impact. Such incidents, whether or not successful, could result in our incurring significant costs related to, for example, rebuilding internal systems, writing down inventory value, implementing additional threat protection measures, providing modifications to our products and services, defending against litigation, responding to regulatory inquiries or actions, paying damages, providing customers with incentives to maintain the business relationship, or taking other remedial steps with respect to third parties, as well as reputational harm. In addition, these threats are constantly evolving, thereby increasing the difficulty of successfully defending against them or implementing adequate preventative measures. As a result of the COVID-19 pandemic, remote work and remote access to our systems has increased significantly, which also increases our cybersecurity attack surface. We have also seen an increase in cyberattack volume, frequency, and sophistication driven by the global enablement of remote workforces. We seek to detect and investigate unauthorized attempts and attacks against our network, products, and services, and to prevent their recurrence where practicable through changes or updates to our internal processes and tools and changes or updates to our products and services; however, we remain potentially vulnerable to additional known or unknown threats. In some instances, we, our suppliers, our customers, and the users of our products and services can be unaware of an incident or its magnitude and effects. There is increasing regulation regarding responses to cybersecurity incidents, including reporting to regulators, which could subject us to additional liability and reputational harm.

Theft, loss, or misuse of personal data about our employees, customers, or other third parties could increase our expenses, damage our reputation, or result in legal or regulatory proceedings. The theft, loss, or misuse of personal data collected, used, stored, or transferred by us to run our business, including data stored with vendors or other third parties, could result in significantly increased business and security costs or costs related to defending legal claims. We anticipate that our collection of such personal data will increase as we enter into the MaaS market in our Mobileye business, and it may increase as we enter into other new or adjacent businesses. Global privacy legislation, enforcement, and policy activity in this area are rapidly expanding and creating a complex regulatory compliance environment. Costs to comply with and implement these privacy-related and data-protection measures could be significant, and noncompliance could expose us to significant monetary penalties, damage to our reputation, suspension of online services or sites in certain countries, and even criminal sanctions. Even our inadvertent failure to comply with federal, state, or international privacy-related or data-protection laws and regulations could result in audits, regulatory inquiries, or proceedings against us by governmental entities or other third parties.

We are subject to IP risks and risks associated with litigation and regulatory proceedings.

We cannot always protect our IP or enforce our IP rights. We regard our patents, copyrights, trade secrets, and other IP rights as important to the success of our business. We rely on IP law—as well as confidentiality and licensing agreements with our customers, employees, technology development partners, and others—to protect our IP and IP rights. Our ability to enforce these rights is subject to general litigation risks, as well as uncertainty as to the enforceability of our IP rights in various countries. We are not always able to obtain protection for our IP or enforce or protect our IP rights. Enforcement is costly and time-consuming and can divert management attention. When we seek to enforce our rights, we may be subject to claims that our IP rights are invalid, not enforceable, or licensed to an opposing party. Our assertion of IP rights may result in another party seeking to assert claims against us, which could harm our business. From time to time, governments adopt regulations—and governments or courts render decisions—requiring compulsory licensing of IP rights, or governments require products to meet standards that favor local companies. Our inability to enforce our IP rights under any of these circumstances can harm our competitive position and business. In some cases, our IP rights can offer inadequate protection for our innovations. In addition, the theft or unauthorized use or publication of our trade secrets and other confidential business information could harm our competitive position and reduce acceptance of our products; as a result, the value of our investment in R&D, product development, and marketing could be reduced. This risk is heightened as competitors for technical talent increasingly seek to hire our employees.

Our licenses with other companies and participation in industry initiatives at times allow competitors to use some of our patent rights. Technology companies often bilaterally license patents between each other to settle disputes or as part of business agreements. Some of our competitors have in the past had, and may in the future have, licenses to some of our patents, and under current case law, some of the licenses can exhaust our patent rights as to licensed product sales under some circumstances. Our participation in industry standards organizations or with other industry initiatives at times requires us to offer to license our patents to companies that adopt industry-standard specifications. Depending on the rules of the organization, government regulations, or court decisions, we sometimes have to grant licenses to some of our patents for little or no cost, and as a result, we may be unable to enforce certain patents against others, and the value of our IP rights may be impaired.

Third parties assert claims based on IP rights against us and our products, which could harm our business. We face claims based on IP rights from individuals, companies, non-practicing entities, academic and research institutions, and other parties, including claims from those who have aggregated patents acquired from multiple sources to form a new, larger portfolio to assert claims against us and other companies. Additionally, large patent portfolio owners sometimes divest portions of their portfolios to more than one individual or company, increasing the number of parties who own IP rights that were previously all held by a single party. We have seen an increase in patent assertions and lawsuits initiated by well-funded non-practicing entities, including entities funded by investment firms and other third parties. In some instances, these entities have filed multi-jurisdiction litigation seeking large monetary damages and/or injunctions against us. These lawsuits can increase our cost of doing business, impact our reputation or relationship with customers, and could disrupt our operations if they succeed in blocking the trade of our products. For example, in the multi-jurisdiction litigation brought against us by VLSI, juries in certain of the US federal court cases returned unfavorable verdicts against us of \$945 million in damages in November 2022 and approximately \$2.2 billion in damages in February 2021, both of which we expect to appeal or have appealed as discussed in "Note 19: Commitments and Contingencies" within the Notes to Consolidated Financial Statements. The patent litigation environment has also become more challenging due to the emergence of venues adopting procedural and substantive rules that make them more favorable for patent asserters, including the availability of injunctive relief for non-practicing entities, and the US Patent and Trademark Office's reduction of inter partes patent review under the America Invents Act. As a result, we believe we are facing a more hostile IP litigation environment.

We are typically engaged in a number of disputes involving IP rights. Claims that our products, technologies, or processes infringe the IP rights of others, regardless of their merits, cause us to incur large costs to respond to, defend, and resolve the claims, and they divert the efforts and attention of our management and technical personnel from our business and operations. In addition, we may face claims based on the alleged theft or unauthorized use or disclosure of third-party trade secrets, confidential information, or end-user data that we obtain in conducting our business. Any such incidents and claims could severely disrupt our business, and we could suffer losses, including the cost of product recalls and returns, and reputational harm. Furthermore, we have agreed to indemnify customers for certain IP rights claims against them. IP rights claims against our customers could also limit demand for our products or disrupt our customers' businesses, which could in turn adversely affect our results of operations.

As a result of IP rights claims, we could:

- pay monetary damages, payments to satisfy indemnification obligations, royalties, fines, or penalties;
- stop manufacturing, using, selling, offering to sell, or importing products or technology subject to claims;
- need to develop other products or technology not subject to claims, which could be time-consuming or costly; and/or
- enter into settlement or license agreements, which may not be available on commercially reasonable terms and may be costly.

These IP rights claims could harm our competitive position, result in expenses, or require us to impair our assets. If we alter or stop production of affected items, our revenue could be harmed.

We rely on access to third-party IP, which may not be available to us on commercially reasonable terms or at all. Many of our products are designed to include third-party technology or implement industry standards, which may require licenses from third parties. In addition, from time to time, third parties notify us that they believe we are using their IP. There is no assurance that necessary licenses to such third-party IP can be obtained on commercially reasonable terms or at all, or that our existing licenses to third-party IP will continue to be available on commercially reasonable terms or at all. Failure to obtain the right to use third-party technology, or to license IP on commercially reasonable terms, could preclude us from selling certain products or otherwise have a material adverse impact on our financial condition and operating results. To the extent our products include software that contains or is derived from open-source software, we may be required to make the software's source code publicly available and/or license the software under open-source licensing terms.

We are subject to risks associated with litigation and regulatory matters. From time to time, we face legal claims or regulatory matters involving stockholder, consumer, competition, commercial, IP, labor and employment, compliance, and other issues on a global basis. As described in "Note 19: Commitments and Contingencies" within the Notes to Consolidated Financial Statements, we are engaged in a number of litigation and regulatory matters. Litigation and regulatory proceedings are inherently uncertain, and adverse rulings, excessive verdicts, or other events could occur, including monetary damages, fines, penalties, or injunctions stopping us from manufacturing or selling certain products, engaging in certain business practices, or requiring other remedies, such as compulsory licensing of patents. An unfavorable outcome can result in a material adverse impact on our business, financial condition, and results of operations. Regardless of the outcome, litigation and regulatory proceedings can be costly, time-consuming, disruptive to our operations, harmful to our reputation, and distracting to management.

We must attract, retain, and motivate key employees.

We believe that hiring and retaining qualified executives, scientists, engineers, technical staff, and sales representatives are critical to our business. The competition for highly skilled employees in our industry is intense. Competitors for technical talent increasingly seek to hire our employees, and the increased availability of flexible, hybrid, or work-from-home arrangements has both intensified and expanded competition. In addition, changes in immigration policies may further limit the pool of available talent and impair our ability to recruit and hire technical and professional talent. From time to time, we have intensified our efforts to recruit and retain talent, such as during 2021 and the first half of 2022, and these efforts have increased our expenses. Further, we may not be successful in attracting, retaining, and motivating the workforce necessary to deliver on our strategy, and we have been required to curtail our planned hiring or reduce our workforce to respond to business conditions that differ from our expectations, which can be disruptive, compromise our ability to deliver on our strategy and workforce goals, and impact our ability to recruit in the future. Changes in employment-related laws applicable to our workforce practices may also result in increased expenses and less flexibility in how we meet our changing workforce needs. To help attract, retain, and motivate qualified employees, we use share-based awards, such as RSUs, and performance-based cash incentive awards. Sustained declines in our stock price, or lower stock price performance relative to competitors have been reducing the retention value of our share-based awards, which can impact the competitiveness of our compensation. Our employee hiring and retention also depend on our ability to build and maintain a diverse and inclusive workplace culture and be viewed as an employer of choice. To the extent our compensation programs and workplace culture are not viewed as competitive, or changes in our workforce and related restructuring, reduction-in-force or other initiatives are not viewed favorably, our ability to attract, retain, and motivate employees can be weakened, which could harm our results of operations. In addition, significant or prolonged turnover may negatively impact our operations and culture, as well as our ability to successfully maintain our processes and procedures, including due to the loss of historical, technical, and other expertise.

Changes in our management team can also disrupt our business. For example, we appointed a new CFO in January 2022 and made several other changes to our senior leadership during the past year. The failure to successfully transition and assimilate key employees could adversely affect our results of operations. To the extent we do not effectively hire, onboard, retain, and motivate key employees, our business can be harmed.

We are subject to risks associated with our strategic transactions.

Our acquisitions, divestitures, and other strategic transactions could fail to achieve our financial or strategic objectives, disrupt our ongoing business, and adversely impact our results of operations. Strategic transactions are an important component of our financial capital allocation strategy. We routinely evaluate opportunities and enter into agreements for possible acquisitions, divestitures, and other strategic transactions, including novel transactions such as our 2022 joint investment with Brookfield in the manufacturing expansion of our Ocotillo campus, and the divestiture of our NAND memory business. These transactions involve numerous risks, including:

- our inability to identify opportunities in a timely manner or on terms acceptable to us;
- failure of the transaction to advance our business strategy and failure of its anticipated benefits to materialize;
- disruption of our ongoing operations and diversion of our management's attention;
- failure of partners to satisfy financial or other obligations on which we rely;
- our inability to exercise sole decision-making authority regarding a project, property, or entity;
- failure to complete a transaction in a timely manner, if at all, due to our inability to obtain required government or other approvals at all or without materially burdensome conditions, mandated acquisitions, divestitures, or disposals, IP disputes or other litigation, difficulty in obtaining financing on terms acceptable to us, or other unforeseen factors;
- our failure to realize a satisfactory return on our investment, potentially resulting in an impairment of goodwill and other assets, and restructuring charges;
- our inability to effectively enter new market segments through our strategic transactions or retain customers and partners of acquired businesses;
- our inability to retain key personnel of acquired or majority-owned businesses or our difficulty in integrating employees, business systems, and technology or otherwise operating the acquired business;
- controls, processes, and procedures of acquired or majority-owned businesses that do not adequately ensure compliance with laws and regulations, and our failure to identify compliance issues or liabilities;
- our inability to resolve impasses or disputes with partners, including as a result of differences in our interests or goals;
- our failure to identify, or our underestimation of, commitments, liabilities, and other risks associated with acquired businesses or assets, majority-owned businesses or novel transactions; and
- the potential for our transactions to result in dilutive issuances of our equity securities or significant additional debt.

Any of these risks could have a material adverse effect on our business, results of operations, financial condition, or cash flows, particularly in the case of a large acquisition, divestiture or partial divestiture or several concurrent strategic transactions. Moreover, our resources are limited and our decision to pursue a transaction has opportunity costs; accordingly, if we pursue a particular transaction, we at times need to forgo the prospect of entering into other transactions or otherwise investing our resources in a manner that could help us achieve our financial or strategic objectives.

Where an existing investment does not strategically align to our key priorities, we routinely evaluate opportunities for possible divestitures and other options. We may not realize the anticipated benefits of divestitures due to risks that include unfavorable prices and terms;

changes in market conditions or geopolitical conditions affecting the regions or industries in which we or counterparties operate; changes in applicable laws; failure to receive regulatory or governmental approvals; limitations or restrictions due to regulatory or governmental approvals, litigation, contractual terms, or other conditions; delays in closing; lack of support by third parties; actions by competitors; adverse effects on our business relationships, operating results, or business due to the announcement and pendency of such transactions; and continued financial obligations, unanticipated liabilities, or transition costs associated with such transactions. In some cases, we are not able to divest investments on acceptable terms or at all.

We invest in public and private companies and do not always realize a return on our investments. We make investments in public and private companies to further our strategic and financial objectives and to support certain key business initiatives. These companies can include early-stage companies still defining their strategic direction. Many of the instruments in which we invest are non-marketable and illiquid at the time of our initial investment, and we are not always able to achieve a return in a timely fashion, if at all. Our ability to realize a return on our investment in a private company, if any, is typically dependent on the company participating in a liquidity event, such as a public offering or acquisition. To the extent any of the companies in which we invest are not successful, which at times includes bankruptcy, we could recognize an impairment and/or lose all or part of our investment.

We face risks related to our debt obligations.

Our debt obligations could adversely affect our business and financial condition, including our ability to implement our strategy. We currently have \$39.3 billion in aggregate principal amount of senior unsecured notes outstanding. In addition, we have a commercial paper program of up to \$10.0 billion and credit facilities to backstop these programs and otherwise provide access to committed capital of up to \$10.0 billion. From time to time, we may incur additional indebtedness, refinance our existing debt, and issue additional notes or other debt securities in the future at a variety of interest rates, maturities, and terms. The semiconductor industry is a cyclical business and our revenue, cash flows, and outlook often fluctuate in accordance with this cycle, as well as prevailing macroeconomic conditions, our business strategy, and other risks described in these risk factors. These fluctuations, together with our debt level and related debt service obligations, could have the effect of, among other things, reducing our flexibility to respond to changing business and economic conditions and increasing the risk of a future downgrade in our credit ratings that can potentially impact the value of our outstanding debt and increase our borrowing costs. We may also be required to raise additional financing for working capital, capital expenditures, debt service obligations, debt refinancing, future acquisitions, or other general corporate purposes, which will depend on, among other factors, our financial position and performance, as well as prevailing market conditions and other factors beyond our control. Consequently, we may not be able to obtain additional financing or refinancing on terms acceptable to us, or at all, which could adversely impact our ability to service to repay, outstanding indebtedness as it becomes due and could adversely impact our business, financial condition, and the cost of borrowing.

We are subject to sales-related risks.

We face risks related to sales through distributors and other third parties. We sell a significant portion of our products through third parties, such as distributors, value-added resellers, and channel partners (collectively referred to as distributors), as well as OEMs and ODMs. We depend on many distributors to help us create end-customer demand, provide technical support and other value-added services to customers, fill customer orders, and stock our products. At times, we rely on one or more key distributors for a product, and a material change in our relationship with one or more of these distributors or their failure to perform as expected could reduce our revenue. Our ability to add or replace distributors for some of our products is limited. In addition, our distributors' expertise in the determination and stocking of acceptable inventory levels for some of our products is not always easily transferable to a new distributor; as a result, end customers may be hesitant to accept the addition or replacement of a distributor. Using third parties for distribution exposes us to many risks, including competitive pressure and concentration, credit, and compliance risks. Distributors and other third parties sell products that compete with our products, and we sometimes need to provide financial and other incentives to focus them on the sale of our products. From time to time, they face financial difficulties, including bankruptcy, which could harm our collection of accounts receivable and financial results. Violations of the Foreign Corrupt Practices Act or similar laws by distributors or other third-party intermediaries could have a material impact on our business. Failure to manage risks related to our use of distributors and other third parties may reduce sales, increase expenses, and weaken our competitive position.

From time to time, our products are resold by third parties in an unauthorized "gray market." Our policies and procedures designed to keep our products away from the gray market may not be successful in achieving this objective. Gray market products can distort demand and pricing dynamics in our distribution channel and certain geographies, which at times adversely affects our revenue opportunities. Gray market activity is difficult to monitor and can make forecasting demand more challenging. Gray market products also sometimes include parts that have been altered or damaged, and our reputation may be harmed when these products fail or are found to be substandard.

We receive a significant portion of our revenue from a limited number of customers. Collectively, our three largest customers accounted for 42% of our net revenue in 2022, 43% of our net revenue in 2021 and 39% of our net revenue in 2020. We expect a small number of customers will continue to account for a significant portion of our revenue in the foreseeable future.

Industry trends, such as the increasing shift of data center workloads to the public cloud, have increased the significance and purchasing power of certain customers, particularly cloud service providers, in some of our data center-focused businesses. The cloud and cloud applications represent a new and increasingly demanding computing environment. The further consolidation of computing workloads in the cloud, and consolidation among cloud service providers, can heighten the competitive importance of factors such as collaboration and customization with cloud service provider customers to optimize products for their environments; optimization for cloud services and applications; product performance; energy efficiency; feature differentiation; product quality, reliability, and factors affecting server uptime; and product security and security features. Our competitive position can be eroded to the extent we do not execute effectively across these factors. We are operating in an increasingly competitive environment, including serving cloud service provider customers, and the competitive environment adversely affected our results in DCAL in 2022.

Some cloud service provider customers have also internally developed, and may continue to develop, their own semiconductors, including designs customized for their specific computing workloads. In addition, cloud services can be marketed to end users based on service levels or features rather than hardware specifications, or they can abstract hardware under layers of software, which can make it more difficult to differentiate our products to customers and end users. The shift of data center workloads to the cloud has also adversely affected, and may continue to affect, sales to enterprise and government market segment customers when end users have elected to migrate workloads. To the extent we differentiate our products through customization to meet cloud customer specifications, order changes, delays, or cancellations may result in non-recoverable costs.

The loss of key customers, a substantial reduction in sales to them, or changes in the timing of their orders can lead to a reduction in our revenue, increase the volatility of our results, and harm our results of operations and financial condition. For more information about our customers, including customers who accounted for greater than 10% of our net consolidated revenue, see "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements.

We face risks related to transactions with government entities. We receive proceeds from domestic and foreign, local, regional, and national governments associated with grants, incentives, and sales of our products and services. Government demand and payment are often affected by public sector budgetary cycles and funding authorizations, including, with respect to US government contracts, congressional approval of appropriations. Government contracts are subject to procurement laws and regulations relating to the award, administration, and performance of those contracts, as well as oversight and penalties for violations. For example, certain agreements with the US government are subject to special rules on accounting, IP rights, expenses, reviews, information handling, security, customers, and/or employees, and failure or inability to comply with these rules could result in civil and criminal penalties and sanctions, including termination of contracts, fines, and suspension or debarment from future business with the US government.

We have fluctuations in our stock price and the amount and frequency of our stock repurchases.

Our stock price can experience periods of significant volatility. For example, in 2022, our stock price ranged from a closing high of \$55.91 to a closing low of \$25.04. Changes in stock price or volume can also occur for the semiconductor industry more broadly, and may occur without regard to underlying company performance. Changes in our stock price can be driven by a variety of factors within or outside of our control, including the risks described above in these risk factors, as well as: fluctuations in national and global markets; fluctuations in our operating results and projections; announcements by us or our competitors; sentiment, speculation, valuation, analyses, or recommendations of stock analysts, social media, and the press; our credit rating; changes in holders of our stock; significant litigation or regulatory actions; and other periodic events.

We are not obligated to make repurchases under our stock repurchase program. The amount, timing, and execution of any share repurchases fluctuate based on factors that include prioritizing cash for other purposes, such as investing in our business, including operational spending, capital spending, and acquisitions, returning cash to our stockholders as dividend payments, and any regulatory restrictions. Our stock repurchase program may be suspended or terminated at any time. Moreover, we cannot guarantee that repurchases will enhance long-term stockholder value. We expect our future stock repurchases to be significantly below our levels from the last few years. For example, in 2022, we did not repurchase any shares under our authorized stock repurchase program.

Properties

As of December 31, 2022, our major facilities consisted of:

(Square Feet in Millions)	United States	Other Countries	Total
Owned facilities	34	25	59
Leased facilities	1	5	6
Total facilities	35	30	65

Our principal executive offices are located in the US. For more information on our wafer fabrication and our assembly and test facilities, see "Manufacturing Capital" within Fundamentals of Our Business.

The facilities described above are suitable for our present purposes, and the productive capacity in our facilities is being utilized or being prepared for utilization as we continue to make investments to expand our manufacturing capacity in support of our IDM 2.0 strategy.

We do not identify or allocate assets by operating segment, as they are interchangeable in nature and used by multiple operating segments. For information on net property, plant and equipment by country, see "Note 6: Other Financial Statement Details" within the Notes to Consolidated Financial Statements.

