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 30, 2023

OR

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

Commission File Number **001-07882**

ADVANCED MICRO DEVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-1692300**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

2485 Augustine Drive
Santa Clara, California 95054
(Address of principal executive offices)(Zip Code)
(408) 749-4000
(Registrant's telephone number, including area code)

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, $0.01 par value per share	**AMD**	**The 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 Exchange 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 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. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

As of June 30, 2023, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $182.9 billion based on the reported closing sale price of $113.91 per share as reported on The NASDAQ Global Select Market (NASDAQ) on June 30, 2023, which was the last business day of the registrant's most recently completed second fiscal quarter.

AMD 1069
Advanced Micro Devices v. Fermat Int'l
IPR2026-00359

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 1,615,786,841 shares of common stock, $0.01 par value per share, as of January 25, 2024.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement for the 2024 Annual Meeting of Stockholders (2024 Proxy Statement) are incorporated into Part III hereof. The 2024 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the registrant's fiscal year ended December 30, 2023.

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PART I

ITEM 1. BUSINESS

Cautionary Statement Regarding Forward-Looking Statements

The statements in this report include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations and beliefs and involve numerous risks and uncertainties that could cause actual results to differ materially from expectations. These forward-looking statements speak only as of the date hereof or as of the dates indicated in the statements and should not be relied upon as predictions of future events, as we cannot assure you that the events or circumstances reflected in these statements will be achieved or will occur. You can identify forward-looking statements by the use of forward-looking terminology including "believes," "expects," "may," "will," "should," "seeks," "intends," "plans," "pro forma," "estimates," "anticipates," or the negative of these words and phrases, other variations of these words and phrases or comparable terminology. The forward-looking statements relate to, among other things: possible impact of future accounting rules on AMD's consolidated financial statements; demand for AMD's products; AMD's strategy and expected benefits; the growth, change and competitive landscape of the markets in which AMD participates; international sales will continue to be a significant portion of total sales in the foreseeable future; that AMD's cash, cash equivalents and short-term investment balances together with the availability under that certain revolving credit facility (the Revolving Credit Agreement) made available to AMD and certain of its subsidiaries, our commercial paper program, and our cash flows from operations will be sufficient to fund AMD's operations including capital expenditures and purchase commitments over the next 12 months and beyond; AMD's ability to obtain sufficient external financing on favorable terms, or at all; AMD's expectation that based on management's current knowledge, the potential liability related to AMD's current litigation will not have a material adverse effect on its financial position, results of operation or cash flows; anticipated ongoing and increased costs related to enhancing and implementing information security controls; all unbilled accounts receivables are expected to be billed and collected within 12 months; revenue allocated to remaining performance obligations that are unsatisfied which will be recognized in the next 12 months; a small number of customers will continue to account for a substantial part of AMD's revenue in the future; the expected implications from the development of the legal and regulatory environment relating to emerging technologies such as AI; AMD's expectation that it will not pay dividends in the near future; AMD's ability to achieve its corporate responsibility initiatives; expected future AI technology trends and developments. For a discussion of the factors that could cause actual results to differ materially from the forward-looking statements, see "Part I, Item 1A-Risk Factors" and the "Financial Condition" section set forth in "Part II, Item 7-Management's Discussion and Analysis of Financial Condition and Results of Operations," or MD&A, and such other risks and uncertainties as set forth below in this report or detailed in our other Securities and Exchange Commission (SEC) reports and filings. We assume no obligation to update forward-looking statements.

Additionally, we make certain voluntary disclosures in this report and on our website, which are informed by various standards and frameworks (including standards for the measurement of underlying data), and the interests of various stakeholders. As such, these voluntary disclosures may not necessarily be "material" under the federal securities laws for SEC reporting purposes. Furthermore, much of this information is subject to methodological considerations or information, including from third-parties, that is still evolving and subject to change, and which AMD does not independently verify. For example, our disclosures based on any standards may change due to revisions in framework requirements, availability of information, changes in our business or applicable government policies, or other factors, some of which may be beyond our control.

References in this Annual Report on Form 10-K to "AMD," "we," "us," "management," "our" or the "Company" mean Advanced Micro Devices, Inc. and our consolidated subsidiaries.

Overview

We are a global semiconductor company primarily offering:

- server microprocessors (CPUs), graphics processing units (GPUs), accelerated processing units (APUs), data processing units (DPUs), Field Programmable Gate Arrays (FPGAs), Smart Network Interface Cards (SmartNICs), Artificial Intelligence (AI) accelerators and Adaptive System-on-Chip (SoC) products for data centers;

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- CPUs, APUs and chipsets for desktop, notebook, and handheld personal computers;
- discrete GPUs, and semi-custom SoC products and development services; and
- embedded CPUs, GPUs, APUs, FPGAs, System on Modules (SOMs), and Adaptive SoC products.