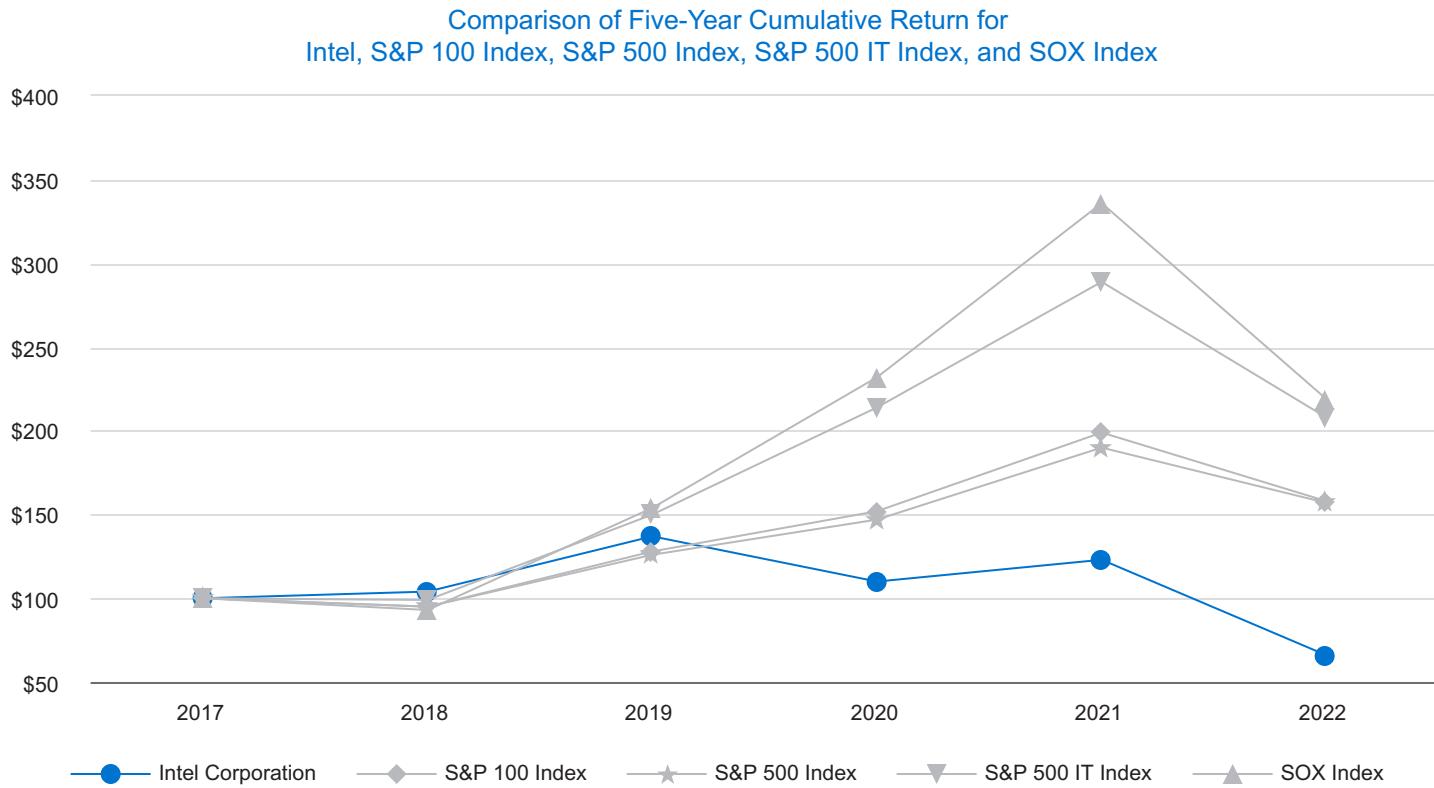
Market for Our Common Stock

The principal US market on which Intel's common stock (symbol INTC) is traded is the Nasdaq Global Select Market.

As of January 20, 2023, there were approximately 100,835 registered holders of record of Intel's common stock. A substantially greater number of holders of Intel common stock are "street name" or beneficial holders, whose shares of record are held by banks, brokers, and other financial institutions.

Stock Performance Graph

The graph and table that follow compare the cumulative TSR of Intel's common stock with the cumulative total return of the S&P 100 Index*, the S&P 500 Index*, the S&P 500 IT Index*, and the SOX Index^{*1} for the five years ended December 31, 2022. The cumulative returns shown on the graph are based on Intel's fiscal year.



Years Ended	Dec 30, 2017	Dec 29, 2018	Dec 28, 2019	Dec 26, 2020	Dec 25, 2021	Dec 31, 2022
Intel Corporation	\$ 100	\$ 104	\$ 137	\$ 110	\$ 123	\$ 66
S&P 100 Index	\$ 100	\$ 95	\$ 128	\$ 152	\$ 199	\$ 158
S&P 500 Index	\$ 100	\$ 95	\$ 126	\$ 147	\$ 190	\$ 157
S&P 500 IT Index	\$ 100	\$ 99	\$ 150	\$ 214	\$ 289	\$ 208
SOX Index	\$ 100	\$ 93	\$ 154	\$ 232	\$ 336	\$ 219

¹ The graph and table assume that \$100 was invested on the last day of trading for the fiscal year ended December 30, 2017 in Intel's common stock, the S&P 100 Index, S&P 500 Index, S&P 500 IT Index, and PHLX Semiconductor Sector Index (SOX), and that all dividends were reinvested.

Issuer Purchases of Equity Securities

We have an ongoing authorization, originally approved by our Board of Directors in 2005 and subsequently amended, to repurchase shares of our common stock in open market or negotiated transactions. No shares were repurchased during the year ending December 31, 2022. As of December 31, 2022, we were authorized to repurchase up to \$110 billion, of which \$7.2 billion remained available.

We issue RSUs as part of our equity incentive plans. In our Consolidated Financial Statements, we treat shares of common stock withheld for tax purposes on behalf of our employees in connection with the vesting of RSUs as common stock repurchases because they reduce the number of shares that would have been issued upon vesting. These withheld shares of common stock are not considered common stock repurchases under our authorized common stock repurchase program.

Information About Our Executive Officers

Name Current Title	Age	Experience
Patrick P. Gelsinger <i>Chief Executive Officer</i>	61	Mr. Gelsinger has been our Chief Executive Officer and a member of our Board of Directors since February 2021. He has also served as a member and Chair of the Board of Directors of Mobileye, a subsidiary of Intel, since September 2022. He joined Intel from VMware, Inc., a provider of cloud computing and virtualization software and services, where he served as Chief Executive Officer from September 2012 to February 2021. Prior to VMware, Mr. Gelsinger served as President and Chief Operating Officer, EMC Information Infrastructure Products at EMC Corp., a data storage, information security, and cloud computing company, from September 2009 to August 2012. Mr. Gelsinger's career began at Intel, where he spent 30 years before joining EMC Corp. During his initial tenure at Intel, Mr. Gelsinger served in a number of roles, including Senior Vice President and Co-General Manager of the Digital Enterprise Group from 2005 to September 2009, Senior Vice President, Chief Technology Officer from 2002 to 2005, and leader of Desktop Products Group prior to that.
Michelle Johnston Holthaus <i>Executive Vice President and General Manager, Client Computing Group</i>	49	Ms. Johnston Holthaus has been our Executive Vice President and General Manager of the Client Computing Group since April 2022. She is responsible for running and growing the client business, including strategy, financial performance, and product development for the full portfolio of client technologies and platforms designed to enable exceptional personal computing experiences across mobile, desktop, and workstation devices. Ms. Johnston Holthaus previously served as Executive Vice President, Chief Sales Officer and General Manager, Sales, Marketing and Communications Group, from September 2019 to January 2022, and as Senior Vice President of Sales and Marketing and Acting Chief Marketing Officer from September 2017 to September 2019. In these roles, she was responsible for global sales and revenue and leading the company's efforts to foster innovative sales and marketing approaches that broaden Intel's business opportunities and enhance customer relationships worldwide. Ms. Johnston Holthaus joined Intel in 1996 and has served in a variety of sales and marketing, channel mobile, and channel desktop positions.
April Miller Boise <i>Executive Vice President and Chief Legal Officer</i>	54	Ms. Miller Boise has been our Executive Vice President and Chief Legal Officer since July 2022 and Corporate Secretary since August 2022. Ms. Miller Boise leads Intel's global legal, trade, and government affairs team, is a member of Intel's Executive Leadership Team, and is a strategic advisor to the Company and the Board of Directors. Prior to joining Intel, she was Executive Vice President and Chief Legal Officer at Eaton Corp. Before joining Eaton in 2020, she was Senior Vice President, Chief Legal Officer, and Corporate Secretary at Meritor Inc. Ms. Miller Boise has more than 25 years of experience and has served in executive leadership roles, including Chief Legal Officer, General Counsel, and Head of Global Mergers and Acquisitions.
Sandra L. Rivera <i>Executive Vice President and General Manager, Data Center and AI Group</i>	58	Ms. Rivera is Executive Vice President and General Manager of the Data Center and AI Group, serving in this role since July 2021. She leads strategy and product development for Intel's data center solutions, including Intel Xeon processor line, Intel Agilex FPGA and Habana Gaudi AI Accelerators. She also leads overall AI strategy and product execution. Before her current role, Ms. Rivera served as our Chief People Officer from June 2019 to July 2021. Prior to that, she oversaw strategy and product development for network infrastructure solutions, serving as General Manager of Intel's Network Platforms Group from January 2015 to June 2019. She also led Intel's 5G strategy and execution. Ms. Rivera joined Intel in 2000 and has served in a variety of engineering, marketing and business development positions. Before joining Intel, she held management positions with Dialogic Corporation and Catalyst Telecom, Inc. and was co-founder and President of The CTI Authority, Inc. Ms. Rivera holds a bachelor's degree in electrical engineering from the Pennsylvania State University. She sits on the Equinix, Inc. board of directors, is a member of U.C. Berkeley's engineering advisory board and a member of the Intel Foundation Board, and she is part of Intel's Latinx Leadership Council.

Christoph Schell <i>Executive Vice President and Chief Commercial Officer, Sales, Marketing and Communications</i>	51	Mr. Schell has been our Executive Vice President and Chief Commercial Officer since March 2022. In his role, he oversees Intel's global sales, business management, marketing, communications, corporate planning, customer support, and customer success teams, leading the company's efforts to foster innovative go-to-market approaches that broaden Intel's business opportunities and deepen customer and partner relationships and outcomes worldwide. Prior to joining Intel, Mr. Schell served as the Chief Commercial Officer of HP Inc., an American multinational information technology company, from November 2019 to March 2022. During his 25 years with HP, Mr. Schell held various senior management roles across the globe, including President of 3D Printing and Digital Manufacturing from November 2018 to October 2019 and President of the Americas region from November 2015 to November 2018. Prior to rejoining HP in 2014, Mr. Schell served as Executive Vice President of Growth Markets for Philips, a lighting solutions company, where he led the lighting business across Asia Pacific, Japan, Africa, Russia, India, Central Asia, and the Middle East. He started his career in his family's distribution and industrial solutions company before working in brand management at Procter & Gamble.
David Zinsner <i>Executive Vice President and Chief Financial Officer</i>	54	Mr. Zinsner has been our Executive Vice President and Chief Financial Officer since January 2022, overseeing our global finance organization. He joined Intel from Micron Technology, Inc., a manufacturer of memory and storage products, where he most recently served as Executive Vice President and Chief Financial Officer. From February 2018 to October 2021, he served as Senior Vice President and Chief Financial Officer of Micron. From April 2017 to February 2018, he served as President and Chief Operating Officer of Affirmed Networks, Inc. From January 2009 to April 2017, he served as Senior Vice President of Finance and Chief Financial Officer of Analog Devices, Inc. From July 2005 to January 2009, Mr. Zinsner served as Senior Vice President and Chief Financial Officer of Intersil Corporation.

Disclosure Pursuant to Section 13(r) of the Securities Exchange Act of 1934

Section 13(r) of the Exchange Act requires an issuer to disclose certain information in its periodic reports if it or any of its affiliates knowingly engaged in certain activities, transactions, or dealings with individuals or entities subject to specific US economic sanctions during the reporting period, even when the activities, transactions, or dealings are conducted in compliance with applicable law. On March 2, 2021, the US Secretary of State designated the Federal Security Service of the Russian Federation (FSB) as a party subject to one such sanction. From time to time, our local subsidiary is required to engage with the FSB as a licensing authority and file documents in order to conduct business within the Russian Federation. All such dealings are explicitly authorized by General License 1B issued by the US Department of the Treasury's Office of Foreign Assets Control (OFAC), and there are no gross revenues or net profits directly associated with any such dealings by us with the FSB. We plan to continue these activities as required to conduct business in the Russian Federation to the extent permitted by applicable law.

On April 15, 2021, the US Department of the Treasury designated Positiv Teknolodzhiz, AO (Positive Technologies), a Russian IT security firm, as a party subject to one of the sanctions specified in Section 13(r). Prior to the designation, we communicated with Positive Technologies regarding its IT security research and coordinated disclosure of security vulnerabilities identified by the firm. Based on a license issued by OFAC, we resumed such communications. There are no gross revenues or net profits directly associated with any such activities. We plan to continue these communications in accordance with the terms and conditions of the OFAC license.

Financial Statements and Supplemental Details

We have defined certain terms and abbreviations used throughout our Form 10-K in "Key Terms" within this section.

	Page
<u>Index to Consolidated Financial Statements</u>	
Reports of Independent Registered Public Accounting Firm (PCAOB ID: 42)	73
Consolidated Statements of Income	76
Consolidated Statements of Comprehensive Income	77
Consolidated Balance Sheets	78
Consolidated Statements of Cash Flows	79
Consolidated Statements of Stockholders' Equity	80
Notes to Consolidated Financial Statements	81
Basis	
Note 1: Basis of Presentation	81
Note 2: Accounting Policies	81
Performance and Operations	
Note 3: Operating Segments	88
Note 4: Non-Controlling Interests	90
Note 5: Earnings Per Share	91
Note 6: Other Financial Statement Details	92
Note 7: Restructuring and Other Charges	93
Note 8: Income Taxes	94
Investments, Long-Term Assets, and Debt	
Note 9: Investments	96
Note 10: Acquisitions and Divestitures	97
Note 11: Goodwill	99
Note 12: Identified Intangible Assets	100
Note 13: Borrowings	100
Note 14: Fair Value	103
Risk Management and Other	
Note 15: Other Comprehensive Income (Loss)	104
Note 16: Derivative Financial Instruments	105
Note 17: Retirement Benefit Plans	107
Note 18: Employee Equity Incentive Plans	110
Note 19: Commitments and Contingencies	112
Key Terms	115
<u>Index to Supplemental Details</u>	
Controls and Procedures	118
Exhibits	119
Form 10-K Cross-Reference Index	124

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Intel Corporation

Opinion on the Financial Statements

We have audited the accompanying Consolidated Balance Sheets of Intel Corporation (the Company) as of December 31, 2022 and December 25, 2021, the related Consolidated Statements of Income, Comprehensive Income, Cash Flows and Stockholders' Equity for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "Consolidated Financial Statements"). In our opinion, the Consolidated Financial Statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and December 25, 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated January 26, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter 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.

Inventory Valuation

Description of the Matter

The Company's net inventory totaled \$13.2 billion as of December 31, 2022, representing 7.3% of total assets. As explained in "Note 2: Accounting Policies" within the Consolidated Financial Statements, the Company computes inventory cost on a first-in, first-out basis, and applies judgment in determining saleability of products and the valuation of inventories. The Company assesses inventory at each reporting date in order to assert that it is recorded at net realizable value, giving consideration to, among other factors: whether the products have achieved the substantive engineering milestones to qualify for sale to customers; the determination of normal capacity levels in its manufacturing process to determine which manufacturing overhead costs can be included in the valuation of inventory; whether the product is valued at the lower of cost or net realizable value; and the estimation of excess and obsolete inventory or that which is not of saleable quality.

Auditing management's assessment of net realizable value for inventory was challenging because the determination of lower of cost or net realizable value and excess and obsolete inventory reserves is judgmental and considers a number of factors that are affected by market and economic conditions, such as customer forecasts, dynamic pricing environments, and industry supply and demand. Additionally, for certain new product launches there is limited historical data with which to evaluate forecasts.

How We Addressed the Matter in Our Audit

We evaluated and tested the design and operating effectiveness of the Company's internal controls over the costing of inventory, the determination of whether inventory is of saleable quality, the calculation of lower of cost or net realizable value reserves including related estimated costs and selling prices, and the determination of demand forecasts and related application against on hand inventory.

Our audit procedures included, among others, testing the significant assumptions (e.g., estimated product costs and selling prices, and product demand forecasts) and the underlying data used in management's inventory valuation assessment. We compared the significant assumptions used by management to current industry and economic trends. We assessed whether there were any potential sources of contrary information, including historical forecast accuracy or history of significant revisions to previously recorded inventory valuation adjustments, and performed sensitivity analyses over significant assumptions to evaluate the changes in inventory valuation that would result from changes in the assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1968.

San Jose, California
January 26, 2023

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Intel Corporation

Opinion on Internal Control Over Financial Reporting

We have audited Intel Corporation's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, Intel Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2022 Consolidated Financial Statements of the Company and our report dated January 26, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ Ernst & Young LLP

San Jose, California
January 26, 2023

Consolidated Statements of Income

Years Ended (In Millions, Except Per Share Amounts)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Net revenue	\$ 63,054	\$ 79,024	\$ 77,867
Cost of sales	36,188	35,209	34,255
Gross margin	26,866	43,815	43,612
Research and development	17,528	15,190	13,556
Marketing, general and administrative	7,002	6,543	6,180
Restructuring and other charges	2	2,626	198
Operating expenses	24,532	24,359	19,934
Operating income	2,334	19,456	23,678
Gains (losses) on equity investments, net	4,268	2,729	1,904
Interest and other, net	1,166	(482)	(504)
Income before taxes	7,768	21,703	25,078
Provision for (benefit from) taxes	(249)	1,835	4,179
Net income	8,017	19,868	20,899
Less: Net income attributable to non-controlling interests	3	—	—
Net income attributable to Intel	\$ 8,014	\$ 19,868	\$ 20,899
Earnings per share attributable to Intel—basic	\$ 1.95	\$ 4.89	\$ 4.98
Earnings per share attributable to Intel—diluted	\$ 1.94	\$ 4.86	\$ 4.94
Weighted average shares of common stock outstanding:			
Basic	4,108	4,059	4,199
Diluted	4,123	4,090	4,232

See accompanying notes.

Consolidated Statements of Comprehensive Income

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
	\$ 8,017	\$ 19,868	\$ 20,899
Net income	\$ 8,017	\$ 19,868	\$ 20,899
Changes in other comprehensive income, net of tax:			
Net unrealized holding gains (losses) on derivatives	(510)	(520)	677
Actuarial valuation and other pension benefits (expenses), net	855	451	(183)
Translation adjustments and other	(27)	(60)	35
Other comprehensive income (loss)	318	(129)	529
Total comprehensive income	8,335	19,739	21,428
Less: Comprehensive income attributable to non-controlling interests	3	—	—
Total comprehensive income attributable to Intel	\$ 8,332	\$ 19,739	\$ 21,428

See accompanying notes.

Consolidated Balance Sheets

(In Millions, Except Par Value)	Dec 31, 2022	Dec 25, 2021
Assets		
Current assets:		
Cash and cash equivalents	\$ 11,144	\$ 4,827
Short-term investments	17,194	24,426
Accounts receivable, net	4,133	9,457
Inventories	13,224	10,776
Assets held for sale	45	6,942
Other current assets	4,667	2,130
Total current assets	\$ 50,407	\$ 58,558
Property, plant and equipment, net	80,860	63,245
Equity investments	5,912	6,298
Goodwill	27,591	26,963
Identified intangible assets, net	6,018	7,270
Other long-term assets	11,315	6,072
Total assets	\$ 182,103	\$ 168,406
Liabilities and stockholders' equity		
Current liabilities:		
Short-term debt	\$ 4,367	\$ 4,591
Accounts payable	9,595	5,747
Accrued compensation and benefits	4,084	4,535
Income taxes payable	2,251	1,076
Other accrued liabilities	11,858	11,513
Total current liabilities	\$ 32,155	\$ 27,462
Debt	37,684	33,510
Long-term income taxes payable	3,796	4,305
Deferred income taxes	202	2,667
Other long-term liabilities	4,980	5,071
Commitments and Contingencies (Note 19)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 50 shares authorized; none issued	—	—
Common stock, \$0.001 par value, 10,000 shares authorized; 4,137 shares issued and outstanding (4,070 issued and outstanding in 2021) and capital in excess of par value	31,580	28,006
Accumulated other comprehensive income (loss)	(562)	(880)
Retained earnings	70,405	68,265
Total Intel stockholders' equity	101,423	95,391
Non-controlling interests	1,863	—
Total stockholders' equity	103,286	95,391
Total liabilities and stockholders' equity	\$ 182,103	\$ 168,406

See accompanying notes.

Consolidated Statements of Cash Flows

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
	\$ 4,827	\$ 5,865	\$ 4,194
Cash and cash equivalents, beginning of period	\$ 4,827	\$ 5,865	\$ 4,194
Cash flows provided by (used for) operating activities:			
Net income	8,017	19,868	20,899
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	11,128	9,953	10,482
Share-based compensation	3,128	2,036	1,854
Restructuring and other charges	1,074	2,626	198
Amortization of intangibles	1,907	1,839	1,757
(Gains) losses on equity investments, net	(4,254)	(1,458)	(1,757)
(Gains) losses on divestitures	(1,059)	—	(30)
Changes in assets and liabilities:			
Accounts receivable	5,327	(2,674)	883
Inventories	(2,436)	(2,339)	(687)
Accounts payable	(29)	1,190	405
Accrued compensation and benefits	(1,533)	515	348
Prepaid customer supply agreements	(24)	(1,583)	(181)
Income taxes	(4,535)	(441)	1,620
Other assets and liabilities	(1,278)	(76)	73
Total adjustments	7,416	9,588	14,965
Net cash provided by operating activities	15,433	29,456	35,864
Cash flows provided by (used for) investing activities:			
Additions to property, plant and equipment	(24,844)	(18,733)	(14,259)
Additions to held for sale NAND property, plant and equipment	(206)	(1,596)	(194)
Purchase of short-term investments	(43,647)	(40,554)	(29,239)
Maturities and sales of short-term investments	48,730	35,299	22,158
Purchases of equity investments	(510)	(613)	(720)
Sales of equity investments	4,961	581	910
Proceeds from divestitures	6,579	—	123
Other investing	(1,540)	1,167	(303)
Net cash used for investing activities	(10,477)	(24,449)	(21,524)
Cash flows provided by (used for) financing activities:			
Issuance of commercial paper, net of issuance costs	3,945	—	—
Payments on finance leases	(345)	—	—
Partner contributions	874	—	—
Proceeds from Mobileye IPO	1,032	—	—
Issuance of term debt, net of issuance costs	6,548	4,974	10,247
Repayment of term debt and debt conversions	(4,984)	(2,500)	(4,525)
Proceeds from sales of common stock through employee equity incentive plans	977	1,020	897
Repurchase of common stock	—	(2,415)	(14,229)
Payment of dividends to stockholders	(5,997)	(5,644)	(5,568)
Other financing	(689)	(1,480)	509
Net cash provided by (used for) financing activities	1,361	(6,045)	(12,669)
Net increase (decrease) in cash and cash equivalents	6,317	(1,038)	1,671
Cash and cash equivalents, end of period	\$ 11,144	\$ 4,827	\$ 5,865

Supplemental disclosures:

Acquisition of property, plant and equipment included in accounts payable and accrued liabilities

Cash paid during the year for:

Interest, net of capitalized interest

Income taxes, net of refunds

See accompanying notes.

Consolidated Statements of Stockholders' Equity

(In Millions, Except Per Share Amounts)	Common Stock and Capital in Excess of Par Value		Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Non- Controlling Interests	Total
	Number of Shares	Amount				
Balance as of December 28, 2019	4,290	\$ 25,261	\$ (1,280)	\$ 53,523	—	\$ 77,504
Components of comprehensive income, net of tax:						
Net income	—	—	—	20,899	—	20,899
Other comprehensive income (loss)	—	—	529	—	—	529
Total comprehensive income						21,428
Employee equity incentive plans and other	55	1,018	—	—	—	1,018
Share-based compensation	—	1,854	—	—	—	1,854
Temporary equity reduction	—	155	—	—	—	155
Convertible debt	—	(750)	—	—	—	(750)
Repurchase of common stock	(275)	(1,628)	—	(12,481)	—	(14,109)
Restricted stock unit withholdings	(8)	(354)	—	(140)	—	(494)
Cash dividends declared (\$1.32 per share of common stock)	—	—	—	(5,568)	—	(5,568)
Balance as of December 26, 2020	4,062	25,556	(751)	56,233	—	81,038
Adjustment to opening balance from change in accounting principle				35		35
Opening balance as of December 27, 2020	4,062	25,556	(751)	56,268	—	81,073
Components of comprehensive income, net of tax:						
Net income	—	—	—	19,868	—	19,868
Other comprehensive income (loss)	—	—	(129)	—	—	(129)
Total comprehensive income						19,739
Employee equity incentive plans and other	54	1,022	—	—	—	1,022
Share-based compensation	—	2,036	—	—	—	2,036
Repurchase of common stock	(40)	(249)	—	(2,166)	—	(2,415)
Restricted stock unit withholdings	(6)	(359)	—	(61)	—	(420)
Cash dividends declared (\$1.39 per share of common stock)	—	—	—	(5,644)	—	(5,644)
Balance as of December 25, 2021	4,070	28,006	(880)	68,265	—	95,391
Components of comprehensive income, net of tax:						
Net income	—	—	—	8,014	3	8,017
Other comprehensive income (loss)	—	—	318	—	—	318
Total comprehensive income						8,335
Net proceeds received from IPO and partner contributions	—	75	—	—	1,831	1,906
Employee equity incentive plans and other	79	1,009	—	—	—	1,009
Share-based compensation	—	3,099	—	—	29	3,128
Restricted stock unit withholdings	(12)	(609)	—	123	—	(486)
Cash dividends declared (\$1.46 per share of common stock)	—	—	—	(5,997)	—	(5,997)
Balance as of December 31, 2022	4,137	\$ 31,580	\$ (562)	\$ 70,405	\$ 1,863	\$ 103,286

See accompanying notes.

Notes to Consolidated Financial Statements

Note 1 : Basis of Presentation

We have a 52- or 53-week fiscal year that ends on the last Saturday in December. Fiscal year 2022 was a 53-week fiscal year. Fiscal years 2021 and 2020 were 52-week fiscal years. Fiscal 2023 is a 52-week fiscal year. Our Consolidated Financial Statements include the accounts of Intel and our wholly-owned and majority-owned subsidiaries, which include entities consolidated under the variable interest model. We have eliminated intercompany accounts and transactions. We have reclassified certain prior period amounts to conform to current period presentation.

In the first quarter of 2022, we reclassified the presentation of cash paid and received under our credit support annex agreements with derivative counterparties within our Consolidated Statements of Cash Flows. These reclassifications better reflect the economic intent of the credit support annex agreements, and result in changes to amounts previously reported for *net cash provided by (used for) operating, investing, and financing activities*.

In the first quarter of 2022, we reclassified the presentation of certain marketable debt investments within our Consolidated Balance Sheets, combining all marketable debt investments with original contractual maturities of three months or more into *short-term investments* as they represent the investment of cash available for current operations. These reclassifications simplify our Consolidated Balance Sheets and result in changes to amounts previously reported as *short-term investments, trading assets, and other long-term investments*.

Use of Estimates

The preparation of Consolidated Financial Statements in conformity with US GAAP requires us to make estimates and judgments that affect the amounts reported in our Consolidated Financial Statements and the accompanying notes. The actual results that we experience may differ materially from our estimates.

Note 2 : Accounting Policies

Revenue Recognition

We recognize net product revenue when we satisfy performance obligations as evidenced by the transfer of control of our products or services to customers. Substantially all of our revenue is derived from product sales. Our products often include a software component, such as firmware, that is highly interdependent and interrelated with the product and is substantially accounted for as a combined performance obligation. In accordance with contract terms, the revenue for combined performance obligations and standalone product sales is recognized at the time of product shipment from our facilities or delivery to the customer location, as determined by the agreed-upon shipping terms.

We measure revenue based on the amount of consideration we expect to be entitled to in exchange for products or services. Variable consideration is estimated and reflected as an adjustment to the transaction price. We determine variable consideration, which consists primarily of various sales price concessions, by estimating the most likely amount of consideration we expect to receive from the customer based on historical analysis of customer purchase volumes. Sales rebates earned by customers are offset against their receivable balances. Rebates earned by customers when they do not have outstanding receivable balances are recorded within *other accrued liabilities*.

We make payments to our customers through cooperative advertising programs for marketing activities for some of our products. We generally record the payment as a reduction in revenue in the period that the revenue is earned, unless the payment is for a distinct service, which we record as an expense when the marketing activities occur.

Inventories

We compute inventory cost on a first-in, first-out basis. Our process and product development life cycle corresponds with substantive engineering milestones. These engineering milestones are regularly and consistently applied in assessing the point at which our activities and associated costs change in nature from R&D to cost of sales, and when cost of sales can be capitalized as inventory.

For a product to be manufactured in high volumes and sold to our customers under our standard warranty, it must meet our rigorous technical quality specifications. This milestone is known as PRQ. We have identified PRQ as the point at which the costs incurred to manufacture our products are included in the valuation of inventory. A single PRQ has previously valued inventory up to \$870 million in the quarter the PRQ milestone was achieved. Prior to PRQ, costs that do not meet the criteria for R&D are included in cost of sales in the period incurred.

The valuation of inventory includes determining which fixed production overhead costs can be included in inventory based on the normal capacity of our manufacturing and assembly and test facilities. We apply our historical loadings compared to our total available capacity in a statistical model to determine our normal capacity level. If the factory loadings are below the established normal capacity level, a portion of our fixed production overhead costs would not be included in the cost of inventory; instead, it would be recognized as cost of sales in that period. We refer to these costs as excess capacity charges. Excess capacity charges were \$423 million in 2022 and insignificant in the comparative periods presented. Charges in years prior to those presented have ranged up to \$1.1 billion taken in a particular fiscal year, such as in connection with the 2009 economic recession.

Inventory is valued at the lower of cost or net realizable value, based upon assumptions about future demand and market conditions. Product-specific facts and circumstances reviewed in the inventory valuation process include a review of our customer base, the stage of the product life cycle, variations in market pricing, and an assessment of selling price in relation to product cost. Lower of cost or net realizable value inventory reserves fluctuate as we ramp new process technologies, with costs generally improving over time due to scale and improved yields. Additionally, inventory valuation is impacted by cyclical changes in market conditions and the associated pricing environment.

The valuation of inventory also requires us to estimate obsolete and excess inventory, as well as inventory that is not of saleable quality. We use a demand forecast to develop our short-term manufacturing plans to enable consistency between inventory valuations and build decisions. For certain new products, we have limited historical data when developing these demand forecasts. We compare the estimate of future demand to work in process and finished goods inventory levels to determine the amount, if any, of obsolete or excess inventory. When our demand forecast for specific products is greater than actual demand and we fail to reduce manufacturing output accordingly, we write off amounts considered to be excess inventory.

Long-Lived Assets

Property, Plant and Equipment

We compute depreciation using the straight-line method over the estimated useful life of assets. We also capitalize interest on borrowings related to eligible capital expenditures. Capitalized interest is added to the cost of qualified assets and depreciated together with that asset cost.

At least annually, we evaluate the period over which we expect to recover the economic value of our property, plant and equipment, considering factors such as the process technology cadence between node transitions, changes in machinery and equipment technology, and re-use of machinery and tools across each generation of process technology. As we make manufacturing process conversions and other factory planning decisions, we use assumptions involving the use of management judgments regarding the remaining useful lives of assets, primarily process-specific semiconductor manufacturing tools and building improvements. When we determine that the useful lives of assets are shorter or longer than we had originally estimated, we adjust the rate of depreciation to reflect the assets' revised useful lives. Based on our latest evaluation, effective January 2023, the estimated useful life of certain machinery and equipment in our wafer fabrication facilities will increase from 5 to 8 years. This change in estimate will be applied prospectively beginning in the first quarter of 2023.

Assets are categorized and evaluated for impairment at the lowest level of identifiable cash flows. Factors that we consider in deciding when to perform an impairment review include significant under-performance of a business or product line in relation to expectations, significant negative industry or economic trends, and significant changes or planned changes in our use and fungibility of the assets. If an asset grouping carrying value is not recoverable through the related undiscounted cash flows, the asset grouping is considered to be impaired.

Identified Intangible Assets

We amortize acquisition-related intangible assets that are subject to amortization over their estimated useful lives. Acquisition-related, in-process R&D assets represent the fair value of incomplete R&D projects that had not reached technological feasibility as of the date of acquisition; initially, these are classified as in-process R&D and are not subject to amortization. Once these R&D projects are completed, the asset balances are transferred from in-process R&D to acquisition-related developed technology and are subject to amortization from that point forward. The asset balances relating to projects that are abandoned after acquisition are impaired and expensed to R&D.

We perform periodic reviews of significant finite-lived identified intangible assets to determine whether facts and circumstances indicate that the carrying amount may not be recoverable. These reviews can be affected by various factors, including external factors such as industry and economic trends, and internal factors such as changes in our business strategy and our forecasts for specific product lines. Periodically, we also evaluate the estimated remaining useful lives of purchased intangible assets and whether events or changes in circumstances warrant a revision to the remaining periods of amortization. We may adjust the period over which these assets are amortized to reflect the period in which they contribute to our cash flows.

Goodwill

Our reporting units are the same as our operating segments. We evaluate our reporting units annually or when triggered, such as upon reorganization of our operating segments. We perform an annual impairment assessment of goodwill at the reporting unit level in the fourth quarter of each year, or more frequently if indicators of potential impairment exist. The reporting unit's carrying value used in an impairment assessment represents the assignment of various assets and liabilities, excluding certain corporate assets and liabilities, such as cash, investments, and debt. The impairment assessment may include both qualitative and quantitative factors to assess the likelihood of an impairment.

Qualitative factors used include industry and market considerations, overall financial performance, and other relevant events and factors affecting the reporting unit. We may also perform a quantitative analysis to support the qualitative factors by applying sensitivities to assumptions and inputs used in measuring a reporting unit's fair value.

Our quantitative impairment assessment considers both the income approach and the market approach to estimate a reporting unit's fair value. Significant estimates include market segment growth rates, our assumed market segment share, estimated gross margins, operating expenses, and discount rates based on a reporting unit's weighted average cost of capital. We test the reasonableness of the inputs and outcomes of our discounted cash flow analysis against available market data. These estimates change from year to year based on operating results, market conditions, and other factors and could materially affect the determination of each reporting unit's fair value and potential goodwill impairment for each reporting unit. Our quantitative assessment is sensitive to changes in underlying estimates and assumptions, the most sensitive of which is the discount rate.

Our 2022 annual qualitative assessment indicated that a more detailed quantitative analysis was necessary for one of our reporting units. No impairment was required, even when considering a hypothetical increase in the discount rate of 1%, which would cause a material decrease in the estimated fair value of the reporting unit.

Government Incentives

We enter into government incentive arrangements with domestic and foreign, local, regional, and national governments, which vary in size, duration, and conditions. These arrangements allow us to maintain a market-comparable foothold across various geographies. We receive capital-related and operating grants, the benefits of which generally offset the cost of acquired capital and other expenses and are primarily structured as cash grants and non-income tax incentives. Government grants, including non-income tax incentives, are recognized when there is reasonable assurance that the grant will be received and we will comply with the conditions specified in the grant agreement. We are eligible to receive these grants because we engage in qualifying capital investments, research and development, and other activities as defined by the relevant government entities awarding the grants. Each grant agreement requires that we comply with certain conditions, including achievement of future operational targets and committing to minimum levels of capital investment.

We record capital-related grants as a reduction to *property, plant and equipment, net* within our Consolidated Balance Sheets and recognize a reduction to depreciation and amortization expense over the useful life of the corresponding acquired asset. We record operating grants as a reduction to expense in the same line item on the Consolidated Statements of Income as the expenditure for which the grant is intended to compensate. Capital-related grants reduced gross property, plant and equipment by \$3.3 billion as of December 31, 2022, of which \$373 million was recognized in 2022. Contra-depreciation expense reduced *cost of sales* by \$230 million in 2022. A majority of operating grants are recognized as a reduction to *cost of sales*, benefiting *operating income* by \$104 million in 2022. Capital-related and operating grants receivables totaled \$437 million as of December 31, 2022 and a substantial majority of the capital-related and operating grants receivables were reflected within *other long-term assets* on our Consolidated Balance Sheets.

Fair Value

When determining fair value, we consider the principal or most advantageous market in which we would transact, as well as assumptions that market participants would use when pricing the asset or liability. Our financial assets are measured and recorded at fair value on a recurring basis, except for equity securities measured using the measurement alternative, equity method investments, and grants receivable. We assess fair value hierarchy levels for our issued debt and fixed-income investment portfolio based on the underlying instrument type.

The three levels of inputs that may be used to measure fair value are:

- **Level 1.** Quoted prices in active markets for identical assets or liabilities. We evaluate security-specific market data when determining whether a market is active.
- **Level 2.** Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in less active markets, or model-derived valuations. All significant inputs used in our valuations, such as discounted cash flows, are observable or can be derived principally from or corroborated with observable market data for substantially the full term of the assets or liabilities. We use LIBOR- and SOFR-based yield curves, overnight indexed swap curves, currency spot and forward rates, and credit ratings as significant inputs in our valuations. Level 2 inputs also include non-binding market consensus prices, as well as quoted prices that were adjusted for security-specific restrictions. When we use non-binding market consensus prices, we corroborate them with quoted market prices for similar instruments or compare them to output from internally developed pricing models such as discounted cash flow models.
- **Level 3.** Unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of assets or liabilities. We monitor and review the inputs and results of these valuation models to help confirm that the fair value measurements are reasonable and consistent with market experience in similar asset classes. Level 3 inputs also include non-binding market consensus prices or non-binding broker quotes that we were unable to corroborate with observable market data.

Debt Investments

Debt investments include investments in corporate debt, government debt, and financial institution instruments. Debt investments with original maturities of approximately three months or less from the date of purchase are classified within *cash and cash equivalents*. Debt investments with original maturities at the date of purchase greater than approximately three months are classified as *short-term investments*, as they represent the investment of cash available for current operations.

For certain of our marketable debt investments, we economically hedge market risks at inception with a related derivative instrument, or the marketable debt investment itself is used to economically hedge currency exchange rate risk from remeasurement. These hedged investments are reported at fair value. Gains or losses on these investments arising from changes in fair value due to interest rate and currency market fluctuations and credit market volatility, largely offset by losses or gains on the related derivative instruments and balance sheet remeasurement, are recorded in *interest and other, net*. Our remaining unhedged marketable debt investments are reported at fair value, with unrealized gains or losses, net of tax, recorded in *accumulated other comprehensive income (loss)*. We determine the cost of the investment sold based on an average cost basis at the individual security level and record the interest income and realized gains or losses on the sale of these investments in *interest and other, net*.

Unhedged debt investments are subject to periodic impairment reviews. For investments in an unrealized loss position, we determine whether a credit loss exists by considering information about the collectability of the instrument, current market conditions, and reasonable and supportable forecasts of economic conditions. We recognize an allowance for credit losses, up to the amount of the unrealized loss when appropriate, and write down the amortized cost basis of the investment if it is more likely than not we will be required or we intend to sell the investment before recovery of its amortized cost basis. Allowances for credit losses and write-downs are recognized in *interest and other, net*, and unrealized losses not related to credit losses are recognized in *other comprehensive income (loss)*.

Equity Investments

We regularly invest in equity securities of public and private companies to promote business and strategic objectives. Equity investments are measured and recorded as follows:

- **Marketable equity securities** are equity securities with RDFV that are measured and recorded at fair value on a recurring basis with changes in fair value, whether realized or unrealized, recorded through the income statement.
- **Non-marketable equity securities** are equity securities without RDFV that are measured and recorded using a measurement alternative that measures the securities at cost minus impairment, if any, plus or minus changes resulting from qualifying observable price changes.
- **Equity method investments** are equity securities in investees we do not control but over which we have the ability to exercise significant influence. Equity method investments are measured at cost minus impairment, if any, plus or minus our share of equity method investee income or loss. Our proportionate share of the income or loss from equity method investments is recognized on a one-quarter lag.

Realized and unrealized gains and losses resulting from changes in fair value or the sale of our equity investments are recorded in *gains (losses) on equity investments, net*. The carrying value of our non-marketable equity securities is adjusted for qualifying observable price changes resulting from the issuance of similar or identical securities in an orderly transaction by the same issuer. Determining whether an observed transaction is similar to a security within our portfolio requires judgment based on the rights and preferences of the securities. Recording upward and downward adjustments to the carrying value of our equity securities as a result of observable price changes requires quantitative assessments of the fair value of our securities using various valuation methodologies and involves the use of estimates.

Non-marketable equity securities and equity method investments (collectively referred to as non-marketable equity investments) are also subject to periodic impairment reviews. Our quarterly impairment analysis considers both qualitative and quantitative factors that may have a significant impact on the investee's fair value. Qualitative factors considered include the investee's financial condition and business outlook, industry and sector performance, market for technology, operational and financing cash flow activities, and other relevant events and factors affecting the investee. When indicators of impairment exist, we prepare quantitative assessments of the fair value of our non-marketable equity investments using both the market and income approaches, which require judgment and the use of estimates, including discount rates, investee revenue and costs, and comparable market data of private and public companies, among others.

- **Non-marketable equity securities** are tested for impairment using a qualitative model similar to the model used for goodwill and property, plant and equipment. Upon determining that an impairment may exist, the security's fair value is calculated and compared to its carrying value and an impairment is recognized immediately if the carrying value exceeds the fair value.
- **Equity method investments** are subject to periodic impairment reviews using the other-than-temporary impairment model, which considers the severity and duration of a decline in fair value below cost and our ability and intent to hold the investment for a sufficient period of time to allow for recovery.

Impairments of equity investments are recorded in *gains (losses) on equity investments, net*.

Derivative Financial Instruments

Our primary objective for holding derivative financial instruments is to manage currency exchange rate risk and interest rate risk, and, to a lesser extent, equity market risk, commodity price risk, and credit risk. We enter into master netting arrangements to mitigate credit risk in derivative transactions by permitting net settlement of transactions with the same counterparty. We also enter into collateral security arrangements with certain of our counterparties to exchange cash collateral when the net fair value of certain derivative instruments fluctuates from contractually established thresholds. For presentation on our Consolidated Balance Sheets, we do not offset fair value amounts recognized for derivative instruments under master netting arrangements. Our derivative financial instruments, including related collateral amounts, are presented at fair value on a gross basis and are included in *other current assets*, *other long-term assets*, *other accrued liabilities*, or *other long-term liabilities*.

Cash flow hedges use foreign currency contracts, such as currency forwards and currency interest rate swaps, to hedge exposures for variability in the US-dollar equivalent of non-US-dollar-denominated cash flows associated with our forecasted operating and capital purchases spending.

The after-tax gains or losses from the effective portion of a cash flow hedge is reported as a component of *accumulated other comprehensive income (loss)* and reclassified into earnings in the same period or periods in which the hedged transaction affects earnings, and in the same line item on the Consolidated Statements of Income as the impact of the hedge transaction. For foreign currency contracts hedging our capital purchases, forward points are excluded from the hedge effectiveness assessment, and are recognized in earnings in the same income statement line item used to present the earnings effect of the hedged item. If the cash flow hedge transactions become improbable, the corresponding amounts deferred in *accumulated other comprehensive income (loss)* would be immediately reclassified to *interest and other, net*. Cash flows associated with these derivatives are classified in the Consolidated Statements of Cash Flows in the same section as the underlying item.

Fair value hedges use interest rate contracts, such as interest rate swaps, to hedge against changes in the fair value on certain of our fixed-rate indebtedness attributable to changes in the benchmark interest rate. The gains or losses on these hedges, as well as the offsetting losses or gains related to the changes in the fair value of the underlying hedged item attributable to the hedged risk, are recognized in earnings in the current period, primarily in *interest and other, net*. Cash flows associated with these derivatives are classified in the Consolidated Statements of Cash Flows in the same section as the underlying item, primarily within *cash flows from financing activities*.

Non-designated hedges use foreign currency contracts to economically hedge the functional currency equivalent cash flows of recognized monetary assets and liabilities, non-US-dollar-denominated debt instruments classified as hedged investments, and non-US-dollar-denominated loans receivable recognized at fair value. We also use interest rate contracts to hedge interest rate risk related to our US-dollar-denominated fixed-rate debt investments classified as hedged investments. The change in fair value of these derivatives is recorded through earnings in the line item on the Consolidated Statements of Income to which the derivatives most closely relate, primarily in *interest and other, net*. Changes in the fair value of the underlying assets and liabilities associated with the hedged risk are generally offset by the changes in the fair value of the related derivatives.

Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist principally of investments in debt instruments, derivative financial instruments, loans receivable, reverse repurchase agreements, and trade receivables. We generally place investments with high-credit-quality counterparties and, by policy, we limit the amount of credit exposure to any one counterparty based on our analysis of that counterparty's relative credit standing. As required per our investment policy, substantially all of our investments in debt instruments are in investment-grade instruments. Credit-rating criteria for derivative instruments are similar to those for other investments.

We enter into master netting arrangements to mitigate credit risk in derivative transactions by permitting net settlement of transactions with the same counterparty. Due to master netting arrangements, the amounts subject to credit risk related to derivative instruments are generally limited to the amounts, if any, by which the counterparty's obligations exceed our obligations with that counterparty. As of December 31, 2022, our total credit exposure to any single counterparty, excluding money market funds invested in US treasury and US agency securities and reverse repurchase agreements collateralized by treasury and agency securities, did not exceed \$2.9 billion. To further reduce credit risk, we enter into collateral security arrangements with certain of our derivative counterparties and obtain and secure collateral from counterparties against obligations, including securities lending transactions when we deem it appropriate. Cash collateral exchanged under our collateral security arrangements is included in *other current assets*, *other long-term assets*, *other accrued liabilities*, or *other long-term liabilities*. For reverse repurchase agreements collateralized by other securities, we do not record the collateral as an asset or a liability unless the collateral is repledged.

A majority of our trade receivables are derived from sales to OEMs and ODMs. We also have accounts receivable derived from sales to industrial and communications equipment manufacturers in the computing and communications industries. We believe the net accounts receivable balances from our three largest customers (53% as of December 31, 2022) do not represent a significant credit risk, based on cash flow forecasts, balance sheet analysis, and past collection experience.