From time to time, we may also sell or license portions of our intellectual property (IP) portfolio.

Additional Information

AMD was incorporated under the laws of Delaware on May 1, 1969 and became a publicly held company in 1972. Our common stock is currently listed on The NASDAQ Global Select Market (NASDAQ) under the symbol “AMD”. Our mailing address and executive offices are located at 2485 Augustine Drive, Santa Clara, California 95054, and our telephone number is (408) 749-4000. For financial information about geographic areas and for segment information with respect to revenues and operating results, refer to the information set forth in Note 4 of our consolidated financial statements. We use a 52- or 53-week fiscal year ending on the last Saturday in December. References in this report to 2023, 2022 and 2021 refer to the fiscal year unless explicitly stated otherwise.

AMD, the AMD Arrow logo, AMD CDNA, AMD Instinct, RDNA, Alveo, Artix, Athlon, CoolRunner, EPYC, FidelityFX, FirePro, FreeSync, Geode, Infinity Fabric, Kinex, Kria, Pensando, Radeon, ROCm, Ryzen, Spartan, Threadripper, UltraScale, UltraScale+, V-Cache, Versal, Virtex, Vitis, Vivado, Xilinx, XDNA, Zynq and combinations thereof are trademarks of Advanced Micro Devices, Inc.

Microsoft, Windows, DirectX and Xbox One are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. PCIe is a registered trademark of PCI-SIG Corporation. Linux is the registered trademark of Linus Torvalds in the United States and/or other countries. PlayStation is a registered trademark or trademark of Sony Interactive Entertainment, Inc. Arm is a registered trademark of ARM Limited (or its subsidiaries) in the United States and/or other countries. Vulkan and the Vulkan logo are registered trademarks of Khronos Group Inc. Steam Deck and the Steam Deck logo are trademarks and/or registered trademarks of Valve Corporation in the United States and/or other countries.

Other names are for informational purposes only and are used to identify companies and products and may be trademarks of their respective owners.

Website Access to Our SEC Filings and Corporate Governance Documents

On the Investor Relations pages of our website, http://ir.amd.com, we post links to our filings with the SEC, our Principles of Corporate Governance, our Code of Ethics for our executive officers, all other senior finance executives and certain representatives from legal and internal audit, our Worldwide Standards of Business Conduct, which applies to our Board of Directors and all of our employees, and the charters of the committees of our Board of Directors. Our filings with the SEC are posted as soon as reasonably practical after they are electronically filed with, or furnished to, the SEC. The SEC website, www.sec.gov, contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. You can also obtain copies of these documents by writing to us at: Corporate Secretary, AMD, 2485 Augustine Drive, Santa Clara, California 95054, or emailing us at: Corporate.Secretary@amd.com. All of these documents and filings are available free of charge.

If we make substantive amendments to our Code of Ethics or grant any waiver, including any implicit waiver, to our principal executive officer, principal financial officer, principal accounting officer, controller or persons performing similar functions, we intend to disclose the nature of such amendment or waiver on our website.

The information contained on our website is not incorporated by reference in, or considered to be a part of, this report.

Our Industry

We are a global semiconductor company. Semiconductors are components used in a variety of electronic products and systems. An integrated circuit (IC) is a semiconductor device that consists of many interconnected transistors on a single chip. Since the invention of the transistor in 1948, improvements in IC process and design technologies have led to the development of smaller, more complex and more reliable ICs at a lower cost-per-function.

Our Strategy

AMD drives innovation through high-performance and adaptive computing technology, software and product leadership. Our strategy is to create and deliver the world's leading high-performance and adaptive computing products across a diverse set of customer markets including data center, client, gaming and embedded. Our strategy is focused on five strategic pillars: extend leadership in foundational technology and IP, provide competitive software, tools and open-source enablement, re-use core technology across platforms to achieve economies of scale, build effective ecosystems with disciplined partnerships, and drive customer-centric go-to-market that leverages all of AMD's capabilities.

With our high-performance product portfolios, we deliver solutions that are differentiated at the chip level, such as our semi-custom SoCs, Adaptive SoCs, and APUs, and at the platform level, such as in our customers' client computing devices, embedded platforms and servers. We offer a deep portfolio of data center computing solutions including CPUs, GPUs, DPUs, SmartNICs, FPGAs, AI accelerators and Adaptive SoCs to meet the vast computing performance requirements of today's data centers, supercomputers, AI and Machine Learning (ML) data center environments and cloud environments. AMD is a leader in adaptive and embedded computing, CPUs, APUs, FPGAs, SOMs and Adaptive SoCs for a variety of markets, including health care, automotive, industrial, storage and networking. We drive innovation with our line-up of CPUs, APUs and chipsets for desktop, notebook, commercial and handheld PCs to bring performance, efficiency and modern security features to gamers, creators, consumers and enterprises. Our GPUs, including discrete GPUs, semi-custom SoC products and development services, work together with software to power immersive gaming experiences for personal PCs, handheld PCs, the latest game consoles and cloud gaming services.