We have adopted credit policies and standards intended to accommodate industry growth and inherent risk. We believe credit risks are moderated by the financial stability of our major customers. We assess credit risk through quantitative and qualitative analysis. From this analysis, we establish shipping and credit limits and determine whether we will seek to use one or more credit support protection devices, such as obtaining a parent guarantee, standby letter of credit, or credit insurance.

Variable Interest Entities

We have economic interests in entities that are VIEs. If we conclude we are the primary beneficiary of the VIE, we are required to consolidate the entity in our financial statements. To determine if we are the primary beneficiary, we evaluate whether we have the power to direct the activities that most significantly impact the VIE's economic performance and the obligation to absorb losses or the right to receive benefits of the VIE that could potentially be significant to the VIE. Our evaluation includes identification of significant activities and an assessment of our ability to direct those activities based on governance provisions and arrangements to provide services to the VIE. Periodically, we assess whether any changes in our interest or relationship with the entity affect our determination of whether the entity is a VIE and, if so, whether we are the primary beneficiary.

Business Combinations

We allocate the purchase price paid for assets acquired and liabilities assumed in connection with our acquisitions based on their estimated fair values at the time of acquisition. This allocation involves a number of assumptions, estimates, and judgments in determining the fair value of the following:

- inventory; property, plant and equipment; pre-existing liabilities or legal claims; and contingent consideration; each as may be applicable;
- intangible assets, including the valuation methodology, estimations of future cash flows, discount rates, market segment growth rates, and our assumed market segment share, as well as the estimated useful life of intangible assets;
- deferred tax assets and liabilities, uncertain tax positions, and tax-related valuation allowances, which are initially estimated as of the acquisition date; and
- goodwill as measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed.

Our assumptions and estimates are based upon comparable market data and information obtained from our management and the management of the acquired companies. We allocate goodwill to the reporting units of the business that are expected to benefit from the business combination.

Employee Equity Incentive Plans

We use the straight-line amortization method to recognize share-based compensation expense over the service period of the award, net of estimated forfeitures. Upon exercise, cancellation, forfeiture, or expiration of stock options, or upon vesting or forfeiture of RSUs, we eliminate deferred tax assets for options and RSUs with multiple vesting dates for each vesting period on a first-in, first-out basis as if each vesting period were a separate award.

For the majority of RSUs granted, the number of shares of common stock issued on the date the RSUs vest is net of the minimum statutory withholding requirements that we pay in cash to the appropriate taxing authorities on behalf of our employees. The obligation to pay the relevant taxing authority is contingent upon continued employment. In addition, the amount of the obligation is unknown, as it is based in part on the market price of our common stock when the awards vest.

Income Taxes

We compute the provision for income taxes using the asset and liability method, under which deferred tax assets and liabilities are recognized for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, and for operating losses and tax credit carryforwards. We measure deferred tax assets and liabilities using the currently enacted tax rates that apply to taxable income in effect for the years in which those tax assets are expected to be realized or settled.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover the deferred tax assets recorded on our Consolidated Balance Sheets. Recovery of a portion of our deferred tax assets is affected by management's plans with respect to holding or disposing of certain investments; therefore, such changes could also affect our future provision for taxes.

We recognize tax benefits from uncertain tax positions only if (based on the technical merits of the position) it is more likely than not that the tax positions will be sustained on examination by the tax authority. The tax benefits recognized in the financial statements from such positions are measured based on the largest amount that is more than 50% likely to be realized upon ultimate settlement. We recognize interest and penalties related to unrecognized tax benefits within the *provision for (benefit from) taxes* on the Consolidated Statements of Income.

We recognize the tax impact of including certain foreign earnings in US taxable income as a period cost. We have recognized deferred income taxes for local country income and withholding taxes that could be incurred on distributions of certain non-US earnings or for outside basis differences in our subsidiaries, because we do not plan to indefinitely reinvest such earnings and basis differences. Remittances of non-US earnings are based on estimates and judgments of projected cash flow needs, as well as the working capital and investment requirements of our non-US and US operations. Material changes in our estimates of cash, working capital, and investment needs in various jurisdictions could require repatriation of indefinitely reinvested non-US earnings, which could be subject to applicable non-US income and withholding taxes.

Leases

Leases consist of real property and machinery and equipment. Our lease terms may include options to extend when it is reasonably certain that we will exercise such options. We have lease agreements with lease and non-lease components, and the non-lease components are accounted for separately and not included in our leased assets and corresponding liabilities. Payments on leases may be fixed or variable, and variable lease payments are based on output of the underlying leased assets.

Loss Contingencies

We are subject to loss contingencies, including various legal and regulatory proceedings, asserted and potential claims, liabilities related to repair or replacement of parts in connection with product defects, as well as product warranties and potential asset impairments that arise in the ordinary course of business and are subject to change, including due to sudden or rapid developments in proceedings or claims. An estimated loss from such contingencies is recognized as a charge to income if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. We evaluate developments that could affect prior disclosures or previously accrued liabilities, and make adjustments as appropriate. Significant judgment is required to determine both likelihood of there being, and the estimated amount of, a loss related to such matters. If one or more of these matters were resolved against us for amounts in excess of management's estimates of losses, our results of operations and financial condition could be materially adversely affected.

Note 3 : Operating Segments

We previously announced several organizational changes that would accelerate the execution and innovation of our company by allowing us to capture growth in both large traditional markets and high-growth emerging markets. This includes reorganization of our business units to capture this growth and to provide increased transparency, focus, and accountability. As a result, we modified our segment reporting in the first quarter of 2022 to align to the previously announced business reorganization. All prior-period segment data has been retrospectively adjusted to reflect the way our CODM internally receives information and manages and monitors our operating segment performance starting in fiscal year 2022.

We manage our business through the following operating segments:

- Client Computing Group
- Data Center and AI
- Network and Edge
- Mobileye
- Accelerated Computing Systems and Graphics
- Intel Foundry Services

We derive a substantial majority of our revenue from our principal products that incorporate various components and technologies, including a microprocessor and chipset, a stand-alone SoC, or a multichip package, which are based on Intel architecture.

CCG, DCAI, NEX and AXG are our reportable operating segments. Mobileye, and IFS do not meet the quantitative thresholds to qualify as reportable operating segments; however, we have elected to disclose the results of these non-reportable operating segments. AXG revenue includes integrated graphics royalties from our CCG and NEX operating segments and are recorded as if the sales or transfers were to third parties at prices that approximate market-based selling prices. When we enter into federal contracts, they are aligned to the sponsoring operating segment.

We have sales and marketing, manufacturing, engineering, finance, and administration groups. Expenses for these groups are generally allocated to the operating segments.

We have an "all other" category that includes revenue, expenses, and charges such as:

- historical results of operations from divested businesses;
- results of operations of start-up businesses that support our initiatives;
- amounts included within restructuring and other charges;
- employee benefits, compensation, impairment charges, and other expenses not allocated to the operating segments (beginning the first quarter of 2022, this includes all of our stock-based compensation); and
- acquisition-related costs, including amortization and any impairment of acquisition-related intangibles and goodwill.

The CODM, who is our CEO, allocates resources to and assesses the performance of each operating segment using information about the operating segment's revenue and operating income (loss). The CODM does not evaluate operating segments using discrete asset information and we do not identify or allocate assets by operating segments. Based on the interchangeable nature of our manufacturing and assembly and test assets, most of the related depreciation expense is not directly identifiable within our operating segments, as it is included in overhead cost pools and subsequently absorbed into inventory as each product passes through our manufacturing process. Because our products are then sold across multiple operating segments, it is impracticable to determine the total depreciation expense included as a component of each operating segment's operating income (loss) results. We do not allocate gains and losses from equity investments, interest and other income, share-based compensation, or taxes to our operating segments. Although the CODM uses operating income (loss) to evaluate the segments, operating costs included in one segment may benefit other segments. The accounting policies for segment reporting are the same as for Intel as a whole.

Net revenue and operating income (loss) for each period were as follows:

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Operating segment revenue:			
Client Computing			
Desktop	\$ 10,661	\$ 12,437	\$ 11,179
Notebook	18,783	25,443	24,897
Other	2,264	3,187	4,459
	31,708	41,067	40,535
Data Center and AI			
	19,196	22,691	23,413
Network and Edge			
	8,873	7,976	7,132
Mobileye			
	1,869	1,386	967
Accelerated Computing Systems and Graphics			
	837	774	651
Intel Foundry Services			
	895	786	715
All other			
	196	5,019	5,091
Total operating segment revenue			
	\$ 63,574	\$ 79,699	\$ 78,504
Operating income (loss):			
Client Computing			
	\$ 6,266	\$ 15,704	\$ 15,800
Data Center and AI			
	2,288	8,439	11,076
Network and Edge			
	740	1,711	846
Mobileye			
	690	554	323
Accelerated Computing Systems and Graphics			
	(1,716)	(1,207)	(403)
Intel Foundry Services			
	(320)	(23)	45
All other			
	(5,614)	(5,722)	(4,009)
Total operating income			
	\$ 2,334	\$ 19,456	\$ 23,678

The following table presents intersegment revenue before eliminations:

Total operating segment revenue	\$ 63,574	\$ 79,699	\$ 78,504
Less: Accelerated Computing Systems and Graphics intersegment revenue	(520)	(675)	(637)
Total net revenue	\$ 63,054	\$ 79,024	\$ 77,867

In 2022, we initiated the wind-down of our Intel Optane memory business, which is part of our DCAI operating segment. While Intel Optane is a leading technology, it was not aligned to our strategic priorities. Separately, we continue to embrace the CXL standard. As a result, we recognized an inventory impairment of \$723 million in cost of sales on the Consolidated Statements of Income in 2022. The impairment charge is recognized as a Corporate charge in the "all other" category presented above. As we wind down the Intel Optane business, we expect to continue to meet existing customer commitments.

In 2022, our three largest customers accounted for 42% of our net revenue (43% in 2021 and 39% in 2020), with Dell Inc. accounting for 19% (21% in 2021 and 17% in 2020), Lenovo Group Limited accounting for 12% (12% in 2021 and 12% in 2020), and HP Inc. accounting for 11% (10% in 2021 and 10% in 2020). Substantially all of the revenue from these customers was from the sale of platforms and other components by the CCG and DCAI operating segments.

Net revenue by region, based on the billing location of the customer, was as follows:

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
China	\$ 17,125	\$ 22,961	\$ 20,257
Singapore	9,664	18,096	17,845
United States	16,529	14,322	16,573
Taiwan	8,287	11,418	11,605
Other regions	11,449	12,227	11,587
Total net revenue	\$ 63,054	\$ 79,024	\$ 77,867

The 2021 net revenue by region presented in the table above has been adjusted from our Form 10-K filed January 27, 2022 to reflect the correct allocation to each region.

Note 4 : Non-Controlling Interests

Semiconductor Co-Investment Program

In the fourth quarter of 2022, we closed a transaction with Brookfield Asset Management (Brookfield) resulting in the formation of Arizona Fab LLC (Arizona Fab), a VIE for which we and Brookfield own 51% and 49%, respectively. Because we are the primary beneficiary of the VIE, we fully consolidate the results of Arizona Fab into our consolidated financial statements. Generally, contributions will be made to, and distributions will be received from, Arizona Fab based on both parties' proportional ownership. We will be the sole operator and majority owner of two new chip factories that will be constructed by Arizona Fab, and we will have the right to purchase 100% of the related factory output. Once production commences, we will be required to operate Arizona Fab at minimum production levels measured in wafer starts per week and will be required to limit excess inventory held on site or we will be subject to certain penalties.

We have an unrecognized commitment to fund our respective share of the total construction costs of \$29.0 billion. Refer to "Note 19: Commitments and Contingencies" within the Notes to Consolidated Financial Statements.

As of December 31, 2022, substantially all of the assets of Arizona Fab consisted of property, plant and equipment. The assets held by Arizona Fab, which can be used only to settle obligations of the VIE and are not available to us, were \$1.8 billion as of December 31, 2022.

Non-controlling interest in Arizona Fab was \$874 million as of December 31, 2022 and there was no net income (loss) attributable to Arizona Fab's non-controlling interest in 2022.

Mobileye

In the fourth quarter of 2022, Mobileye completed its IPO and certain other equity financing transactions that resulted in net proceeds of \$1.0 billion. As of December 31, 2022, Intel held approximately 94% of the outstanding equity interest in Mobileye. Non-controlling interest in Mobileye was \$989 million as of December 31, 2022. Net Income attributable to Mobileye's non-controlling interest was \$3 million in 2022.

Note 5 : Earnings Per Share

Years Ended (In Millions, Except Per Share Amounts)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Net income	\$ 8,017	\$ 19,868	\$ 20,899
Less: Net income attributable to non-controlling interests	3	—	—
Net income attributable to Intel	\$ 8,014	\$ 19,868	\$ 20,899
Weighted average shares of common stock outstanding—basic	4,108	4,059	4,199
Dilutive effect of employee incentive plans	15	31	33
Weighted average shares of common stock outstanding—diluted	4,123	4,090	4,232
Earnings per share attributable to Intel—basic	\$ 1.95	\$ 4.89	\$ 4.98
Earnings per share attributable to Intel—diluted	\$ 1.94	\$ 4.86	\$ 4.94

We computed diluted earnings per share of common stock based on the weighted average number of shares of common stock outstanding plus potentially dilutive shares of common stock outstanding during the period. Potentially dilutive shares of common stock from employee incentive plans are determined by applying the treasury stock method to the assumed exercise of outstanding stock options, the assumed vesting of outstanding RSUs, and the assumed issuance of common stock under the 2006 ESPP.

During 2022, 70 million RSUs and stock options, as calculated on a weighted average basis for the year, were excluded from the computation of diluted earnings per share in the table above because they would have been anti-dilutive. These RSUs and options could potentially be included in the diluted earnings per share calculation in the future if the average market value of the common shares increases above the exercise price. For 2021 and 2020, all other periods presented, securities which would have been anti-dilutive were insignificant and have been excluded from the computation of diluted earnings per share.

Note 6 : Other Financial Statement Details

Accounts Receivable

In 2022, we began selling certain of our accounts receivable on a non-recourse basis to third-party financial institutions. We record these transactions as sales of receivables and present cash proceeds as *cash provided by operating activities* in the Consolidated Statements of Cash Flows. Accounts receivable sold under non-recourse factoring arrangements were \$665 million during 2022 and \$0 during 2021. After the sale of our accounts receivable, we will collect payment from the customer and remit it to the third-party financial institution.

Inventories

(In Millions)	Dec 31, 2022	Dec 25, 2021
Raw materials	\$ 1,517	\$ 1,441
Work in process	7,565	6,656
Finished goods	4,142	2,679
Total inventories	\$ 13,224	\$ 10,776

Property, Plant and Equipment

(In Millions)	Dec 31, 2022	Dec 25, 2021
Land and buildings	\$ 44,808	\$ 40,039
Machinery and equipment	92,711	86,955
Construction in progress	36,727	21,545
Total property, plant and equipment, gross	174,246	148,539
Less: Accumulated depreciation	(93,386)	(85,294)
Total property, plant and equipment, net	\$ 80,860	\$ 63,245

Our depreciable property, plant and equipment assets are depreciated over the following estimated useful lives: machinery and equipment, 3 to 5 years; and buildings, 10 to 25 years.

Net property, plant and equipment by country at the end of each period was as follows:

(In Millions)	Dec 31, 2022	Dec 25, 2021
United States	\$ 53,681	\$ 43,428
Ireland	13,179	7,503
Israel	7,908	7,754
Other countries	6,092	4,560
Total property, plant and equipment, net	\$ 80,860	\$ 63,245

Other Accrued Liabilities

Other accrued liabilities include deferred compensation of \$2.4 billion as of December 31, 2022 (\$2.8 billion as of December 25, 2021) and collateral received for derivatives under credit support annex agreements of \$0.7 billion as of December 31, 2022 (\$1.0 billion as of December 25, 2021).

Advertising

Advertising costs, including direct marketing, are expensed as incurred and recorded within MG&A expenses. Advertising costs were \$1.2 billion in 2022 (\$1.1 billion in 2021 and \$763 million in 2020).

Interest and Other, Net

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Interest income	\$ 589	\$ 144	\$ 272
Interest expense	(496)	(597)	(629)
Other, net	1,073	(29)	(147)
Total interest and other, net	\$ 1,166	\$ (482)	\$ (504)

Interest expense is net of \$785 million of interest capitalized in 2022 (\$398 million in 2021 and \$338 million in 2020).

Other, net includes a \$1.0 billion gain recognized in 2022 from the first closing of the divestiture of our NAND memory business.

Note 7 : Restructuring and Other Charges

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Employee severance and benefit arrangements	\$ 1,038	\$ 48	\$ 124
Litigation charges and other	(1,187)	2,291	67
Asset impairment charges	151	287	7
Total restructuring and other charges	\$ 2	\$ 2,626	\$ 198

The 2022 Restructuring Program was approved to rebalance our workforce and operations to create efficiencies and improve our product execution in alignment with our strategy. Restructuring charges are primarily comprised of employee severance and benefit arrangements and are recorded as corporate charges in the "all other" category presented in "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements. As of December 31, 2022, we have accrued \$873 million as a current liability within *Accrued compensation and benefits* on our Consolidated Balance Sheets; \$165 million in payments or other adjustments were made during the period. We expect these actions to be substantially completed by the end of 2023, but this is subject to change. Any changes to the estimates or timing of executing the 2022 Restructuring Program will be reflected in our future results of operations.

Litigation charges and other includes a \$1.2 billion benefit in 2022 from the annulled penalty related to an EC fine that was recorded and paid in 2009, and a charge of \$2.2 billion in 2021 related to the VLSI litigation. These were recorded as a corporate benefit and charge in the "all other" category presented in "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements. Refer to "Note 19: Commitments and Contingencies" within the Notes to Consolidated Financial Statements for further information on legal proceedings related to the EC fine and the VLSI litigation.

Asset impairment charges includes \$238 million of goodwill and other impairments related to the shutdown in 2021 of two of our non-strategic businesses, the results of which are included in the "all other" category presented in "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements.

Note 8 : Income Taxes

Provision for (Benefit From) Taxes

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Income before taxes:			
US	\$ (1,161)	\$ 9,361	\$ 15,452
Non-US	8,929	12,342	9,626
Total income before taxes	7,768	21,703	25,078
Provision for (benefit from) taxes:			
Current:			
Federal	4,106	1,304	1,120
State	68	75	46
Non-US	735	1,198	1,244
Total current provision for (benefit from) taxes	4,909	2,577	2,410
Deferred:			
Federal	(5,806)	(863)	1,369
State	(40)	(25)	25
Non-US	688	146	375
Total deferred provision for (benefit from) taxes	(5,158)	(742)	1,769
Total provision for (benefit from) taxes	\$ (249)	\$ 1,835	\$ 4,179
Effective tax rate	(3.2)%	8.5 %	16.7 %

The difference between the tax provision at the statutory federal income tax rate and the tax provision as a percentage of income before income taxes (effective tax rate) for each period was as follows:

Years Ended	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Statutory federal income tax rate	21.0 %	21.0 %	21.0 %
Increase (reduction) in rate resulting from:			
Non-US income taxed at different rates	(13.4)	(5.9)	(3.7)
Research and development tax credits	(11.4)	(2.4)	(2.1)
Foreign derived intangible income benefit	(9.7)	(2.2)	(1.9)
Unrecognized tax benefits and settlements	4.5	1.1	0.6
Restructuring of certain non-US subsidiaries	—	(3.4)	—
Change in permanent reinvestment assertion	—	—	1.6
Other	5.8	0.3	1.2
Effective tax rate	(3.2)%	8.5 %	16.7 %

Our effective tax rate decreased in 2022 compared to 2021, primarily driven by a higher proportion of our income being taxed in non-US jurisdictions and a change in tax law from 2017 Tax Reform related to the capitalization of R&D expenses that went into effect in January 2022.

Our effective tax rate decreased in 2021 compared to 2020, primarily driven by one-time tax benefits due to the restructuring of certain non-US subsidiaries as well as a higher proportion of our income in non-US jurisdictions. As a result of the restructuring, we established deferred tax assets and released the valuation allowances of certain foreign deferred tax assets. The majority of these deferred tax assets established in 2021 fully offset the deferred tax liabilities recognized in 2020 driven by a change in our permanent reinvestment assertion with respect to undistributed earnings in China, as a result of the divestiture of our NAND memory business.

We derive the effective tax rate benefit attributed to non-US income taxed at different rates primarily from our operations in Hong Kong, Ireland, Israel, and Malaysia. The statutory tax rates in these jurisdictions range from 12.5% to 24.0%. We are subject to reduced tax rates in Israel and Malaysia as long as we conduct certain eligible activities and make certain capital investments. We have conditional reduced tax rates that expire at various dates through 2056 and we expect to apply for renewals upon expiration. In 2022, the tax benefit specifically attributable to tax holidays was \$220 million (\$187 million for 2021 and \$134 million for 2020) with a \$0.05 impact on diluted earnings per share (\$0.05 for 2021 and \$0.03 for 2020).

Deferred and Current Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts for income tax purposes. Significant components of our deferred tax assets and liabilities at the end of each period were as follows:

(In Millions)	Dec 31, 2022	Dec 25, 2021
Deferred tax assets:		
R&D expenditures capitalization	\$ 5,067	\$ 519
State credits and net operating losses	2,259	2,010
Inventory	1,788	914
Accrued compensation and other benefits	1,031	1,019
Share-based compensation	557	477
Litigation charge	470	467
Other, net	709	819
Gross deferred tax assets	11,881	6,225
Valuation allowance	(2,586)	(2,259)
Total deferred tax assets	9,295	3,966
Deferred tax liabilities:		
Property, plant and equipment	(4,776)	(4,213)
Licenses and intangibles	(386)	(486)
Unrealized gains on investments and derivatives	(415)	(819)
Other, net	(470)	(241)
Total deferred tax liabilities	(6,047)	(5,759)
Net deferred tax assets (liabilities)	\$ 3,248	\$ (1,793)
Reported as:		
Deferred tax assets	3,450	874
Deferred tax liabilities	(202)	(2,667)
Net deferred tax assets (liabilities)	\$ 3,248	\$ (1,793)

Changes in the valuation allowance for deferred tax assets were as follows:

Years Ended (In Millions)	Balance at Beginning of Year	Additions Charged to Expenses/ Other Accounts	Net (Deductions) Recoveries	Balance at End of Year
Valuation allowance for deferred tax assets				
December 31, 2022	\$ 2,259	\$ 401	\$ (74)	\$ 2,586
December 25, 2021	\$ 1,963	\$ 442	\$ (146)	\$ 2,259
December 26, 2020	\$ 1,534	\$ 378	\$ 51	\$ 1,963

Deferred tax assets are included within *other long-term assets* on the Consolidated Balance Sheets.

The valuation allowance as of December 31, 2022 included allowances primarily related to unrealized state credit carryforwards of \$2.3 billion.

As of December 31, 2022, our federal and non-US net operating loss carryforwards for income tax purposes were \$379 million and \$478 million, respectively. The majority of the federal and non-US net operating loss carryforwards have no expiration date. The remaining federal and non-US net operating loss carryforwards expire at various dates through 2040. The federal and non-US net operating loss carryforwards include \$141 million and \$442 million, respectively, that is not likely to be recovered and has been reduced by a valuation allowance.

As of December 31, 2022, we have undistributed earnings of certain foreign subsidiaries of approximately \$19.3 billion that we have indefinitely invested, and on which we have not recognized deferred taxes. Estimating the amount of potential tax is not practicable because of the complexity and variety of assumptions necessary to compute the tax.

Current income taxes receivable of \$138 million as of December 31, 2022 (\$23 million as of December 25, 2021) are included in *other current assets*.

Long-term income taxes payable of \$3.8 billion as of December 31, 2022 (\$4.3 billion as of December 25, 2021) is primarily comprised of the transition tax from Tax Reform, which is payable over eight years beginning in 2018, as well as amounts for uncertain tax positions, reduced by the associated deduction for state taxes and non-US tax credits.

Uncertain Tax Positions

(In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Beginning gross unrecognized tax benefits	\$ 1,020	\$ 828	\$ 548
Settlements and effective settlements with tax authorities	(18)	(25)	(142)
Changes in balances related to tax position taken during prior periods	(120)	(26)	165
Changes in balances related to tax position taken during current period	347	243	257
Ending gross unrecognized tax benefits	\$ 1,229	\$ 1,020	\$ 828

If the remaining balance of unrecognized tax benefits were recognized in a future period, it would result in a tax benefit of \$914 million as of December 31, 2022 (\$721 million as of December 25, 2021) and a reduction in the effective tax rate. Interest, penalties, and accrued interest related to unrecognized tax benefits were insignificant in the periods presented.

We regularly engage in discussions and negotiations with tax authorities regarding tax matters in the various jurisdictions in which we conduct business. Although the timing of the resolutions and/or closures of audits is highly uncertain, it is reasonably possible that certain US federal and non-US tax audits may be concluded within the next 12 months, which could increase or decrease the balance of our gross unrecognized tax benefits. We estimate that the unrecognized tax benefits as of December 31, 2022 could decrease by as much as \$366 million in the next 12 months.

We file federal, state, and non-US tax returns. Excluding pre-acquisition Altera tax years, we are no longer subject to US federal and non-US tax examinations for years prior to 2013 and 2012. For US state tax returns, we are no longer subject to tax examination for years prior to 2015.

Note 9 : Investments

Short-term Investments

Short-term investments include marketable debt investments in corporate debt, government debt, and financial institution instruments. Government debt includes instruments such as non-US government bonds and US agency securities. Financial institution instruments include instruments issued or managed by financial institutions in various forms, such as commercial paper, fixed- and floating-rate bonds, money market fund deposits, and time deposits. As of December 31, 2022 and December 25, 2021, substantially all time deposits were issued by institutions outside the US.

For certain of our marketable debt investments, we economically hedge market risks at inception with a related derivative instrument or the marketable debt investment itself is used to economically hedge currency exchange rate risk from remeasurement. These hedged investments are reported at fair value with gains or losses from the investments and the related derivative instruments recorded in *interest and other, net*. The fair value of our hedged investments was \$16.2 billion as of December 31, 2022 (\$21.5 billion as of December 25, 2021). For hedged investments still held at the reporting date, we recorded net losses of \$748 million in 2022 (net losses of \$606 million in 2021 and net gains of \$694 million in 2020). Net gains on the related derivatives were \$752 million in 2022 (net gains of \$609 million in 2021 and net losses of \$667 million in 2020).

Our remaining unhedged marketable debt investments are reported at fair value, with unrealized gains or losses, net of tax, recorded in accumulated *other comprehensive income (loss)*. The adjusted cost of our unhedged investments was \$10.2 billion as of December 31, 2022 (\$5.0 billion as of December 25, 2021), which approximated the fair value for these periods.

The fair value of marketable debt investments, by contractual maturity, as of December 31, 2022, was as follows:

(In Millions)	Fair Value
Due in 1 year or less	\$ 12,680
Due in 1–2 years	1,844
Due in 2–5 years	4,139
Due after 5 years	665
Instruments not due at a single maturity date	7,095
Total	\$ 26,423

Equity Investments

(In Millions)	Dec 31, 2022	Dec 25, 2021
Marketable equity securities ¹	\$ 1,341	\$ 2,171
Non-marketable equity securities	4,561	4,111
Equity method investments	10	16
Total	\$ 5,912	\$ 6,298

¹ Over 90% of our marketable equity securities are subject to trading-volume or market-based restrictions, which limit the number of shares we may sell in a specified period of time, impacting our ability to liquidate these investments. The trading volume restrictions generally apply for as long as we own more than 1% of the outstanding shares. Market-based restrictions result from the rules of the respective exchange.

The components of gains (losses) on equity investments, net for each period were as follows:

Years Ended (In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Ongoing mark-to-market adjustments on marketable equity securities	\$ (787)	\$ (130)	\$ (133)
Observable price adjustments on non-marketable equity securities	299	750	176
Impairment charges	(190)	(154)	(303)
Sale of equity investments and other ¹	4,946	2,263	2,164
Total gains (losses) on equity investments, net	\$ 4,268	\$ 2,729	\$ 1,904

¹ Sale of equity investments and other includes initial fair value adjustments recorded upon a security becoming marketable, realized gains (losses) on sales of non-marketable equity investments and equity method investments, and our share of equity method investee gains (losses) and distributions.

In 2022, we recognized impairments of \$190 million on non-marketable equity securities (\$154 million in 2021 and \$290 million in 2020).

As of December 31, 2022, the cumulative amount of impairments for equity securities without readily determinable fair value was \$955 million (\$916 million as of December 25, 2021) and upward observable price adjustments were \$1.4 billion (\$1.1 billion as of December 25, 2021).

Net unrealized gains and losses for our marketable and non-marketable equity securities during each period were as follows:

(In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Net unrealized gains (losses) recognized during the period on equity securities	\$ (314)	\$ 1,210	\$ 1,679
Less: Net (gains) losses recognized during the period on equity securities sold during the period	1	(259)	(254)
Net unrealized gains (losses) recognized during the period on equity securities still held at the reporting date	\$ (313)	\$ 951	\$ 1,425

McAfee Corp.

McAfee Corp. (McAfee) completed its IPO offering in October 2020. Due to our 41% ownership and significant influence as of December 25, 2021, we accounted for our investment in McAfee as an equity method investment. We had no accounting carrying value as of December 25, 2021.

During 2022, the sale of McAfee's consumer business was completed and we received \$4.6 billion in cash for the sale of our remaining share of McAfee, recognizing a \$4.6 billion gain in *sale of equity investments and other*. In 2021, we recognized McAfee dividends of \$1.3 billion, which included a special dividend of \$1.1 billion paid in connection with the sale of McAfee's enterprise business, and recognized \$228 million related to the partial sale of our investment in McAfee. We recognized McAfee dividends of \$126 million in 2020.

Beijing Unisoc Technology Ltd.

We account for our interest in Beijing Unisoc Technology Ltd. (Unisoc) as a non-marketable equity security. During 2021, we recognized \$471 million in observable price adjustments in our investment in Unisoc and as of December 31, 2022, the net book value of the investment was \$1.1 billion (\$1.1 billion as of December 25, 2021).

Note 10 : Acquisitions and Divestitures

Acquisitions

We completed eight acquisitions in 2022 and four acquisitions in 2021, all of which qualified as business combinations. The consideration for the acquisitions in 2022 and 2021 primarily consisted of cash and was substantially all allocated to goodwill and identified intangible assets. For information on the assignment of goodwill to our operating segments, see "Note 11: Goodwill," and for information on the classification of intangible assets, see "Note 12: Identified Intangible Assets" within the Notes to Consolidated Financial Statements.

Acquisition of Tower Semiconductor

During the first quarter of 2022, we entered into a definitive agreement to acquire Tower Semiconductor Ltd. (Tower) in a cash-for-stock transaction. Tower is a leading foundry for analog semiconductor solutions. The acquisition is expected to advance our IDM 2.0 strategy by accelerating our global end-to-end systems foundry business. Upon completion of the acquisition, each issued and outstanding ordinary share of Tower will be converted into the right to receive \$53 per share in cash, representing a total enterprise value of approximately \$5.4 billion as of the agreement date. While we continue to work to close within the first quarter of 2023, the transaction may close in the first half of 2023, subject to certain regulatory approvals and customary closing conditions. If the agreement is terminated under certain circumstances involving the failure to obtain required regulatory approvals, we will be obligated to pay Tower a termination fee of \$353 million. Tower will be included in our IFS operating segment.

Divestitures

NAND Memory Business

In October 2020, we signed an agreement with SK hynix Inc. (SK hynix) to divest our NAND memory business for \$9.0 billion in cash. The NAND memory business includes our NAND memory fabrication facility in Dalian, China and certain related equipment and tangible assets (the Fab Assets), our NAND SSD business (the NAND SSD Business), and our NAND memory technology and manufacturing business (the NAND OpCo Business). The transaction will be completed in two closings.

The first closing was completed on December 29, 2021. At first closing, SK hynix paid \$7.0 billion of consideration, with the remaining \$2.0 billion to be received at the second closing of the transaction, expected to be no earlier than March 2025. In connection with the first closing, we recognized a pre-tax gain of \$1.0 billion within *interest and other, net*, and tax expense of \$495 million. Based on our ongoing obligation under the NAND wafer manufacturing and sale agreement, \$583 million of the first closing consideration was deferred and will be recognized between the first and second closing within *interest and other, net*.

At the first closing, we sold to SK hynix the Fab Assets and the NAND SSD Business and transferred certain employees, IP, and other assets related to the NAND OpCo Business to separately created wholly owned subsidiaries of Intel. The equity interest of the NAND OpCo Business will transfer to SK hynix at the second closing. In connection with the first closing, we and certain affiliates of SK hynix also entered into a NAND wafer manufacturing and sale agreement, pursuant to which we will manufacture and sell to SK hynix NAND memory wafers to be manufactured using the Fab Assets in Dalian, China until the second closing. We have concluded, based on the terms of the transaction agreements, that the subsidiaries are VIEs for which we are not the primary beneficiary, because the governance structure of these entities does not allow us to direct the activities that would most significantly impact their economic performance. In line with this conclusion, we fully deconsolidated our ongoing interests in the NAND OpCo Business, and recorded a receivable for the remaining proceeds of \$1.9 billion in *other long-term assets*, which remains outstanding as of December 31, 2022.

The carrying amounts of the major classes of NAND assets as of the first closing date included the following:

(In Millions)	Dec 29, 2021
Inventories	\$ 941
Property, plant and equipment, net	6,018
Total assets	\$ 6,959

The wafer manufacturing and sale agreement includes incentives and penalties that are contingent on the cost of operation and output of the NAND OpCo Business. These incentives and penalties present a maximum exposure of up to \$500 million annually, and \$1.5 billion in the aggregate. We are currently in negotiations with SK hynix to update the operating plan of the NAND OpCo Business in light of the current business environment and projections, which may impact the metrics associated with the incentives and penalties and our expectations of the performance of the NAND OpCo Business against those metrics.

Our transactions with the NAND OpCo Business between the first and second closings are considered related party transactions due to our equity interest and the wafer manufacturing and sales agreement. Related party transactions include certain assets that transferred at first closing between Intel and the NAND OpCo Business, or costs that we incurred on behalf of the NAND OpCo Business, for which we are entitled to be reimbursed, including approximately \$35 million per quarter in 2022 for corporate function services, such as human resources, information technology, finance, supply chain, and other compliance requirements associated with being wholly owned subsidiaries. As of December 31, 2022, we have a receivable due to Intel of \$133 million recorded within *other current assets* on our Consolidated Balance Sheets.

Home Gateway Platform Division

On July 31, 2020, we completed the divestiture of the majority of Home Gateway Platform, a division of CCG, for proceeds of \$150 million. The divestiture included the transfer of certain employees, equipment, and an ongoing supply agreement for future units.

Note 11 : Goodwill

(In Millions)	Dec 25, 2021	Acquisitions	Other	Dec 31, 2022
Client Computing	\$ 4,237	\$ 17	\$ —	\$ 4,254
Data Center and AI	8,595	418	—	9,013
Network and Edge	2,774	35	—	2,809
Mobileye	10,928	—	(9)	10,919
Accelerated Computing Systems and Graphics	429	167	—	596
All other	—	—	—	—
Total	\$ 26,963	\$ 637	\$ (9)	\$ 27,591

(In Millions)	Dec 26, 2020	Acquisitions	Other	Dec 25, 2021
Client Computing	\$ 4,164	\$ 73	\$ —	\$ 4,237
Data Center and AI	8,476	85	34	8,595
Network and Edge	2,774	—	—	2,774
Mobileye	10,928	—	—	10,928
Accelerated Computing Systems and Graphics	391	38	—	429
All other	238	—	(238)	—
Total	\$ 26,971	\$ 196	\$ (204)	\$ 26,963

As described in "Note 3: Operating Segments" within the Notes to Consolidated Financial Statements, we modified our segment reporting in the first quarter of 2022 to align to our previously announced business reorganization, and have retrospectively adjusted all prior-period amounts in our goodwill footnote to reflect the changes in our operating segments. We reallocated goodwill among our affected reporting units based on the relative fair value of our new operating segments. We performed a quantitative impairment assessment for each of our reporting units immediately before and after our business reorganization, concluding that goodwill was not impaired. Goodwill reallocated was as follows:

(In Millions)	Dec 25, 2021	Transfers Out	Transfers In	Dec 25, 2021
Client Computing	\$ 4,433	\$ (275)	\$ 79	\$ 4,237
Data Center Group	7,355	(7,355)	—	—
Data Center and AI	—	—	8,595	8,595
Internet of Things Group	1,591	(1,591)	—	—
Network and Edge	—	—	2,774	2,774
Mobileye	10,928	—	—	10,928
Accelerated Computing Systems and Graphics	—	—	429	429
Programmable Solutions Group	2,656	(2,656)	—	—
Total	\$ 26,963	\$ (11,877)	\$ 11,877	\$ 26,963

During the second quarter of 2021, we recognized a goodwill impairment loss of \$238 million related to two non-strategic businesses that we exited, recorded within our *all other* category. During the fourth quarters of 2022 and 2021, we completed our annual impairment assessments and concluded that goodwill was not impaired. The accumulated impairment loss as of December 31, 2022 was \$957 million: \$365 million associated with CCG, \$275 million associated with DCAI, \$79 million associated with NEX, and the remainder associated with non-reportable segments.

Note 12 : Identified Intangible Assets

(In Millions)	December 31, 2022			December 25, 2021		
	Gross Assets	Accumulated Amortization	Net	Gross Assets	Accumulated Amortization	Net
Developed technology	\$ 10,964	\$ (7,216)	\$ 3,748	\$ 11,102	\$ (6,026)	\$ 5,076
Customer relationships and brands	1,986	(1,114)	872	2,110	(1,063)	1,047
Licensed technology and patents	3,219	(1,821)	1,398	2,893	(1,746)	1,147
Total identified intangible assets	\$ 16,169	\$ (10,151)	\$ 6,018	\$ 16,105	\$ (8,835)	\$ 7,270

During 2022, we entered into and/or renewed several licensed technology arrangements totaling \$634 million, which are subject to amortization.

Amortization expenses recorded for identified intangible assets in the Consolidated Statements of Income for each period and the weighted average useful life were as follows:

Years Ended (In Millions)	Location	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020	Weighted Average Useful Life ¹
Developed technology	Cost of sales	\$ 1,341	\$ 1,283	\$ 1,211	9 years
Customer relationships and brands	Marketing, general and administrative	185	209	205	12 years
Licensed technology and patents	Cost of sales	381	347	341	12 years
Total amortization expenses		\$ 1,907	\$ 1,839	\$ 1,757	

¹ Represents weighted average useful life in years of intangible assets as of December 31, 2022.

We expect future amortization expense for the next five years and thereafter to be as follows:

(In Millions)	2023	2024	2025	2026	2027	Thereafter	Total
Future amortization expenses	\$ 1,730	\$ 1,297	\$ 883	\$ 680	\$ 511	\$ 917	\$ 6,018

Note 13 : Borrowings

Short-Term Debt

As of December 31, 2022, short-term debt was \$4.4 billion, composed of \$423 million of the current portion of long-term debt and \$3.9 billion of commercial paper. As of December 25, 2021, short-term debt was \$4.6 billion, primarily composed of our current portion of long-term debt. The current portion of long-term debt includes debt classified as short term based on time remaining until maturity.

We have an ongoing authorization from our Board of Directors to borrow up to \$10.0 billion under our commercial paper program. As of December 31, 2022 and December 25, 2021, we had \$3.9 billion and \$0 commercial paper outstanding, respectively, with maturities generally less than six months. The weighted-average interest rate of the commercial paper was 4.39% as of December 31, 2022.

Long-Term Debt

(In Millions)		Dec 31, 2022		Dec 25, 2021	
		Effective Interest Rate	Amount	Amount	
Floating-rate senior note:					
Three-month LIBOR plus 0.35%, due May 2022		—%	\$ —	\$ —	800
Fixed-rate senior notes:					
2.35%, due May 2022		—%	—	—	750
3.10%, due July 2022		—%	—	1,000	
4.00%, due December 2022		—%	—	398	
2.70%, due December 2022		—%	—	1,500	
4.10%, due November 2023		—%	—	400	
2.88%, due May 2024		2.34%	1,250	1,250	
2.70%, due June 2024		2.14%	600	600	
3.40%, due March 2025		3.44%	1,500	1,500	
3.70%, due July 2025		3.83%	2,250	2,250	
2.60%, due May 2026		2.25%	1,000	1,000	
3.75%, due March 2027		3.78%	1,000	1,000	
3.15%, due May 2027		2.84%	1,000	1,000	
3.75%, due August 2027		3.80%	1,250	—	
1.60%, due August 2028		1.67%	1,000	1,000	
4.00%, due August 2029		4.05%	850	—	
2.45%, due November 2029		2.38%	2,000	2,000	
3.90%, due March 2030		3.92%	1,500	1,500	
2.00%, due August 2031		2.02%	1,250	1,250	
4.15%, due August 2032		4.17%	1,250	—	
4.00%, due December 2032		2.20%	750	750	
4.60%, due March 2040		4.59%	750	750	
2.80%, due August 2041		2.81%	750	750	
4.80%, due October 2041		3.70%	802	802	
4.25%, due December 2042		2.32%	567	567	
4.90%, due July 2045		3.80%	772	772	
4.10%, due May 2046		3.03%	1,250	1,250	
4.10%, due May 2047		3.00%	1,000	1,000	
4.10%, due August 2047		2.54%	640	640	
3.73%, due December 2047		3.31%	1,967	1,967	
3.25%, due November 2049		3.19%	2,000	2,000	
4.75%, due March 2050		4.73%	2,250	2,250	
3.05%, due August 2051		3.06%	1,250	1,250	
4.90%, due August 2052		4.88%	1,750	—	
3.10%, due February 2060		3.10%	1,000	1,000	
4.95%, due March 2060		4.98%	1,000	1,000	
3.20%, due August 2061		3.20%	750	750	
5.05%, due August 2062		5.03%	900	—	

Long-Term Debt

(In Millions)	Dec 31, 2022		Dec 25, 2021	
	Interest Rate	Amount	Amount	Amount
Oregon and Arizona bonds:				
2.40% - 2.70%, due December 2035 - 2040	2.49%	\$ 423	\$ 423	423
5.00%, due September 2042	3.41%	131	—	—
5.00%, due March 2049	—%	—	138	138
5.00%, due June 2049	2.15%	438	438	438
5.00%, due September 2052	3.17%	445	—	—
Total senior notes and other borrowings		\$ 39,285	\$ 37,695	
Unamortized premium/discount and issuance costs		(417)	(405)	
Hedge accounting fair value adjustments		(761)	811	
Long-term debt		\$ 38,107	\$ 38,101	
Current portion of long-term debt		(423)	(4,591)	
Total long-term debt		\$ 37,684	\$ 33,510	

Senior Notes

In 2022, we issued a total of \$6.0 billion aggregate principal amount of senior notes, including our inaugural green bond issuance of \$1.3 billion principal amount, and settled in cash \$1.6 billion of our senior notes that matured in May 2022, \$1.0 billion of our senior notes that matured in July 2022, and \$1.9 billion of our senior notes that matured in December 2022. We also early cash settled \$400 million of our senior notes due November 2023.

In 2021, we issued a total of \$5.0 billion aggregate principal amount of senior notes and repaid \$500 million of our 1.70% senior notes that matured in May 2021 and \$2.0 billion of our 3.30% senior notes that matured in October 2021.

Our fixed-rate senior notes pay interest semiannually. We may redeem the fixed-rate notes prior to their maturity at our option at specified redemption prices and subject to certain restrictions. The obligations under the notes rank equally in right of payment with all of our other existing and future senior unsecured indebtedness and will effectively rank junior to all liabilities of our subsidiaries.

Oregon and Arizona Bonds

In 2022, we received proceeds of \$600 million in the aggregate for the sale of bonds issued by the Industrial Development Authority of the City of Chandler, Arizona (CIDA). The bonds are our unsecured general obligations in accordance with the loan with the CIDA. The bonds mature in 2042 and 2052 and carry an interest rate of 5.0%. The bonds are subject to mandatory tender in September 2027, at which time we can re-market the bonds as either fixed-rate bonds for a specified period or as variable-rate bonds until another fixed-rate period is selected or until their final maturity date. Our other Oregon and Arizona bonds listed in the table above are also subject to periodic mandatory tender. We settled in cash \$138 million of bonds issued by the Oregon Business Development Commission in March 2022.

Revolving Credit Facilities

In 2022, we entered into a \$5.0 billion 364-day variable-rate unsecured revolving credit facility that, if drawn, is expected to be used for general corporate purposes. The revolving credit facility matures in November 2023. We also amended our \$5.0 billion variable-rate revolving credit facility agreement that we entered into in 2021, extending the maturity date by one year to March 2027 and transitioning from LIBOR to term SOFR. The revolving credit facilities had no borrowings outstanding as of December 31, 2022.