We believe that AI capabilities are central to products and solutions across our markets and we have a broad technology roadmap and products targeting AI training and inference spanning cloud, edge and intelligent endpoints. We offer products that include capabilities to support AI deployment and we expect this part of our business to grow. Our AI product portfolio caters to customers across strategic markets, from data center to enterprise to client. We achieve this through our family of CPUs, GPUs, FPGAs, and Adaptive SoCs. With the acquisitions of Mipsology SAS and Nod, Inc. in 2023, we expanded our AI software capabilities to accelerate our AI growth strategy centered on an open software ecosystem to help lower the barriers of entry for customers through developer tools, libraries and models.

We develop world-class software platforms that are used to enable our high-performance products. Our software platforms include development tools, compilers, and drivers for our CPUs, APUs, GPUs and FPGAs. We work closely with our customers to define and develop customized solutions to precisely match their requirements. We enable this by combining our broad portfolio of high-performance IP with our leadership design and packaging to deliver world-class customized solutions to our customers. We invest in innovative technology and solutions such as our custom-ready chiplet platform and AMD Infinity Architecture to maintain our leadership position as a custom-design silicon provider of choice.

Our four reportable segments are:

- the Data Center segment, which primarily includes server CPUs, GPUs, APUs, DPUs, FPGAs, SmartNICs, AI accelerators and Adaptive SoC products for data centers;
- the Client segment, which primarily includes CPUs, APUs, and chipsets for desktop, notebook and handheld personal computers;
- the Gaming segment, which primarily includes discrete GPUs, semi-custom SoC products and development services; and
- the Embedded segment, which primarily includes embedded CPUs, GPUs, APUs, FPGAs, SOMs, and Adaptive SoC products.

In addition to these reportable segments, we have an All Other category, which is not a reportable segment.

Data Center Segment

Data Center Market

The Data Center segment primarily includes server-class CPUs, GPUs, AI accelerators, DPUs, FPGAs, SmartNICs, and Adaptive SoC products. We leverage our technology to address the computational, visual data processing and AI workload acceleration needs in the data center market. Modern data centers require high performance, energy efficient, scalable and adaptable compute engines to meet the demand driven by the growing amount of data that needs to be stored, accessed, analyzed and managed. Different combinations of CPUs, GPUs, DPUs, FPGAs, SmartNICs, and Adaptive SoCs enable the optimization of performance and power for a diverse set of workloads.

Data Center Products

Server CPUs. Our CPUs for server platforms currently include the AMD EPYC™ Series processors – AMD EPYC 9004 Series, AMD EPYC 8004 Series, AMD EPYC 7003 Series and AMD EPYC 7002 Series. Our 4th Gen AMD EPYC 9004 Series processors are built on the "Zen 4" 5 nanometer (nm) process node and re designed to deliver leadership performance and energy efficiency across a range of market segments and workloads. The AMD EPYC 97x4, cloud native-optimized data center CPUs, formerly codenamed "Bergamo," are built with our "Zen 4c" architecture core and further extend the EPYC 9004 Series of processors to deliver the thread density and scale needed for cloud native computing. Our AMD EPYC 8004 Series processors, formerly codenamed "Siena", are also built on the "Zen 4c" core into a workload-optimized CPU. Our 3rd Gen AMD EPYC and 4th Gen AMD EPYC portfolios both include processors that feature AMD 3D V-Cache™ technology for leadership performance in technical computing workloads.

Data Center GPUs. Our AMD Instinct™ family of GPU accelerator products, including AMD Instinct MI200 and MI300 Series which are based on AMD CDNA architecture. AMD Instinct accelerators are designed to address the growing demand for compute-accelerated data center workloads, including AI training and inferencing, and a range of supercomputing applications where the compute capabilities of GPUs can provide additional performance. Combined with our AMD ROCm™ open software platform, our customers can deliver differentiated accelerated platforms to address the next-generation of computing challenges while minimizing power and space needs in the data center. Our visual cloud GPU offerings include products in the Radeon™ PRO V families. Our visual cloud data center GPUs include a range of solutions tailored towards workloads requiring remote visualization, such as Desktop-as-a-Service, Workstation-as-a-Service and Cloud Gaming.