Debt Maturities

Our aggregate debt maturities, excluding commercial paper, based on outstanding principal as of December 31, 2022, by year payable, are as follows:

(In Millions)	2023	2024	2025	2026	2027	2028 and thereafter	Total
\$ 423	\$ 2,288	\$ 3,750	\$ 1,000	\$ 3,826	\$ 27,998	\$ 39,285	

Note 14 : Fair Value

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

(In Millions)	December 31, 2022				December 25, 2021			
	Fair Value Measured and Recorded at Reporting Date Using				Fair Value Measured and Recorded at Reporting Date Using			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets								
Cash equivalents:								
Corporate debt	\$ —	\$ 856	\$ —	\$ 856	\$ —	\$ 65	\$ —	\$ 65
Financial institution instruments ¹	6,899	1,474	—	8,373	1,216	763	—	1,979
Reverse repurchase agreements	—	1,301	—	1,301	—	1,595	—	1,595
Short-term investments:								
Corporate debt	—	5,381	—	5,381	—	6,367	—	6,367
Financial institution instruments ¹	196	4,729	—	4,925	154	5,162	—	5,316
Government debt ²	48	6,840	—	6,888	50	12,693	—	12,743
Other current assets:								
Derivative assets	—	1,264	—	1,264	80	576	—	656
Loans receivable ³	—	53	—	53	—	152	—	152
Marketable equity securities ⁴	1,341	—	—	1,341	1,854	317	—	2,171
Other long-term assets:								
Derivative assets	—	10	—	10	—	772	7	779
Loans receivable ³	—	—	—	—	—	57	—	57
Total assets measured and recorded at fair value	\$ 8,484	\$ 21,908	\$ —	\$ 30,392	\$ 3,354	\$ 28,519	\$ 7	\$ 31,880
Liabilities								
Other accrued liabilities:								
Derivative liabilities	\$ 111	\$ 485	\$ 89	\$ 685	\$ 4	\$ 516	\$ —	\$ 520
Other long-term liabilities:								
Derivative liabilities	—	699	—	699	—	9	—	9
Total liabilities measured and recorded at fair value	\$ 111	\$ 1,184	\$ 89	\$ 1,384	\$ 4	\$ 525	\$ —	\$ 529

¹. Level 1 investments consist of money market funds recorded at Net Asset Value. Level 2 investments consist primarily of commercial paper, certificates of deposit, time deposits, and notes and bonds issued by financial institutions.

². Level 1 investments consist primarily of US Treasury securities. Level 2 investments consist primarily of non-US government debt.

³. The fair value of our loans receivable for which we elected the fair value option did not significantly differ from the contractual principal balance.

⁴. Level 2 investments consist of marketable equity securities subject to security-specific restrictions for which a fair value adjustment was recorded.

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

Our non-marketable equity securities, equity method investments, and certain non-financial assets, such as intangible assets and property, plant and equipment, are recorded at fair value only if an impairment or observable price adjustment is recognized in the current period. If an impairment or observable price adjustment is recognized on our non-marketable equity securities during the period, we classify these assets as Level 3.

We classify non-marketable equity securities and non-marketable equity method investments as Level 3. Impairments recognized on these investments held as of December 31, 2022 were \$179 million (\$138 million on investments held as of December 25, 2021).

Financial Instruments Not Recorded at Fair Value on a Recurring Basis

Financial instruments not recorded at fair value on a recurring basis include non-marketable equity securities and equity method investments that have not been remeasured or impaired in the current period, grants receivable, and issued debt.

We classify the fair value of grants receivable and reverse repurchase agreements with original maturities greater than three months as Level 2. The estimated fair value of these financial instruments approximates their carrying value. The aggregate carrying value of grants receivable as of December 31, 2022 was \$437 million (the aggregate carrying value of grants receivable as of December 25, 2021 was \$317 million). The aggregate carrying value of reverse repurchase agreements with original maturities greater than three months as of December 31, 2022 was \$400 million (the aggregate carrying value as of December 25, 2021 was \$0 million).

We classify the fair value of issued debt (excluding commercial paper) as Level 2. The fair value of these instruments was \$34.3 billion as of December 31, 2022 (\$41.5 billion as of December 25, 2021).

Note 15 : Other Comprehensive Income (Loss)

The changes in accumulated other comprehensive income (loss) by component and related tax effects for each period were as follows:

(In Millions)	Unrealized Holding Gains (Losses) on Derivatives	Actuarial Valuation and Other Pension Expenses	Translation Adjustments and Other	Total
December 28, 2019	\$ 54	\$ (1,382)	\$ 48	\$ (1,280)
Other comprehensive income (loss) before reclassifications	806	(323)	55	538
Amounts reclassified out of accumulated other comprehensive income (loss)	(8)	89	(11)	70
Tax effects	(121)	51	(9)	(79)
Other comprehensive income (loss)	677	(183)	35	529
December 26, 2020	731	(1,565)	83	(751)
Other comprehensive income (loss) before reclassifications	(434)	476	(58)	(16)
Amounts reclassified out of accumulated other comprehensive income (loss)	(226)	101	(19)	(144)
Tax effects	140	(126)	17	31
Other comprehensive income (loss)	(520)	451	(60)	(129)
December 25, 2021	211	(1,114)	23	(880)
Other comprehensive income (loss) before reclassifications	(910)	923	(28)	(15)
Amounts reclassified out of accumulated other comprehensive income (loss)	410	82	(6)	486
Tax effects	(10)	(150)	7	(153)
Other comprehensive income (loss)	(510)	855	(27)	318
December 31, 2022	\$ (299)	\$ (259)	\$ (4)	\$ (562)

We estimate that we will reclassify approximately \$254 million (before taxes) of net derivative losses from accumulated other comprehensive income (loss) into earnings within the next 12 months.

Note 16 : Derivative Financial Instruments

Volume of Derivative Activity

Total gross notional amounts for outstanding derivatives (recorded at fair value) at the end of each period were as follows:

(In Millions)	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Foreign currency contracts	\$ 31,603	\$ 38,024	\$ 31,209
Interest rate contracts	16,011	15,209	14,461
Other	2,094	2,517	2,026
Total	\$ 49,708	\$ 55,750	\$ 47,696

During 2022 and 2021, we did not enter into any new pay-variable, receive-fixed interest rate swaps to hedge against changes in the fair value attributable to benchmark interest rates related to our outstanding senior notes. The total notional amount of outstanding pay-variable, receive-fixed interest rate swaps was \$12.0 billion as of December 31, 2022, and \$12.0 billion as of December 25, 2021.

Fair Value of Derivative Instruments in the Consolidated Balance Sheets

(In Millions)	December 31, 2022		December 25, 2021	
	Assets ¹	Liabilities ²	Assets ¹	Liabilities ²
Derivatives designated as hedging instruments:				
Foreign currency contracts ³	\$ 142	\$ 290	\$ 80	\$ 163
Interest rate contracts	—	777	774	—
Total derivatives designated as hedging instruments	142	1,067	854	163
Derivatives not designated as hedging instruments:				
Foreign currency contracts ³	866	194	475	297
Interest rate contracts	266	12	26	65
Equity contracts	—	111	80	4
Total derivatives not designated as hedging instruments	1,132	317	581	366
Total derivatives	\$ 1,274	\$ 1,384	\$ 1,435	\$ 529

¹ Derivative assets are recorded as other assets, current and long-term.

² Derivative liabilities are recorded as other liabilities, current and long-term.

³ The majority of these instruments mature within 12 months.

Amounts Offset in the Consolidated Balance Sheets

Agreements subject to master netting arrangements with various counterparties, and cash and non-cash collateral posted under such agreements at the end of each period were as follows:

(In Millions)	December 31, 2022					
	Gross Amounts Not Offset in the Balance Sheet					
	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Financial Instruments	Cash and Non-Cash Collateral Received or Pledged	Net Amount
Assets:						
Derivative assets subject to master netting arrangements	\$ 1,231	\$ —	\$ 1,231	\$ (546)	\$ (682)	\$ 3
Reverse repurchase agreements	1,701	—	1,701	—	(1,701)	—
Total assets	2,932	—	2,932	(546)	(2,383)	3
Liabilities:						
Derivative liabilities subject to master netting arrangements	1,337	—	1,337	(546)	(712)	79
Total liabilities	\$ 1,337	\$ —	\$ 1,337	\$ (546)	\$ (712)	\$ 79

December 25, 2021

(In Millions)	Gross Amounts Not Offset in the Balance Sheet					Net Amount
	Gross Amounts Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Financial Instruments	Cash and Non-Cash Collateral Received or Pledged	
Assets:						
Derivative assets subject to master netting arrangements	\$ 1,427	\$ —	\$ 1,427	\$ (332)	\$ (986)	\$ 109
Reverse repurchase agreements	1,595	—	1,595	—	(1,595)	—
Total assets	3,022	—	3,022	(332)	(2,581)	109
Liabilities:						
Derivative liabilities subject to master netting arrangements	392	—	392	(332)	(60)	—
Total liabilities	\$ 392	\$ —	\$ 392	\$ (332)	\$ (60)	\$ —

We obtain and secure available collateral from counterparties against obligations, including securities lending transactions and reverse repurchase agreements, when we deem it appropriate.

Derivatives in Cash Flow Hedging Relationships

The before-tax net gains or losses attributed to the effective portion of cash flow hedges recognized in *other comprehensive income (loss)* were \$910 million net losses in 2022 (\$434 million net losses in 2021 and \$806 million net gains in 2020). Substantially all of our cash flow hedges are foreign currency contracts for all periods presented.

Amounts excluded from effectiveness testing were insignificant during all periods presented.

For information on the unrealized holding gains (losses) on derivatives reclassified out of *accumulated other comprehensive income (loss)* into the Consolidated Statements of Income, see "Note 15: Other Comprehensive Income (Loss)" within the Notes to Consolidated Financial Statements.

Derivatives in Fair Value Hedging Relationships

The effects of derivative instruments designated as fair value hedges, recognized in *interest and other, net* for each period were as follows:

Years Ended (In Millions)	Gains (Losses) Recognized in Statement of Income on Derivatives		
	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Interest rate contracts	\$ (1,551)	\$ (723)	\$ 817
Hedged items	1,551	723	(817)
Total	\$ —	\$ —	\$ —

The amounts recorded on the Consolidated Balance Sheets related to cumulative basis adjustments for fair value hedges for each period were as follows:

Line Item in the Consolidated Balance Sheets in Which the Hedged Item Is Included (In Millions)	Carrying Amount of the Hedged Item Assets/(Liabilities)	Cumulative Amount of Fair Value Hedging Adjustment Included in the Carrying Amount Assets/(Liabilities)	
		Dec 31, 2022	Dec 25, 2021
Long-term debt	\$ (11,221)	\$ (12,772)	\$ 776

Derivatives Not Designated as Hedging Instruments

The effects of derivative instruments not designated as hedging instruments on the Consolidated Statements of Income for each period were as follows:

Years Ended (In Millions)	Location of Gains (Losses) Recognized in Income on Derivatives	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Foreign currency contracts	Interest and other, net	\$ 1,492	\$ 677	\$ (572)
Interest rate contracts	Interest and other, net	309	31	(90)
Other	Various	(502)	360	284
Total		\$ 1,299	\$ 1,068	\$ (378)

Note 17 : Retirement Benefit Plans

Defined Contribution Plans

We provide tax-qualified defined contribution plans for the benefit of eligible employees, former employees, and retirees in the US and certain other countries. The plans are designed to provide employees with an accumulation of funds for retirement on a tax-deferred basis. For the benefit of eligible US employees, we also provide an unfunded non-tax-qualified supplemental deferred compensation plan for certain highly compensated employees.

We expensed \$489 million in 2022, \$444 million in 2021 and \$398 million in 2020 for matching contributions based on the amount of employee contributions under the US qualified defined contribution and non-qualified deferred compensation plans.

US Retiree Medical Plan

Upon retirement, we provide certain benefits to eligible US employees who were hired prior to 2014 under the US Retiree Medical Plan. The benefits can be used to pay all or a portion of the cost to purchase eligible coverage in a medical plan.

As of December 31, 2022 and December 25, 2021, the projected benefit obligation was \$527 million and \$682 million, which used the discount rates of 5.6% and 2.8%. The December 31, 2022 and December 25, 2021 corresponding fair value of plan assets was \$501 million and \$669 million.

The investment strategy for US Retiree Medical Plan assets is to invest primarily in liquid assets, due to the level of expected future benefit payments. The assets are invested in tax-aware global equity and fixed-income long credit portfolios. Both portfolios are actively managed by external managers. The tax-aware global equity portfolio is composed of a diversified mix of equities in developed countries. The tax-aware fixed-income long credit portfolio is composed of domestic securities. The allocation to each asset class will fluctuate with market conditions, such as volatility and liquidity concerns, and will typically be rebalanced when outside the target ranges, which are 55% equity and 45% fixed-income investments. As of December 31, 2022, the majority of the US Retiree Medical Plan assets were invested in exchange-traded equity securities and were measured at fair value using Level 1 inputs. The remaining US Retiree Medical Plan assets were invested in fixed-income investments and were measured at fair value using Level 2 inputs.

As of December 31, 2022, the estimated benefit payments for this plan over the next 10 years are as follows:

(In Millions)	2023	2024	2025	2026	2027	2028-2032
Postretirement medical benefits	\$ 40	\$ 41	\$ 41	\$ 43	\$ 44	\$ 222

Pension Benefit Plans

We provide defined-benefit pension plans in certain countries, most significantly the US, Ireland, Israel, and Germany. The majority of the plans' benefits have been frozen.

Benefit Obligation and Plan Assets for Pension Benefit Plans

The vested benefit obligation for a defined-benefit pension plan is the actuarial present value of the vested benefits to which the employee is currently entitled based on the employee's expected date of separation or retirement.

(In Millions)		Dec 31, 2022	Dec 25, 2021
Changes in projected benefit obligation:			
Beginning projected benefit obligation	\$	4,456	\$ 4,929
Service cost		58	54
Interest cost		91	91
Actuarial (gain) loss		(1,500)	(284)
Currency exchange rate changes		(233)	(150)
Plan settlements		(96)	(126)
Other		(71)	(58)
Ending projected benefit obligation¹		2,705	4,456
Changes in fair value of plan assets:			
Beginning fair value of plan assets		2,817	2,878
Actual return on plan assets		(478)	145
Currency exchange rate changes		(102)	(63)
Plan settlements		(96)	(126)
Other		(11)	(17)
Ending fair value of plan assets²		2,130	2,817
Net unfunded status	\$	575	1,639
Amounts recognized in the Consolidated Balance Sheets			
Other long-term assets	\$	74	—
Other long-term liabilities	\$	649	\$ 1,639
Accumulated other comprehensive loss (income), before tax ³	\$	406	\$ 1,445
Accumulated benefit obligation	\$	2,507	4,086

¹ The projected benefit obligation was approximately 30% in the US and 70% outside of the US as of December 31, 2022 and December 25, 2021.

² The fair value of plan assets was approximately 40% in the US and 60% outside of the US as of December 31, 2022 and approximately 50% in the US and 50% outside of the US as of December 25, 2021.

³ The accumulated other comprehensive loss (income), before tax, was approximately 90% in the US and 10% outside of the US as of December 31, 2022 and approximately 30% in the US and 70% outside of the US as of December 25, 2021.

Changes in actuarial gains and losses in the projected benefit obligation are generally driven by discount rate movement. We use the corridor approach to amortize actuarial gains and losses. Under this approach, net actuarial gains or losses in excess of 10% of the larger of the projected benefit obligation or the fair value of plan assets are amortized on a straight-line basis.

As of December 31, 2022, the accumulated benefit obligations were \$0.9 billion and \$1.6 billion for the US plan and non-US plans, respectively. In 2022, the US and Ireland plans were in the net asset position and the other non-US plans had projected benefit obligations in excess of plan assets. In 2022, the US, Ireland and Israel plans had assets in excess of accumulated benefit obligations, whereas the remaining non-US plans had accumulated benefit obligations in excess of plan assets. As of December 25, 2021, the accumulated benefit obligations were \$1.4 billion and \$2.6 billion for the US plan and non-US plans, respectively, and all plans had accumulated benefit obligations and projected benefit obligations in excess of plan assets.

	Dec 31, 2022	Dec 25, 2021
Plan with accumulated benefit obligation in excess of plan assets		
Accumulated benefit obligation	\$ 559	\$ 4,086
Plan assets	\$ 97	\$ 2,817
Plan with projected benefit obligation in excess of plan assets		
Projected benefit obligation	\$ 1,048	\$ 4,456
Plan assets	\$ 399	\$ 2,817

Assumptions for Pension Benefit Plans

	Dec 31, 2022	Dec 25, 2021
Weighted average actuarial assumptions used to determine benefit obligations		
Discount rate	4.9 %	2.2 %
Rate of compensation increase	3.7 %	3.2 %
	2022	2021
Weighted average actuarial assumptions used to determine costs		
Discount rate	2.2 %	1.9 %
Expected long-term rate of return on plan assets	3.2 %	2.7 %
Rate of compensation increase	3.2 %	3.2 %

We establish the discount rate for each pension plan by analyzing current market long-term bond rates and matching the bond maturity with the average duration of the pension liabilities.

We establish the long-term expected rate of return by developing a forward-looking, long-term return assumption for each pension fund asset class, taking into account factors such as the expected real return for the specific asset class and inflation. A single, long-term rate of return is then calculated as the weighted average of the target asset allocation percentages and the long-term return assumption for each asset class.

Funding

Our practice is to fund the various pension plans in amounts sufficient to meet the minimum requirements of applicable local laws and regulations. Funding for the US Retiree Medical Plan is discretionary under applicable laws and regulations. Additional funding may be provided for the pension and retiree medical plans as deemed appropriate.

On a worldwide basis, our pension and retiree medical plans were 81% funded as of December 31, 2022. The US Pension Plan, which accounts for 28% of the worldwide pension and retiree medical benefit obligations, was 102% funded. Funded status is not indicative of our ability to pay ongoing pension benefits or of our obligation to fund retirement trusts. Required pension funding for US retirement plans is determined in accordance with ERISA, which sets required minimum contributions. Cumulative company funding to the US Pension Plan currently exceeds the minimum ERISA funding requirements.

Net Periodic Benefit Cost

The net periodic benefit cost for pension and US retiree medical benefits was \$139 million in 2022 (\$162 million in 2021 and \$164 million in 2020).

Pension Plan Assets

(In Millions)	December 31, 2022				Dec 25, 2021	
	Fair Value Measured at Reporting Date Using					
	Level 1	Level 2	Level 3	Total	Total	
Equity securities	\$ —	\$ 297	\$ —	\$ 297	\$ 342	
Fixed income	—	106	24	130	142	
Assets measured by fair value hierarchy	\$ —	\$ 403	\$ 24	\$ 427	\$ 484	
Assets measured at net asset value				1,683		2,311
Cash and cash equivalents				20		22
Total pension plan assets at fair value				\$ 2,130		\$ 2,817

US Plan Assets

The investment strategy for US Pension Plan assets is to manage the funded status volatility, taking into consideration the investment horizon and expected volatility to help enable sufficient assets to be available to pay pension benefits as they come due. The allocation to each asset class will fluctuate with market conditions, such as volatility and liquidity concerns, and will typically be rebalanced when outside the target ranges, which are 90% fixed income and 10% equity investments. During 2022, the US Pension Plan assets were invested in collective investment trust funds, which are measured at net asset value.

Non-US Plan Assets

The investments of the non-US plans are managed by insurance companies, pension funds, or third-party trustees, consistent with regulations or market practice of the country where the assets are invested. The investment manager makes investment decisions within the guidelines set by Intel or local regulations. Investments managed by qualified insurance companies or pension funds under standard contracts follow local regulations, and we are not actively involved in their investment strategies. For the assets that we have the discretion to set investment guidelines, the assets are invested in developed country equity investments and fixed-income investments, either through index funds or direct investment. In general, the investment strategy is designed to accumulate a diversified portfolio among markets, asset classes, or individual securities to reduce market risk and to help enable sufficient pension assets to be available to pay benefits as they come due. The equity investments in the non-US plan assets are invested in a diversified mix of equities of developed countries, including the US, and emerging markets throughout the world. We have control over the investment strategy related to the majority of the assets measured at net asset value, which are invested in hedge funds, bond index funds and equity index funds. The target allocation of the non-US plan assets that we have control over was approximately 45% fixed income, 35% equity, and 20% hedge fund investments in 2022.

Estimated Future Benefit Payments for Pension Benefit Plans

As of December 31, 2022, estimated benefit payments over the next 10 years are as follows:

(In Millions)	2023	2024	2025	2026	2027	2028-2032
Pension benefits	\$ 125	\$ 113	\$ 118	\$ 126	\$ 129	\$ 700

Note 18 : Employee Equity Incentive Plans

Our equity incentive plans are broad-based, long-term programs intended to attract and retain talented employees and align stockholder and employee interests. Our plans include our 2006 Plan and our 2006 ESPP.

Under the 2006 Plan, 946 million shares of common stock have been authorized for issuance as equity awards to employees and non-employee directors through June 2023. As of December 31, 2022, 119 million shares of common stock remained available for future grants.

Under the 2006 Plan, we may grant RSUs and stock options. We grant RSUs with a service condition as well as RSUs with a market condition, performance condition, and a service condition, which we call PSUs. PSUs are granted to a group of senior officers and employees. For PSUs granted in 2022, the number of shares of our common stock to be received at vesting at the end of the three-year performance period will range from 0% to 200% of the target grant amount and will be determined based on our performance relative to annual targets for each year in the performance period with respect to a revenue growth metric, weighted 60%, and a cash flow from operations metric, weighted 40%. The results are then averaged at the end of the performance period. Additionally, an adjustment to the performance goals aggregate achievement percentage is based on the TSR of our common stock measured against the benchmark TSR of the S&P 500 Index over a three-year period and revenue CAGR for the three-year performance period. TSR is a measure of stock price appreciation plus any dividends paid in this performance period. As of December 31, 2022, 15 million PSUs were outstanding. PSUs vest three years from the grant date. Other RSU awards and option awards generally vest over four years from the grant date.

Share-Based Compensation

Share-based compensation recognized in 2022 was \$3.1 billion (\$2.0 billion in 2021 and \$1.9 billion in 2020). During 2022, the tax benefit that we realized for the tax deduction from share-based awards totaled \$478 million (\$377 million in 2021 and \$380 million in 2020).

We estimate the fair value of RSUs and PSUs with a service condition or performance condition using the value of our common stock on the date of grant, reduced by the present value of dividends expected to be paid on our shares of common stock prior to vesting. We estimate the fair value of PSUs with a market condition using a Monte Carlo simulation model as of the date of grant using historical volatility.

Restricted Stock Units and Performance Stock Units

Weighted average assumptions used in estimating grant values were as follows:

	Dec 31, 2022	Dec 25, 2021	Dec 26, 2020
Estimated values	\$ 41.12	\$ 50.82	\$ 54.82
Risk-free interest rate	2.2 %	0.2 %	0.4 %
Dividend yield	3.4 %	2.6 %	2.3 %
Volatility	40 %	37 %	30 %

Summary of activities:

	Number of Stock Units (In Millions)	Weighted Average Grant- Date Fair Value
December 25, 2021	118.0	\$ 51.29
Granted	104.2	\$ 41.12
Vested	(50.3)	\$ 48.90
Forfeited	(13.2)	\$ 48.99
December 31, 2022	158.7	\$ 45.56
Expected to vest	142.7	\$ 45.78

The aggregate fair value of awards that vested in 2022 was \$2.0 billion (\$1.7 billion in 2021 and \$1.9 billion in 2020), which represents the market value of our common stock on the date that the RSUs vested. The grant-date fair value of awards that vested in 2022 was \$2.5 billion (\$1.4 billion in 2021 and \$1.3 billion in 2020). The number of RSUs vested includes shares of common stock that we withheld on behalf of employees to satisfy the minimum statutory tax withholding requirements. RSUs that are expected to vest are net of estimated future forfeitures.

As of December 31, 2022, unrecognized compensation costs related to RSUs granted under our equity incentive plans were \$4.6 billion. We expect to recognize those costs over a weighted average period of 1.4 years.

Stock Purchase Plan

The 2006 ESPP allows eligible employees to purchase shares of our common stock at 85% of the value of our common stock on specific dates. Under the 2006 ESPP, 523 million shares of common stock are authorized for issuance through August 2026. As of December 31, 2022, 200 million shares of common stock remained available for issuance.

Employees purchased 27 million shares of common stock in 2022 for \$931 million under the 2006 ESPP (22 million shares of common stock for \$925 million in 2021 and 21 million shares of common stock for \$876 million in 2020). As of December 31, 2022, unrecognized share-based compensation costs related to rights to acquire shares of common stock under the 2006 ESPP totaled \$73 million. We expect to recognize those costs over a period of approximately two months.

Note 19 : Commitments and Contingencies

Leases

We recognized operating leased assets in other long-term assets of \$487 million and corresponding accrued liabilities of \$173 million, and other long-term liabilities of \$236 million as of December 31, 2022. Our operating leases have remaining terms of 1 to 13 years and may include options to extend the leases for up to 36 years. The weighted average remaining lease term was 3.7 years, and the weighted average discount rate was 4.3% as of December 31, 2022, for our operating leases.

Operating lease expense was \$729 million in 2022 (\$798 million in 2021 and \$416 million in 2020), including \$551 million in variable lease expense in 2022 (\$620 million in 2021 and \$237 million in 2020).

In 2021 and 2022, we signed finance leases for supplier capacity extending over approximately 8 years. The leases will commence upon start of supplier production expected in 2023 and 2024. Prepayments of \$430 million were recognized in property, plant and equipment as of December 31, 2022.

Discounted and undiscounted lease payments under non-cancelable leases as of December 31, 2022 excluding non-lease components, were as follows:

(In Millions)	2023	2024	2025	2026	2027	Thereafter	Total
Operating lease payments	\$ 179	\$ 107	\$ 72	\$ 34	\$ 26	\$ 28	\$ 446
Finance lease payments	\$ 682	\$ 122	\$ 5	\$ —	\$ —	\$ —	\$ 809
Present value of lease payments							\$ 1,218

Commitments

Commitments for capital expenditures totaled \$31.0 billion as of December 31, 2022, (\$27.0 billion as of December 25, 2021) a majority of which will be due within the next 12 months. Other purchase obligations and commitments totaled approximately \$10.7 billion as of December 31, 2022 (approximately \$12.4 billion as of December 25, 2021).

Other purchase obligations and commitments include payments due under supply agreements and various types of licenses and agreements to purchase goods or services. Contractual obligations for purchases of goods or services relate to agreements that are enforceable and legally binding and that specify all significant terms, including fixed or minimum quantities; fixed, minimum, or variable price provisions; and the approximate timing of the transaction. Other purchase obligations reflect the non-cancelable portion or the minimum cancellation fee under the agreement.

Other commitments include a \$5.4 billion commitment associated with our pending acquisition of Tower and our unrecognized commitment to fund our respective share of the total construction costs of \$29.0 billion of Arizona Fab in connection with the definitive agreement entered into with Brookfield. Our remaining unfunded contribution was \$13.5 billion as of December 31, 2022.

Legal Proceedings

We are regularly party to various ongoing claims, litigation, and other proceedings, including those noted in this section. We have accrued a charge of \$2.2 billion related to litigation involving VLSI, described below. Excluding the VLSI claims described below, management at present believes that the ultimate outcome of these proceedings, individually and in the aggregate, will not materially harm our financial position, results of operations, cash flows, or overall trends; however, legal proceedings and related government investigations are subject to inherent uncertainties, and unfavorable rulings, excessive verdicts, or other events could occur. Unfavorable resolutions could include substantial monetary damages, fines, or penalties. Certain of these outstanding matters include speculative, substantial, or indeterminate monetary awards. In addition, in matters for which injunctive relief or other conduct remedies are sought, unfavorable resolutions could include an injunction or other order prohibiting us from selling one or more products at all or in particular ways, precluding particular business practices, or requiring other remedies. An unfavorable outcome may result in a material adverse impact on our business, results of operations, financial position, and overall trends. We might also conclude that settling one or more such matters is in the best interests of our stockholders, employees, and customers, and any such settlement could include substantial payments. Except as specifically described below, we have not concluded that settlement of any of the legal proceedings noted in this section is appropriate at this time.

European Commission Competition Matter

In 2009, the European Commission (EC) found that Intel had used unfair business practices to persuade customers to buy microprocessors in violation of Article 82 of the EC Treaty (later renumbered Article 102) and Article 54 of the European Economic Area Agreement. In general, the EC found that we violated Article 82 by offering alleged "conditional rebates and payments" that required customers to purchase all or most of their x86 microprocessors from us and by making alleged "payments to prevent sales of specific rival products." The EC ordered us to end the alleged infringement referred to in its decision and imposed a €1.1 billion fine, which we paid in the third quarter of 2009.

We appealed the EC decision to the European Court of Justice in 2014, after the General Court (then called the Court of First Instance) rejected our appeal of the EC decision in its entirety. In September 2017, the Court of Justice sent the case back to the General Court to examine whether the rebates at issue were capable of restricting competition.

In January 2022, the General Court annulled the EC's 2009 findings against us regarding rebates, as well as the fine imposed on Intel, which was returned to us in February 2022. In April 2022, the EC appealed the General Court's decision to the Court of Justice. A hearing date on the appeal has not been scheduled. The General Court's January 2022 decision did not annul the EC's 2009 finding that Intel made payments to prevent sales of specific rival products, and in January 2023 the EC reopened its administrative procedure to determine a fine against Intel based on that alleged conduct. Given the procedural posture and the nature of this proceeding, we are unable to make a reasonable estimate of the potential loss or range of losses, if any, that might arise from this matter.

In a related matter, we filed applications with the General Court in April 2022 seeking an order requiring the EC to pay Intel approximately €593 million in default interest.

Litigation Related to Security Vulnerabilities

In June 2017, a Google research team notified Intel and other companies that it had identified security vulnerabilities, now commonly referred to as "Spectre" and "Meltdown," that affect many types of microprocessors, including our products. As is standard when findings like these are presented, we worked together with other companies in the industry to verify the research and develop and validate software and firmware updates for impacted technologies. In January 2018, information on the security vulnerabilities was publicly reported, before software and firmware updates to address the vulnerabilities were made widely available.

Numerous lawsuits have been filed against Intel relating to Spectre, Meltdown, and other variants of the security vulnerabilities that have been identified since 2018. As of January 25, 2023, consumer class action lawsuits against Intel were pending in the United States, Canada, and Argentina. The plaintiffs, who purport to represent various classes of purchasers of our products, generally claim to have been harmed by Intel's actions and/or omissions in connection with the security vulnerabilities and assert a variety of common law and statutory claims seeking monetary damages and equitable relief. In the United States, class action suits filed in various jurisdictions were consolidated for all pretrial proceedings in the United States District Court for the District of Oregon, which entered final judgment in favor of Intel in July 2022 based on plaintiffs' failure to plead a viable claim. Plaintiffs have appealed that decision to the Ninth Circuit Court of Appeals. In Canada, an initial status conference has not yet been scheduled in one case pending in the Superior Court of Justice of Ontario, and a stay of a second case pending in the Superior Court of Justice of Quebec is in effect. In Argentina, Intel Argentina was served with, and responded to, a class action complaint in June 2022. Additional lawsuits and claims may be asserted seeking monetary damages or other related relief. We dispute the pending claims described above and intend to defend those lawsuits vigorously. Given the procedural posture and the nature of those cases, including that the pending proceedings are in the early stages, that alleged damages have not been specified, that uncertainty exists as to the likelihood of a class or classes being certified or the ultimate size of any class or classes if certified, and that there are significant factual and legal issues to be resolved, we are unable to make a reasonable estimate of the potential loss or range of losses, if any, that might arise from those matters.

Litigation Related to 7nm Product Delay Announcement

Starting in July 2020, five securities class action lawsuits were filed in the U. S. District Court for the Northern District of California against Intel and certain current and former officers based on Intel's July 2020 announcement of 7nm product delays. The plaintiffs, who purport to represent classes of acquirers of Intel stock between October 2019 and July 2020, generally allege that the defendants violated securities laws by making false or misleading statements about the timeline for 7nm products in light of subsequently announced delays. In October 2020, the court consolidated the lawsuits, appointed lead plaintiffs, and in January 2021 the lead plaintiffs filed a consolidated complaint. Defendants moved to dismiss the consolidated complaint in March 2021. We dispute the claims described above and intend to defend the lawsuits vigorously. Given the procedural posture and the nature of those cases, including that the pending proceedings are in the early stages, that alleged damages have not been specified, that uncertainty exists as to the likelihood of a class or classes being certified or the ultimate size of any class or classes if certified, and that there are significant factual and legal issues to be resolved, we are unable to make a reasonable estimate of the potential loss or range of losses, if any, that might arise from those matters. In July 2021, Intel introduced a new process node naming structure, and the 7nm process is now Intel 4.

Litigation Related to Patent and IP Claims

We have had IP infringement lawsuits filed against us, including but not limited to those discussed below. Most involve claims that certain of our products, services, and technologies infringe others' IP rights. Adverse results in these lawsuits may include awards of substantial fines and penalties, costly royalty or licensing agreements, or orders preventing us from offering certain features, functionalities, products, or services. As a result, we may have to change our business practices, and develop non-infringing products or technologies, which could result in a loss of revenue for us and otherwise harm our business. In addition, certain agreements with our customers require us to indemnify them against certain IP infringement claims, which can increase our costs as a result of defending such claims, and may require that we pay significant damages, accept product returns, or supply our customers with non-infringing products if there were an adverse ruling in any such claims. In addition, our customers and partners may discontinue the use of our products, services, and technologies, as a result of injunctions or otherwise, which could result in loss of revenue and adversely affect our business.

VLSI Technology LLC v. Intel

In October 2017, VLSI Technology LLC (VLSI) filed a complaint against Intel in the U.S. District Court for the Northern District of California alleging that various Intel FPGA and processor products infringe eight patents that VLSI acquired from NXP Semiconductors, N.V. (NXP). VLSI estimates its damages to be at least \$5.5 billion, and seeks enhanced damages, future royalties, attorneys' fees, costs, and interest.

Intel filed Inter Partes Review (IPR) petitions with the Patent Trial and Appeal Board (PTAB) in 2018 challenging patentability, and the parties stipulated to stay the district court action pending the PTAB's review. The PTAB subsequently found all claims of two patents, and some claims of two other patents, to be unpatentable. The district court lifted the stay in September 2021 and scheduled trial for March 2024 on the claims that were found patentable by the PTAB.

In June 2018, VLSI filed a second suit against Intel, in U.S. District Court for the District of Delaware, seeking \$4.4 billion in damages for the alleged infringement by various Intel processors of five additional patents that VLSI acquired from NXP. In December 2022, VLSI stipulated to dismiss with prejudice its claims, for which Intel paid nothing. The court dismissed the case in January 2023.

In April 2019, VLSI filed three infringement suits against Intel in the Western District of Texas (WDTX) accusing various Intel processors of infringement of eight additional patents it had acquired from NXP. The first Texas case went to trial in February 2021, and the jury awarded VLSI \$1.5 billion for literal infringement of one patent and \$675 million for infringement of another patent under the doctrine of equivalents. In April 2022, the court entered final judgment, awarding VLSI \$2.2 billion in damages and approximately \$162.3 million in pre-judgment and post-judgment interest. Intel has appealed the judgment to the Federal Circuit Court of Appeals, including its claim to have a license from Fortress Investment Group's acquisition of Finjan. In December 2021 and January 2022 the PTAB instituted IPRs on the claims found to have been infringed in the first Texas case, but it has not yet issued a final written decision on either petition. The second Texas case went to trial in April 2021, and the jury found that Intel does not infringe the asserted patents. VLSI had sought approximately \$3.0 billion for alleged infringement, plus enhanced damages for willful infringement. The court has not yet entered final judgment following the second trial in Texas. The third Texas case went to trial in November 2022, with VLSI asserting one remaining patent. The jury found the patent valid and infringed, and awarded VLSI nearly \$949 million in damages, plus a running royalty. The court has not yet entered final judgment following the third trial in Texas. We intend to file motions for a judgment notwithstanding the verdict, and further appeals are possible.

In May 2019, VLSI filed a case in Shenzhen Intermediate People's Court against Intel, Intel (China) Co., Ltd., Intel Trading (Shanghai) Co., Ltd., and Intel Products (Chengdu) Co., Ltd. VLSI asserts one patent against certain Intel Core processors. Defendants filed an invalidation petition in October 2019 with the China National Intellectual Property Administration (CNIPA) which held a hearing in September 2021. CNIPA has not yet issued a decision. The Shenzhen court held trial proceedings in July 2021 and indicated that further trial proceedings were needed but would be stayed pending the outcome of defendants' invalidity challenge at the CNIPA. VLSI seeks an injunction as well as RMB 1.3 million in costs and expenses, but no damages.

In May 2019, VLSI filed a case in Shanghai Intellectual Property Court against Intel (China) Co., Ltd., Intel Trading (Shanghai) Co., Ltd., and Intel Products (Chengdu) Co., Ltd. asserting one patent against certain Intel core processors. The court held a trial hearing in December 2020, where VLSI requested expenses (RMB 300 thousand) and an injunction. The court held a second trial hearing in May 2022, but has yet to issue its final decision. In December 2022, Intel filed a second petition to invalidate the patent at issue.

In November 2019, Intel, along with Apple Inc., filed a complaint against Fortress Investment Group LLC, Fortress Credit Co. LLC, Uniloc 2017 LLC, Uniloc USA, Inc., Uniloc Luxembourg S.A.R.L., VLSI, INVT SPE LLC, Inventergy Global, Inc., DSS Technology Management, Inc., IXI IP, LLC, and Seven Networks, LLC. Plaintiffs allege violations of Section 1 of the Sherman Act by certain defendants, Section 7 of the Clayton Act by certain defendants, and California Business and Professions Code section 17200 by all defendants based on defendants' unlawful aggregation of patents. In September 2021, the district court dismissed the claims with prejudice, entering judgment in favor of defendants. In November 2022 the Ninth Circuit affirmed the district court's decision.

Intel has accrued a charge of approximately \$2.2 billion related to the VLSI litigation. While we dispute VLSI's claims and intend to vigorously defend against them, we are unable to make a reasonable estimate of losses in excess of recorded amounts given recent developments and future proceedings.

Business Interruption Insurance Proceeds

We received \$484 million of insurance proceeds, primarily in the fourth quarter of 2022, to compensate for business interruption and property damage from a temporary electrical breakdown that occurred at one of our facilities in 2020. We recognized these receipts as a reduction of *Cost of sales*.

Key Terms

We use terms throughout our document that are specific to Intel or that are abbreviations that may not be commonly known or used. Below is a list of these terms used in our document.

Term	Definition
2006 ESPP	2006 Employee Stock Purchase Plan
2006 Plan	2006 Equity Incentive Plan
5G	The fifth-generation mobile network, which brings dramatic improvements in network speeds and latency, and which we view as a transformative technology and opportunity for many industries
ADAS	Advanced driver-assistance systems
AI	Artificial intelligence
AMaaS	Autonomous Mobility as a Service
ARM	Advanced RISC machine
ASIC	Application-specific integrated circuit
ASP	Average selling price
AV	Autonomous vehicle
AXG	Advanced Computing and Graphics operating segment
BIOS	Basic input/output system
CAGR	Compound annual growth rate
CCG	Client Computing Group operating segment
CDP	A nonprofit organization that runs a global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts
CODM	Chief operating decision maker
CoSP	Communication service provider
COVID-19	The infectious disease caused by the most recently discovered coronavirus (aka SARS-CoV-2), which was declared a global pandemic by the World Health Organization
CPU	Processor or central processing unit
CSP	Cloud service provider
CXL	Compute Express Link; an open standard for high-speed CPU-to-device and CPU-to-memory connections
DCAI	Data Center and AI operating segment
eASIC	An Intel line of structured ASICs that are an intermediary technology between FPGAs and standard-cell ASICs
EC	European Commission
EDA	Electronic design automation, tools used to design and verify electronic systems, such as integrated circuits and printed circuit boards
Edge computing or intelligent edge	The placement of resources to move, store, and process data closer to where data is generated and consumed
EEO-1	EEO-1 Component 1 report; a mandatory annual data collection that requires employers meeting certain criteria to submit demographic workforce data, including data by race/ethnicity, sex, and job categories.
EMIB	Embedded multi-die interconnect bridge, a form of "2.5D" packaging technology developed by Intel that enables high-density interconnect of heterogeneous chips
EPS	Earnings per share
ERISA	Employee Retirement Income Security Act
ESG	Environmental, social, and governance
EUV	Extreme ultraviolet lithography
Exchange Act	Securities Exchange Act of 1934
Form 10-K	Annual Report on Form 10-K
Foveros	Intel's high-performance three-dimensional stacked chip architecture
FPGA	Field-programmable gate array
GPU	Graphics processing unit
HBM	High-bandwidth memory
HPC	High-performance computing
IDM	Integrated device manufacturer, a semiconductor company that both designs and builds chips
IFS	Intel Foundry Services operating segment
Internet of Things	The Internet of Things market in which we sell our NEX and Mobileye products
IP	Intellectual property

IPO	Initial public offering
IPU	Infrastructure processing unit, a programmable networking device designed to enable cloud and communication service providers to reduce overhead and free up performance for CPUs
ISA	Intel system architecture
L1	Level 1 of autonomous driving; most functions are controlled by a human driver; certain functions (parking assist, acceleration, and limited steering) can be done automatically by the vehicle
L2	Level 2 of autonomous driving; the system controls both steering and acceleration using information about the driving environment, but with the expectation that a human will perform all remaining aspects of driving; the driver can have his or her hands off the steering wheel, but must monitor the "dynamic driving task" at all times
L4	Level 4 of autonomous driving; the system performs all aspects of the driving task even if the driver does not respond appropriately to a request for intervention, including all safety-critical driving functions and monitoring roadway conditions for an entire trip. For a defined use case, no driver intervention is required at all.
MaaS	Mobility as a service
MBMW	Multi-beam mask writer
MD&A	Management's Discussion and Analysis
MG&A	Marketing, general and administrative
MNC	Multinational corporation
NAND	NAND flash memory
Network Xeon	Part of the Intel Xeon processor family designed for network and edge solutions
NEX	Networking and Edge operating segment
NIC	Network interface controller
nm	Nanometer
ODM	Original design manufacturer
OEM	Original equipment manufacturer
oneAPI	Open, cross-architecture programming model that frees developers to use a single code base across multiple architectures
OKR	Objective and key results, a goal-setting method used widely across industries as a proven approach to setting and achieving challenging goals
OSAT	Outsourced assembly and test
PPAC	Power performance area cost
Program (specific to Mobileye business)	A process that takes two to three years of intense activity with the carmaker and Tier 1 after a design win until Mobileye technology is launched into production
PRQ	Product release qualification, the milestone when costs to manufacture a product are included in inventory valuation
PSU	Performance stock unit
RAN	Radio access network
R&D	Research and development
RDFV	Readily determinable fair value
RSS	Responsibility-safety sensitive
RSU	Restricted stock unit
SaaS	Software as a service
SASB	Sustainability Accounting Standards Board
SCIP	Semiconductor Co-Investment Program
SEC	US Securities and Exchange Commission
SoC	A system on a chip, which integrates most of the components of a computer or other electronic system into a single silicon chip. We offer a range of SoC products in CCG, DCAL, and NEX. In our DCAL and NEX businesses, we offer SoCs across many market segments for a variety of applications, including products targeted for 5G base stations and network infrastructure
SOFR	Secured Overnight Financing Rate, a benchmark interest rate for dollar-denominated derivatives and loans, replacing LIBOR
SSD	Solid-state drive
TAM	Total addressable market
Tax Reform	US Tax Cuts and Jobs Act
TCFD	Task Force on Climate-Related Financial Disclosures
TSR	Total stockholder return
UCIE	Universal Chiplet Interconnect Express
US GAAP	US Generally Accepted Accounting Principles

USMAG	United States Military, Aerospace, and Government
US Pension Plan	US Intel Minimum Pension Plan
US Retiree Medical Plan	US Postretirement Medical Benefits Plan
VIE	Variable interest entity
vRAN	Virtualized radio access network
xPU	A term for processors that are designed for one of four major computing architectures: CPU, GPU, AI accelerator, and FPGA

Controls and Procedures

Inherent Limitations on Effectiveness of Controls

Our management, including the principal executive officer and principal financial officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well-designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected.

Evaluation of Disclosure Controls and Procedures

Based on management's evaluation (with the participation of our principal executive officer and principal financial officer), as of the end of the period covered by this report, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), are effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of Consolidated Financial Statements for external purposes in accordance with US GAAP.

Management assessed our internal control over financial reporting as of December 31, 2022. Management based its assessment on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Management's assessment included evaluation of elements such as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment.

Based on this assessment, management has concluded that our internal control over financial reporting was effective as of the end of the fiscal year to provide reasonable assurance regarding the reliability of financial reporting and the preparation of Consolidated Financial Statements for external reporting purposes in accordance with US GAAP. We reviewed the results of management's assessment with the Audit Committee of our Board of Directors.

Our independent registered public accounting firm, Ernst & Young LLP, independently assessed the effectiveness of the company's internal control over financial reporting, as stated in the firm's attestation report, which is included within Financial Statements and Supplemental Details.

Exhibits

1. Financial Statements: See "Index to Consolidated Financial Statements" within the Consolidated Financial Statements.
2. Financial Statement Schedules: Not applicable or the required information is otherwise included in the Consolidated Financial Statements and accompanying notes.
3. Exhibits: The exhibits listed in the accompanying index to exhibits are filed, furnished, or incorporated by reference as part of this Form 10-K.

Certain of the agreements filed as exhibits to this Form 10-K contain representations and warranties by the parties to the agreements that have been made solely for the benefit of the parties to the agreement. These representations and warranties:

- may have been qualified by disclosures that were made to the other parties in connection with the negotiation of the agreements, which disclosures are not necessarily reflected in the agreements;
- may apply standards of materiality that differ from those of a reasonable investor; and
- were made only as of specified dates contained in the agreements and are subject to subsequent developments and changed circumstances.