FPGAs and Adaptive SoCs. We offer a wide range of FPGAs, Adaptive SoCs and acceleration cards for the data center. Devices include the Virtex™ and Kintex™ FPGA products, as well as Zynq™, Zynq MPSoC, and Versal™ Adaptive SoC products. Our Alveo™ accelerator cards provide a platform for accelerating workloads including AI processing in the data center, at the edge or the cloud. Our AMD Alveo MA35D media accelerator is designed to deliver high channel density, power efficiency and ultra-low-latency performance. To make it accessible for developers, Alveo is available on most major OEM server platforms, as well as a growing presence across all major cloud providers who provide FPGA-as-a-Service (FaaS).

DPUs. Our P4 programmable AMD Pensando DPUs are designed to help offload data center infrastructure services from the host CPU, and coupled with our comprehensive networking software stack, AMD DPUs help enable cloud and enterprise customers to optimize performance for network, storage, and security services at cloud scale. Designed for minimal latency, jitter and power impact, our DPUs can help large Infrastructure as a Service (IaaS) cloud providers improve workload performance for hosted virtualized and bare-metal offerings.

Client Segment

Client Market

Our CPUs are incorporated into computing platforms, which are a collection of technologies that are designed to work together to provide a more complete computing solution. We believe that integrated, balanced computing platforms consisting of CPUs, chipsets, GPUs (either as discrete GPUs or integrated into an APU or SoC) and AI accelerators that work together at the system level bring end users improved system stability, increased performance and enhanced power efficiency. In addition, we believe customers also benefit from an all-AMD platform (consisting of an APU or CPU, a discrete GPU, a chipset and AMD software), as we are able to optimize interoperability, provide our customers a single point of contact for the key platform components and enable them to bring the platforms to market quickly in a variety of PC form factors. We currently base our CPUs, APUs and chipsets on the x86 instruction set architecture and the AMD Infinity Fabric™, which connects an on-chip memory controller and input/output (I/O) channels directly to our compute engines and domain specific accelerators.

Client Products

Desktop CPUs. Our CPUs and APUs for desktop platforms currently include the AMD Ryzen™ and AMD Athlon™ series processors. Our Ryzen 7000 Series desktop processors are based on “Zen 4” architecture and deliver leadership performance for gamers and content creators. Our AMD Ryzen 5000 Series desktop processor family powered by our “Zen 3” core architecture has up to 16 cores and provides price-performance for all levels of customers. For gaming enthusiasts, both the Ryzen 7000 Series and 5000 Series feature models with the AMD 3D V-Cache technology designed to improve gaming performance. AMD has returned to the high end desktop (HEDT) segment with Ryzen Threadripper™ 7000 Series processors featuring up to 64 cores.

Notebook CPUs. Our mobile APUs, including AMD Ryzen and AMD Athlon mobile processors for the commercial and consumer markets, combine both high levels of performance and efficiency for notebook PCs. Our AMD Ryzen 7045 Series processors are designed to deliver high performance gaming solutions. Our AMD Ryzen 7040 Series processors for mobile applications have up to 8 “Zen 4” architecture cores, are built on 4 nm process technology, and feature AMD RDNA 3 graphics. Our Ryzen 7040 Series mobile processors also feature dedicated AI hardware in an x86 processor, with our XDNA architecture. Built on advanced 6 nm technology, our AMD Ryzen and Athlon 7020 C-Series processors have up to four cores and eight threads built on “Zen 2” architecture and AMD RDNA 2 integrated graphics to deliver fast and responsive performance for modern productivity, video conferencing, learning apps and streaming applications. We also offer AMD Ryzen 6000 Series mobile processors, built on “Zen 3+” architecture and AMD Ryzen 5000 Series mobile processors, which are powered by both our “Zen 2” and “Zen 3” core architectures, which are designed for mainstream solutions in both consumer and commercial markets. Our AMD Ryzen Z1 Series processors bring high-performance to handheld Windows-based PC gaming platforms. These processors feature “Zen 4” processor technology combined with RDNA 3 graphics to deliver fast PC gaming, incredible battery life, and immersive experiences in handheld systems.

Commercial CPUs. We offer enterprise-class desktop and mobile PC solutions sold as AMD PRO Mobile and AMD PRO desktop processors with Radeon™ graphics for the commercial market. AMD Ryzen PRO, AMD Threadripper PRO and AMD Athlon PRO processors solutions are designed to provide enterprise customers with the performance, security capabilities and business features such as enhanced security and manageability, platform longevity and extended image stability. Our AMD Ryzen Threadripper PRO 7000 WX-Series processors with “Zen 4” core architecture and 5000 WX-Series processors with “Zen 3” core architecture provide full-spectrum performance across multiple workstation workloads due to the performance and efficiency of the Zen CPU core with core count scaling up to 96 cores in the 7000 WX-Series. Our Ryzen PRO 7040 Series Mobile processors are built on “Zen 4” architecture, AMD RDNA 3 integrated graphics, AMD PRO technologies and Ryzen AI, on select models. Our AMD Ryzen Threadripper PRO 7000 WX-Series processors are built on 5 nm “Zen 4” architecture.

Chipsets. We offer a full suite of chipset products to support our AMD Ryzen and Threadripper platforms, including chipsets for the AM5 socket like the X670 chipsets which support PCIe® 5.0 (fifth generation Peripheral Component Interconnect Express motherboard interface) designed for enthusiast desktop platforms. In the AM5 platform we also offer B650 chipsets to enable a broader range of solutions in the market. In the AM4 ecosystem for 5000-series processors and prior, we offer the X570, B550 and A520 chipsets. In addition, we continue to offer the B450 chipsets that are combined with AMD Ryzen processors for the AM4 desktop platform for the performance and affordable mainstream platforms segments. In HEDT and Workstation segments, we offer the WRX90 and TRX50 chipsets to support 7000-series

Threadripper and Threadripper PRO platforms, as well as the WRX80 chipsets to support the 5000-series Threadripper PRO platforms.

Gaming Segment

Gaming Market

Graphics processing is a fundamental component across many of our products and can be found in APU, GPU, SoC or a combination of a discrete GPU with another product working in tandem. Our customers generally use our graphics solutions to enable or increase the speed of rendering images, to help improve image resolution and color definition and/or to process AI/ML based workloads. We develop our graphics products for use in various computing devices and entertainment platforms, including desktop PCs, notebook PCs, handheld PCs, All-in-Ones (AIOs), professional workstations, and the data center. With each of our graphics products, we have available drivers and supporting software packages that enable the effective use of these products under a variety of operating systems and applications. We have developed AMD RDNA™ 3, a high performing and power efficient graphics architecture, featuring a chiplet design, AI accelerators and the Radiance Display™ Engine. This generation continues to support advanced graphics features introduced with RDNA 2, such as ray tracing, AMD Infinity Cache™ and variable rate shading. The Sony PlayStation® 5 and Microsoft® Xbox Series S™ and X™ game consoles also feature our RDNA graphics architecture. Our APUs deliver visual processing functionality for value and mainstream PCs by integrating a CPU and a GPU on a single chip, while discrete GPUs (which are also known as dGPUs) offer high-performance graphics processing across all platforms. We leverage our core IP, including our graphics and processing technologies to develop semi-custom solutions. Here, semiconductor suppliers work alongside system designers and manufacturers to enhance the performance and overall user experience for semi-custom customers. We have used this collaborative co-development approach with many of today's leading game console and handheld PC gaming manufacturers and can also address customer needs in many other markets. We leverage our existing IP to create a variety of products tailored to a specific customer's needs, including complex fully-customized SoCs to more modest adaptations and integrations of existing CPU, APU or GPU products.

Gaming Products

Semi-Custom Products. Our semi-custom products are tailored, high-performance, customer-specific solutions based on our CPU, GPU and multi-media technologies. We work closely with our customers to define solutions to precisely match the requirements of the device or application. We developed the semi-custom SoC products that power both the Sony PlayStation 5 as well as the Microsoft Xbox Series S and X game consoles. We partnered with Valve to create a semi-custom APU optimized for handheld gaming to power the Steam Deck™.

Discrete Desktop and Notebook GPUs. Our AMD Radeon series discrete GPU processors for desktop and notebook PCs support current generation application program interfaces (APIs) like DirectX® 12 Ultimate and Vulkan®, support high-refresh rate displays using AMD FreeSync™, AMD FreeSync Premium, and AMD FreeSync Premium Pro technologies, and are designed to support VR in PC platforms. Our AMD Radeon Software offers performance enhancing tools and enables new features and customization capabilities to customers and end-users. In addition, we also offer tools for game developers such as our AMD FidelityFX™ open-source image quality software toolkit that helps deliver improved visual quality with minimal performance overhead. FidelityFX Super Resolution (FSR) uses upscaling technologies to help boost frame rates in games. Our FSR 2.0 technology uses temporal data and optimized anti-aliasing to boost frame rates in supported games while delivering similar or better image quality than native resolution without the requirement of dedicated machine learning hardware. Our FSR 3.0 technology combines the upscaling features of prior versions while introducing our AMD Fluid Motion Frames Technology which generates interpolated frames between native frames to increase the frame rate of games for a smoother gaming experience. Varying versions of FSR are supported in over 250 games and multiple products including Radeon GPUs, Ryzen APUs, and many of our Semi-custom solutions. Being an open-source technology FSR works across competing hardware solutions as well.