Accordingly, these representations and warranties may not describe the actual state of affairs as of the date that these representations and warranties were made or at any other time. Investors should not rely on them as statements of fact.

Exhibit Index

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Exhibit	Filing Date	
2.1	Master Purchase Agreement between Intel Corporation and SK hynix Inc., dated as of October 19, 2020	8-K	000-06217	2.1	10/20/2020	
3.1	Intel Corporation Third Restated Certificate of Incorporation of Intel Corporation dated May 17, 2006	8-K	000-06217	3.1	5/22/2006	
3.2	Intel Corporation Bylaws, as amended and restated on March 10, 2021	8-K	000-06217	3.2	3/16/2021	
4.1	Indenture dated as of March 29, 2006 between Intel Corporation and Wells Fargo Bank, National Association (as successor to Citibank N.A.) (the "Open-Ended Indenture")	S-3ASR	333-132865	4.4	3/30/2006	
4.2	First Supplemental Indenture to Open-Ended Indenture, dated as of December 3, 2007	10-K	000-06217	4.2.4	2/20/2008	
4.3	Second Supplemental Indenture to Open-Ended Indenture for the Registrant's 1.95% Senior Notes due 2016, 3.30% Senior Notes due 2021, and 4.80% Senior Notes due 2041, dated as of September 19, 2011	8-K	000-06217	4.01	9/19/2011	
4.4	Third Supplemental Indenture to Open-Ended Indenture for the Registrant's 1.35% Senior Notes due 2017, 2.70% Senior Notes due 2022, 4.00% Senior Notes due 2032, and 4.25% Senior Notes due 2042, dated as of December 11, 2012	8-K	000-06217	4.01	12/11/2012	
4.5	Fourth Supplemental Indenture to Open-Ended Indenture for the Registrant's 4.25% Senior Notes due 2042, dated as of December 14, 2012	8-K	000-06217	4.01	12/14/2012	
4.6	Fifth Supplemental Indenture to Open-Ended Indenture, dated as of July 29, 2015, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	7/29/2015	
4.7	Eighth Supplemental Indenture to Open-Ended Indenture, dated as of May 19, 2016, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	5/19/2016	
4.8	Ninth Supplemental Indenture to Open-Ended Indenture, dated as of May 11, 2017, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	5/11/2017	
4.9	Tenth Supplemental Indenture to Open-Ended Indenture, dated as of June 16, 2017, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	6/16/2017	
4.10	Eleventh Supplemental Indenture to Open-Ended Indenture, dated as of August 14, 2017, among Intel Corporation, Wells Fargo Bank, National Association, as successor trustee, and Elavon Financial Services DAC, UK Branch, as paying agent	8-K	000-06217	4.1	8/14/2017	
4.11	Twelfth Supplemental Indenture to Open-Ended Indenture, dated as of December 8, 2017, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	10-K	000-06217	4.2.13	2/16/2018	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Exhibit	Filing Date	
4.12	Thirteenth Supplemental Indenture, dated as of November 21, 2019, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	11/21/2019	
4.13	Fourteenth Supplemental Indenture, dated as of February 13, 2020, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	2/13/2020	
4.14	Fifteenth Supplemental Indenture, dated as of February 13, 2020, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.2	2/13/2020	
4.15	Sixteenth Supplemental Indenture, dated as of March 25, 2020, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	3/25/2020	
4.16	Seventeenth Supplemental Indenture, dated as of August 12, 2021, between Intel Corporation and Wells Fargo Bank, National Association, as successor trustee	8-K	000-06217	4.1	8/12/2021	
4.17	Eighteenth Supplemental Indenture, dated as of August 5, 2022, between Intel Corporation and Computershare Trust Company, National Association (as successor to Wells Fargo Bank, National Association), as trustee	8-K	000-06217	4.1	8/5/2022	
4.18	Description of Intel Securities Registered under Section 12 of the Exchange Act	10-K	000-06217	4.18	1/27/2022	
10.1 [†]	Intel Corporation 2006 Equity Incentive Plan, as amended and restated, effective May 12, 2022	10-Q	000-06217	10.2	7/29/2022	
10.1.2 [†]	Intel Corporation Form of Notice of Grant - Restricted Stock Units	10-Q	000-06217	10.1	10/25/2018	
10.1.3 [†]	Intel Corporation Form of Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for RSUs with retirement vesting terms granted to executives on or after January 30, 2019)	10-Q	000-06217	10.3	4/26/2019	
10.1.4 [†]	Intel Corporation Form of Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for RSUs without retirement vesting terms granted to executives on or after January 30, 2019)	10-Q	000-06217	10.4	4/26/2019	
10.1.5 [†]	Intel Corporation Form of Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for performance-based RSUs granted to grandfathered executives on or after January 30, 2019)	10-Q	000-06217	10.5	4/26/2019	
10.1.6 [†]	Intel Corporation Form of Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for performance-based RSUs granted to non-grandfathered executives on or after January 30, 2019)	10-Q	000-06217	10.1	4/24/2020	
10.1.7 [†]	Intel Corporation Form of Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for strategic growth performance-based RSUs granted to executives on or after February 1, 2019)	10-Q	000-06217	10.6	4/26/2019	
10.1.8 [†]	First Amendment to Option Agreement (Performance Options) between Intel and Patrick Gelsinger, dated November 18, 2022	8-K	000-06217	10.1	11/22/2022	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Exhibit	Filing Date	
10.1.9 [†]	First Amendment to Restricted Stock Unit Agreement (Strategic Growth PSUs) between Intel and Patrick Gelsinger, dated November 18, 2022	8-K	000-06217	10.2	11/22/2022	
10.1.10 [†]	First Amendment to Restricted Stock Unit Agreement (Outperformance PSUs) between Intel and Patrick Gelsinger, dated November 18, 2022	8-K	000-06217	10.3	11/22/2022	
10.1.11 [†]	Intel Corporation Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for performance-based RSUs granted to Robert Swan for interim CEO service on January 30, 2019)	10-Q	000-06217	10.9	4/26/2019	
10.1.12 [†]	Intel Corporation Form of Stock Option Grant Agreement under the 2006 Equity Incentive Plan (for strategic growth performance-based stock options granted to executives on or after February 1, 2019)	10-Q	000-06217	10.7	4/26/2019	
10.1.13 [†]	Intel Corporation Form of Non-Employee Director Restricted Stock Unit Grant Agreement under the 2006 Equity Incentive Plan (for RSUs granted to non-employee directors on or after January 30, 2019)	10-Q	000-06217	10.11	4/26/2019	
10.1.14 [†]	Intel Corporation Form of Non-Employee Director Restricted Stock Unit Agreement under the 2006 Equity Incentive Plan (for RSUs granted to non-employee directors on or after May 12, 2022)	10-Q	000-6217	10.3	10/28/2022	
10.1.15 [†]	Intel Corporation 2021 Inducement Plan	S-8	333-253077	99.1	2/12/2021	
10.1.16 [†]	Intel Corporation Restricted Stock Unit Agreement under the 2021 Inducement Plan (for time-vesting RSUs)	10-Q	000-06217	10.3	4/23/2021	
10.1.17 [†]	Intel Corporation Restricted Stock Unit Agreement under the 2021 Inducement Plan (for optional investment matching RSUs)	10-Q	000-06217	10.4	4/23/2021	
10.1.18 [†]	Intel Corporation Restricted Stock Unit Agreement under the 2021 Inducement Plan (for relative TSR performance-based RSUs)	10-Q	000-06217	10.5	4/23/2021	
10.1.19 [†]	Intel Corporation Restricted Stock Unit Agreement under the 2021 Inducement Plan (for strategic growth performance-based RSUs)	10-Q	000-06217	10.6	4/23/2021	
10.1.20 [†]	Intel Corporation Restricted Stock Unit Agreement under the 2021 Inducement Plan (for outperformance performance-based RSUs)	10-Q	000-06217	10.7	4/23/2021	
10.1.21 [†]	Intel Corporation Option Agreement under the 2021 Inducement Plan (for strategic growth performance-based stock options)	10-Q	000-06217	10.8	4/23/2021	
10.2 [†]	Intel Corporation Executive Annual Performance Bonus Plan, effective as of January 1, 2020	8-K	000-06217	10.1	1/22/2020	
10.3 [†]	Intel Corporation Sheltered Employee Retirement Plan Plus, as amended and restated, effective January 1, 2020	10-Q	000-06217	10.3	4/24/2020	
10.4 [†]	First Amendment to Intel Corporation Sheltered Employee Retirement Plan Plus dated January 1, 2020	10-Q	000-06217	10.1	7/29/2022	
10.5 [†]	Second Amendment to Intel Corporation Sheltered Employee Retirement Plan Plus dated January 1, 2023					X
10.6 [†]	Intel Corporation 2006 Employee Stock Purchase Plan, as amended and restated, effective February 12, 2022	10-Q	000-06217	10.2	4/29/2022	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed or Furnished Herewith
		Form	File Number	Exhibit	Filing Date	
10.7 [†]	Intel Corporation 2006 Deferral Plan for Outside Directors, effective November 15, 2006	10-K	000-06217	10.41	2/26/2007	
10.8 [†]	Form of Indemnification Agreement with Directors and Executive Officers	10-K	000-06217	10.15	2/22/2005	
10.9 [†]	Form of Indemnification Agreement with Directors and Executive Officers (for Directors and Executive Officers who joined Intel after July 1, 2016)	10-Q	000-06217	10.2	10/31/2016	
10.10	Settlement Agreement Between Advanced Micro Devices, Inc. and Intel Corporation, dated November 11, 2009	8-K	000-06217	10.1	11/12/2009	
10.11 ^{††}	Patent Cross License Agreement between NVIDIA Corporation and Intel Corporation, dated January 10, 2011	8-K	000-06217	10.1	1/10/2011	
10.12 [^]	Purchase and Contribution Agreement, dated as of August 22, 2022, by and among Intel Corporation, Arizona Fab HoldCo Inc., Foundry JV Holdco LLC, and Arizona Fab LLC	8-K	000-06217	10.1	8/23/2022	
10.13 [^]	Amended and Restated Limited Liability Company Agreement of Arizona Fab LLC by and between Arizona Fab HoldCo Inc. and Foundry JV Holdco LLC	8-K	000-06217	10.1	11/22/2022	
10.14 [†]	Offer Letter between Intel Corporation and Sandra Rivera, dated June 21, 2021	10-Q	000-06217	10.1	7/23/2021	
10.15 [†]	Offer Letter between Intel Corporation and Patrick Gelsinger, dated January 13, 2021	8-K	000-06217	10.1	1/14/2021	
10.16 [†]	Offer Letter between Intel Corporation and David A. Zinsner dated January 6, 2022	8-K	000-06217	10.1	1/10/2022	
10.17 [†]	Lease Agreement between Intel Corporation and Steven R. Rodgers [^]	10-Q	000-06217	10.12	4/26/2019	
10.18 [†]	Offer Letter between Intel Corporation and George S. Davis, dated April 2, 2019	8-K	000-06217	10.1	4/3/2019	
21.1	Intel Corporation Subsidiaries					X
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm					X
31.1	Certification of the Chief Executive Officer pursuant to Rule 13a-14(a) of the Exchange Act					X
31.2	Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) of the Exchange Act					X
32.1	Certification of the Chief Executive Officer and the Chief Financial Officer pursuant to Rule 13a-14(b) of the Exchange Act and 18 U.S.C. Section 1350					X
99.1	Supplement to Present Required Information in Searchable Format					X
101	Inline XBRL Document Set for the consolidated financial statements and accompanying notes in Financial Statements and Supplemental Details					X
104	Cover Page Interactive Data File - formatted in Inline XBRL and included as Exhibit 101					X

[†] Management contracts or compensation plans or arrangements in which directors or executive officers are eligible to participate.

^{††} Portions of this exhibit have been omitted pursuant to an order granting confidential treatment.

[^] Schedules and certain portions of this exhibit have been omitted pursuant to Item 601(a)(5)-(6) and Item 601(b)(10(iv) of Regulation S-K.

Form 10-K Cross-Reference Index

Item Number	Item	
Part I		
Item 1.	Business:	
	General development of business	Pages 3-9, 19
	Description of business	Pages 3-38, 51-52, 70, 88-90
	Available information	Page 2
Item 1A.	Risk Factors	Pages 53-67
Item 1B.	Unresolved Staff Comments	Not applicable
Item 2.	Properties	Pages 14, 67
Item 3.	Legal Proceedings	Pages 112-114
Item 4.	Mine Safety Disclosures	Not applicable
Part II		
Item 5.	Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities	Pages 11, 68-69
Item 6.	[Reserved]	
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations:	
	Liquidity and capital resources	Pages 5-6, 45-47, 47-50
	Results of operations	Pages 5-6, 19-44, 47-50
	Critical accounting estimates	Pages 47, 81-87
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	Page 52
Item 8.	Financial Statements and Supplementary Data	Pages 72-117
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	Not applicable
Item 9A.	Controls and Procedures	Page 118
Item 9B.	Other Information	
	Disclosure Pursuant to Section 13(r) of the Securities Exchange Act of 1934	Page 71
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	Not applicable
Part III		
Item 10.	Directors, Executive Officers, and Corporate Governance	Page 70, (a)
Item 11.	Executive Compensation	(b)
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	(c)
Item 13.	Certain Relationships and Related Transactions, and Director Independence	(d)
Item 14.	Principal Accountant Fees and Services	(e)
Part IV		
Item 15.	Exhibits and Financial Statement Schedules	Pages 72-117, 119-123
Item 16.	Form 10-K Summary	Not applicable
Signatures		
Page 125		
(a) Incorporated by reference to "Director Nominees," "Director Nomination Process," "Board Committees," "Audit & Finance Committee," "Code of Conduct," "2024 Stockholder Proposals or Nominations," and "Delinquent Section 16(a) Reports" (if applicable) in the 2023 Proxy Statement. The information under the heading "Information about Our Executive Officers" within Other Key Information is also incorporated by reference in this section.		
(b) Incorporated by reference to "Risk Oversight," "Director Compensation," "Compensation Discussion and Analysis," "Compensation Committee Report," "Executive Compensation Tables" "CEO Pay Ratio," and "Pay Versus Performance" in the 2023 Proxy Statement.		
(c) Incorporated by reference to "Security Ownership of Certain Beneficial Owners and Management" and "Equity Compensation Plan Information" in the 2023 Proxy Statement.		
(d) Incorporated by reference to "Director Independence and Transactions Considered in Independence Determinations" and "Certain Relationships and Related Transactions" in the 2023 Proxy Statement.		
(e) Incorporated by reference to "2022 and 2021 EY Fees," "Report of the Audit & Finance Committee," and "Pre-Approval Policies" in the 2023 Proxy Statement.		

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.

INTEL CORPORATION
Registrant

By: /s/ PATRICK P. GELSINGER
Patrick P. Gelsinger
Chief Executive Officer, Director, and Principal Executive Officer
January 26, 2023

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.

/s/ PATRICK P. GELSINGER

Patrick P. Gelsinger
Chief Executive Officer, Director, and Principal Executive Officer
January 26, 2023

/s/ DAVID ZINSNER

David Zinsner
Executive Vice President, Chief Financial Officer, and Principal
Financial Officer
January 26, 2023

/s/ SCOTT GAWEL

Scott Gawel
Corporate Vice President, Chief Accounting Officer and Principal
Accounting Officer
January 26, 2023

/s/ JAMES J. GOETZ

James J. Goetz
Director
January 26, 2023

/s/ DR. ANDREA J. GOLDSMITH

Dr. Andrea J. Goldsmith
Director
January 26, 2023

/s/ ALYSSA HENRY

Alyssa Henry
Director
January 26, 2023

/s/ DR. OMAR ISHRAK

Dr. Omar Ishrak
Director
January 26, 2023

/s/ DR. RISA LAVIZZO-MOUREY

Dr. Risa Lavizzo-Mourey
Director
January 26, 2023

/s/ BARBARA G NOVICK

Barbara G. Novick
Director
January 26, 2023

/s/ DR. TSU-JAE KING LIU

Dr. Tsu-Jae King Liu
Director
January 26, 2023

/s/ GREGORY D. SMITH

Gregory D. Smith
Director
January 26, 2023

/s/ LIP-BU TAN

Lip-Bu Tan
Director
January 26, 2023

/s/ DION J. WEISLER

Dion J. Weisler
Director
January 26, 2023

/s/ FRANK D. YEARY

Frank D. Yeary
Chair of the Board and Director
January 26, 2023

Corporate Directory**

BOARD OF DIRECTORS

Patrick P. Gelsinger

Chief Executive Officer

James J. Goetz

Partner

Sequoia Capital

Andrea J. Goldsmith

Dean of Engineering and Applied Science and

Professor of Engineering

Princeton University

Alyssa H. Henry

Square Lead and

Block Infrastructure and Information Security Lead

Block, Inc.

Dr. Omar Ishrak

Former Executive Chairman and

Chief Executive Officer

Medtronic plc

Dr. Risa Lavizzo-Mourey

Wood Johnson Foundation PIK

Population Health and Health Equity

Professor Emerita

University of Pennsylvania

Dr. Tsu-Jae King Liu

Dean and Roy W. Carlson Professor of Engineering

College of Engineering

University of California, Berkeley

Barbara G. Novick

Co-Founder, Former Vice-Chairman and

Senior Advisor

BlackRock, Inc.

Gregory D. Smith

Former Chief Financial Officer and

Executive Vice President, Enterprise Operations

The Boeing Company

Lip-Bu Tan

Executive Chair and Former Chief Executive Officer

Cadence Design Systems Inc.

Dion J. Weisler

Former President and Chief Executive Officer

HP Inc.

Frank D. Yeary[†]

Principal

Darwin Capital Advisors, LLC

EXECUTIVE OFFICERS

Patrick P. Gelsinger

Chief Executive Officer

David A. Zinsner

Executive Vice President

Chief Financial Officer and Principal Financial Officer

Michelle Johnston Holthaus

Executive Vice President

General Manager, Client Computing Group

April Miller Boise

Executive Vice President

Chief Legal Officer

Christoph Schell

Executive Vice President

Chief Commercial Officer and

Sales, Marketing and Communications Group

Sandra L. Rivera

Executive Vice President

General Manager, Data Center and AI Group

For additional listing of Intel senior management, visit:

www.intel.com/newsroom/bios

[†]Independent Chair of the Board

^{**}As of March 1, 2023

Investor Information

Intel on NASDAQ

Intel's common stock trades on the Nasdaq Global Select Market* under the symbol INTC.

Investor materials

Intel's Investor Relations website contains background on our company and our products, financial information, investor presentations, frequently asked questions, and our online annual report, as well as other useful information such as news releases and information on corporate governance practices and corporate responsibility. For investor information, including additional copies of our annual report/10-K, 10-Qs, or other financial literature, visit our website at www.intc.com or call Intel at (408) 765-1480 (US); (44) 1793 403 000 (Europe); (852) 2844 4555 (Hong Kong); (81) 3 5223 9100 (Japan).

Direct stock purchase plan

Intel's Direct Stock Purchase and Dividend Reinvestment Plan allows stockholders to reinvest dividends and purchase Intel common stock on a weekly basis. For more information, contact Intel's transfer agent, Computershare Trust Company, N.A., by phone at (800) 298-0146 (US and Canada) or (312) 360-5123 (worldwide), or by e-mail through Computershare's website at www.computershare.com/contactus.

Transfer agent and registrar

Computershare Trust Company, N.A., 150 Royall Street, Suite 101, Canton, MA 02021

US Stockholders may call (800) 298-0146 (US and Canada) or (312) 360-5123 (worldwide), or send e-mail through Computershare's website at www.computershare.com/contactus with any questions regarding the transfer of ownership of Intel stock.

Independent registered public accounting firm

Ernst & Young LLP, San Jose, California, US.

About Intel

Intel (NASDAQ: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel's innovations, go to newsroom.intel.com and intel.com.

Corporate governance and corporate responsibility

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Our integrated approach to corporate responsibility and sustainability—built on a strong foundation of transparency, governance, and ethics—creates value for Intel and our stockholders by helping us mitigate risks, reduce costs, build brand value, and identify new market opportunities. We set ambitious goals and make strategic investments to drive improvements in environmental sustainability, supply chain responsibility, diversity and inclusion, and social impact that benefit our various stakeholders, including, but not limited to, our people, customers, government, the environment, and society. Intel's annual Corporate Responsibility Report outlines our strategic priorities and performance on a range of environmental, social, and governance factors. The report and supporting materials are available at www.intel.com/responsibility.



The paper utilized in the production of this annual report is all certified for Forest Stewardship Council (FSC®) standards, which promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests. This annual report was printed at a facility that uses exclusively vegetable based inks, 100% renewable wind energy, and releases zero VOCs into the environment.

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Awards and Recognitions

Third-party ratings and rankings give us valuable feedback on our programs and practices, and help drive continuous improvement over time. Below is a selection of the corporate responsibility-related awards and recognitions that Intel received in 2022.

3BL Media. 100 Best Corporate Citizens

AISES. Top 50 Workplaces for Indigenous STEM Professionals

American Association of People with Disabilities and Disability:IN. Disability Equality Index

As You Sow. Clean200

Barron's. 100 Most Sustainable Companies

Bloomberg. Bloomberg Gender-Equality Index

CDP. "A-" Water Security Rating, "B" Climate Change Rating, Supplier Engagement Leadership Rating

Center for Political Accountability. CPA-Zicklin Index of Corporate Political Disclosure and Accountability - Trendsetter Company

Dow Jones Sustainability Index. North America Index

Ethisphere Institute. World's Most Ethical Companies

FTSE Group. FTSE4Good Index¹

Gartner. Supply Chain Top 25

Hispanic Association of Corporate Responsibility. Corporate Inclusion Index 5-Star Rating for Governance

Human Rights Campaign. Corporate Equality Index

ISS. 1 rating in both Environment & Social Quality Score²

JUST Capital. JUST 100

KnowTheChain. Ranked #2, Information & Communications Technology³

LATINA Style 50. Top 50 Best Companies for Latinas to Work in the US

Minority Engineer. Top 50 Employers

National Business Inclusion Consortium. Best-of-the-Best Corporations for Inclusion

Newsweek. America's Most Responsible Companies

Religious Freedom & Business Foundation. Corporate Religious Equity, Diversity and Inclusion Index

RepTrak. 2021 Global RepTrak® 100

US Environmental Protection Agency. #3 Ranking on Green Power Partnership National Top 100

Wall Street Journal. Management Top 250

Women's Business Enterprise National Council. Top Corporations for Women's Business Enterprises

WE Connect International. Top 10 Global Champions for Supplier Diversity Inclusion

Women Engineer Magazine. Top 50 Employers - Reader's Choice

Working Mother. 100 Best Companies for Multicultural Women

¹ FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Intel Corporation has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index provider FTSE Russell, the FTSE4Good Index Series is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE4Good indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.

² Score as of end of year 2022

³ KnowTheChain Ranking as of January 10, 2023.

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