Our AMD Radeon RX 7000 series are built on the high-performance, energy-efficient AMD RDNA3 architecture which provides up to 96 compute units, second generation high-bandwidth, low-latency AMD Infinity Cache technology as well as dedicated AI and ray tracing hardware. The AMD RDNA 3 architecture provides process optimizations plus firmware and software enhancements and supports AI-accelerated video encoding and hardware-accelerated AV1 encoding. It uses high-speed GDDR6 video RAM (VRAM) and targets discrete desktop GPUs with up to 24GB of VRAM, notebook GPUs with up to 16GB of VRAM. We continue to offer AMD Radeon RX 6000 series discrete graphics, based on our RDNA2 architecture, for high-performance gaming desktops and notebooks. Our AMD Advantage Design™ Framework is a collaboration with our global PC partners, delivering high-performance gaming notebooks by combining our AMD Radeon RX series mobile graphics, AMD Software: Adrenalin Edition, AMD Ryzen series mobile processors and utilizing AMD smart technologies to provide best-in-class gaming experiences.

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Professional GPUs. Our AMD Radeon W7000 PRO family of professional graphics products are based on the AMD RDNA3 architecture and are designed for integration in mobile and desktop workstations. AMD Radeon PRO graphics cards are designed to optimize design workloads across demanding use cases such as 3D rendering, design and manufacturing for CAD, and media and entertainment for broadcast and animation pipelines on high resolution displays. Our AMD Radeon PRO W7000 series supports workstation GPUs with up to 48GB of VRAM and features the AMD Radiance Display Engine™ featuring DisplayPort™ 2.1 that delivers very high resolution and refresh rates, image fidelity and color accuracy. We continue to offer our AMD Radeon PRO W6000 series workstation graphics products based on our AMD RDNA 2 architecture for high-performance workstations.

Embedded Segment

The Embedded Market

The Embedded segment primarily includes embedded CPUs, GPUs, APUs, FPGAs, and Adaptive SoC products. Embedded products address computing needs in automotive, industrial, test, measurement, emulation, medical, broadcast, professional audio visual (ProAV), aerospace, defense, communications, networking, security, and storage markets as well as thin clients, which are computers that serve as an access device on a network. Typically, our embedded products are used in applications that require varying levels of performance, where key features may include relatively low power, small form factors, and 24x7 operations. High-performance graphics are important in some embedded systems. Support for Linux®, Windows® and other operating systems as well as for increasingly sophisticated applications are also critical for some customers. Other requirements may include meeting rigid specifications for industrial temperatures, shock, vibration and reliability. The embedded market has moved from developing proprietary, custom designs to leveraging industry-standard instruction set architectures and processors as a way to help reduce costs and speed time to market.

Embedded Products

Embedded CPUs, APUs and GPUs. Our products for embedded platforms include AMD EPYC Embedded CPUs, AMD Ryzen Embedded V-Series APUs and CPUs, AMD Ryzen Embedded R-Series APUs and CPUs, AMD Ryzen Embedded 5000 Series processors and AMD Ryzen Embedded 7000 Series processors. Our embedded processors and GPUs are designed to support high performance and bandwidth network connectivity and security, high-performance storage requirements for enterprise and cloud infrastructure, 3D graphics performance and 4K multimedia requirements of automotive infotainment systems. Our AMD Ryzen Embedded 5000 Series processors use “Zen 3” x86 CPU core architecture and are designed for enterprise reliability to support the consistent uptime requirements needed by security and networking customers. Our AMD Ryzen Embedded 7000 Series processor family combines “Zen 4” architecture and integrated Radeon RDNA 2 graphics for a wide range of embedded applications, including industrial automation, machine vision, robotics and edge servers.

FPGAs and Adaptive SoCs. Our FPGA products are hardware-customizable devices that can be tailored to meet the specific needs of each customer, enabling them to differentiate their products and accelerate time-to-market. Our FPGA families include UltraScale+™ (based on 16 nm technology), UltraScale™ (20 nm), 7 Series (28 nm) and older series. Adaptive SoC products include the Zynq SoC and UltraScale+ Multi-Processing System on a Chip (MPSoCs) which combine FPGA technology with a heterogeneous processing system, as well as the industry’s first RFSoC architecture with integrated radio frequency (RF) data converters. The Versal portfolio is composed of software-programmable Adaptive SoCs, with a heterogeneous compute platform that combines Scalar Engines, Adaptable Engines, and Intelligent Engines to achieve dramatic performance improvements over today's fastest FPGA and accelerate applications in a wide variety of markets, including data center, wired network, 5G wireless infrastructure, automotive, industrial, scientific, medical, aerospace and defense.

Development Boards, Kits and Configuration Products. We offer development kits for all our FPGA and Adaptive SoC products that include hardware, development tools, IP and reference designs that are designed to streamline and accelerate the development of domain-specific and market-specific applications. Our AMD Kria™ K24 SOM provides high determinism and low latency for powering electric drives and motor controllers used in compute-intensive digital signal processing (DSP) applications at the edge. Coupled with our KD240 Drives Starter Kit, an out-of-the-box-ready motor control-based development platform, the products offer a seamless path to production deployment with the K24 SOM.

Legacy Product Families. Prior generation high-end Virtex FPGA families include Virtex-6, Virtex-5, Virtex-4, Virtex-II Pro, Virtex-II and the original Virtex family. Prior generation low end Spartan™ FPGA families include Spartan-6, Spartan-3, the Spartan-3E and Spartan-3A, Spartan-IIE, Spartan-II, Spartan XL and the original Spartan family. Complex Programmable Logic Devices (CPLDs) operate on the lowest end of the programmable logic density spectrum. CPLDs are single-chip, nonvolatile solutions characterized by instant-on and universal interconnect. Prior generations of CPLDs include the CoolRunner™ and XC9500 product families.

Design Platforms and Services

Adaptable Platforms. We offer two types of platforms that support our customers' designs and reduce their development efforts: FPGAs and Adaptive SoCs. All devices feature adaptable hardware that enables our customers to implement customized, domain-specific architectures. With both hardware-accelerated performance and flexibility beyond what CPUs, GPUs, application-specific standard parts (ASSPs), and application-specific integrated circuits (ASICs) can offer, customers can introduce new innovations to the market quickly. FPGAs feature reconfigurable hardware as well as integrated memory, digital signal processing, analog mixed signal, high-speed serial transceivers, and networking cores coupled with advanced software for a broad range of applications in all of our end markets. Our Adaptive SoCs feature a heterogeneous processing subsystem with integrated programmable hardware fabric targeting embedded systems needing real-time control, analytics, sensor fusion, and adaptable hardware for differentiation and acceleration. Our Zynq UltraScale+ RFSoCs feature integrated high-performance RF data converters targeting wireless, radar, and cable access applications. Enabled by both hardware and software design tools and an extensive operating system, middleware, software stack, and IP ecosystem, SoC platforms target software developers as well as traditional hardware designers. Versal is the most recent addition to the silicon portfolio. Versal combines Scalar Processing Engines, Adaptable Hardware Engines, and Intelligent Engines with leading-edge memory and interfacing technologies to deliver powerful heterogeneous acceleration for any application. This product family is ideally suited to accelerate a broad set of applications in the emerging era of big data and AI. Versal hardware and software can be programmed and optimized by software developers, data scientists, and hardware developers alike, enabled by a host of tools, software, libraries, IP, middleware, and frameworks that enable industry-standard design flows.

Software Development Platform. To accommodate hardware and software designers, as well as software developers and AI scientists, we provide design tools and software stacks tailored to each user profile. Our Vivado™ ML Edition provides hardware design teams with the tools and methodology needed to program FPGAs and Adaptive SoCs. Our Vitis™ unified software platform enables the development and deployment of embedded software and accelerated applications, on our FPGAs and Adaptive SoCs. Our Vitis AI unified software platform enables the development and deployment of AI software on our FPGAs and Adaptive SoCs.

Sales and Marketing

We sell our products through our direct sales force and through independent distributors and sales representatives in both domestic and international markets. Our sales arrangements generally operate on the basis of product forecasts provided by the particular customer, but do not typically include any commitment or requirement for minimum product purchases. We primarily use product quotes, purchase orders, sales order acknowledgments and contractual agreements as evidence of our sales arrangements. Our agreements typically contain standard terms and conditions covering matters such as payment terms, warranties and indemnities for issues specific to our products.

We generally warrant that our products sold to our customers will conform to our approved specifications and be free from defects in material and workmanship under normal use and conditions for one year. We offer up to three-year limited warranties for certain product types, and sometimes provide other warranty periods based on negotiated terms with certain customers.

We market and sell our latest products under the AMD trademark. Our client processors include: AMD Ryzen, AMD Ryzen PRO, AMD Ryzen Threadripper, AMD Ryzen Threadripper PRO, AMD Athlon, AMD Athlon PRO, and AMD PRO A-Series. These products service desktop and notebook personal computers.

Our product brand for the consumer graphics market is AMD Radeon graphics, and AMD Embedded Radeon graphics is our product brand for the embedded graphics market.

Our product brand for professional graphics products is AMD Radeon PRO graphics.

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Our product brands for data center graphics are Radeon PRO V-series, and AMD Instinct accelerators for servers. We also market and sell our chipsets under AMD trademarks.

Our product brand for server microprocessors is AMD EPYC processors.

We also sell low-power versions of our AMD Athlon, as well as AMD Geode™, AMD Ryzen, AMD EPYC, AMD R-Series and G-Series processors as embedded processor solutions.

Our FPGA product brands are Virtex-6, Virtex-7, Virtex UltraScale+, Kintex-7, Kintex UltraScale, Kintex UltraScale+, Artix-7, Artix UltraScale+, Spartan-6 and Spartan-7.

Our product brands for Adaptive SoCs are Zynq-7000, Zynq UltraScale+ MPSoC, Zynq UltraScale+ RFSoCs, Versal HBM, Versal Premium, Versal Prime, Versal AI Core, Versal AI Edge, Vitis and Vivado.

Our product brand for System-on-Module (SOM) is Kria.

Our compute and network acceleration board products are sold under the Alveo and Pensando brands.

We market our products through direct marketing and co-marketing programs. In addition, we have cooperative advertising and marketing programs with customers and third parties, including market development programs, pursuant to which we may provide product information, training, marketing materials and funds. Under our co-marketing development programs, eligible customers can use market development funds as reimbursement for advertisements and marketing programs related to our products and third-party systems integrating our products, subject to meeting defined criteria.

Customers

Our Data Center Segment customers consist primarily of hyperscale data centers, original equipment manufacturers (OEMs), original design manufacturers (ODMs), system integrators and independent distributors in both domestic and international markets. ODMs provide design and/or manufacturing services to branded and unbranded private label resellers, OEMs and system builders.

Customers of our Client Segment products consist primarily of PC OEMs, a network of independent distributors and, for chipset products, ODMs that manufacture motherboards. Our Gaming Segment customers include PC OEMs and independent distributors as well as add-in-board manufacturers (AIBs), independent game console and portable gaming devices manufacturers and contract manufacturers for AMD branded graphics cards.

Our Embedded Segment products are sold to customers in a very wide range of markets such as Aerospace and Defense, Test and Measurement, Industrial, Automotive, Consumers, Broadcast, Communication Infrastructure and Data Center. For these products we either sell directly to our customers or through a network of distributors and OEM partners. We are also developing a network of Value Added Resellers (VARs) and Integrated Solution Vendors (ISVs) for our Alveo products.

We work closely with our customers to define product features, performance and timing of new products so that the products we are developing meet our customers' needs. We also employ application engineers to assist our customers in designing, testing and qualifying system designs that incorporate our products. We believe that our commitment to customer service and design support improves our customers' time-to-market and fosters relationships that encourage customers to use the next generation of our products.

We also work with our customers to create differentiated products that leverage our CPU, GPU, DPU and APU technology. Certain customers pay us non-recurring engineering fees for design and development services and a purchase price for the resulting products.

One customer accounted for 18% of our consolidated net revenue for the year ended December 30, 2023. Sales to this customer consisted of sales of products from our Gaming segment. A loss of this customer would have a material adverse effect on our business.

Original Equipment Manufacturers

We focus on three types of OEM partners: multi-nationals, selected regional accounts and selected global and local system integrators, who target commercial and consumer end customers of all sizes. Large multi-nationals and regional accounts are the core of our OEM partners' business; however, we are increasingly focused on the VAR channel which resells OEM systems to the mid-market and the small and medium business (SMB) segments. Additionally, we have increased our focus on global system integrators, which resell OEM systems, coupled with their software and services solutions into Enterprise, high performance computing (HPC) and Cloud Service Provider customers. Our OEM customers include numerous foreign and domestic manufacturers of servers and workstations, desktops, notebooks, PC motherboards and game consoles.

Hyperscale Data Centers

Large multi-national public cloud service providers and hyperscale private data centers directly and indirectly purchase a substantial portion of our data center-focused products, including server CPUs, GPU accelerators, DPUs, FPGAs and Adaptive SOCs. These products are incorporated into servers and other data center appliances sold by OEMs to the hyperscale customers or into custom servers or hardware designed by or for these customers and manufactured by ODMs or contract manufacturers. Hyperscale data centers use these products to operate web-based applications or to support public cloud computing and storage service offerings, including but not limited to AI workloads such as generative AI models.

Third-Party Distributors

Our authorized channel distributors resell to sub-distributors and OEMs, ODMs, and other customers. Typically, distributors handle a wide variety of products, and may include products from other manufacturers that compete with our products. Distributors typically maintain an inventory of our products. In most instances, our agreements with distributors protect their inventory of our products against price reductions and provide certain return rights with respect to any product that we have removed from our price book or otherwise subject to discontinuation. In addition, some agreements with our distributors may contain standard stock rotation provisions permitting limited product returns.

Add-in-Board (AIB) Manufacturers and System Integrators

We offer component-level graphics and chipset products to AIB manufacturers who in turn build and sell board-level products using our technology to system integrators (SIs), retail buyers and sub distributors. Our agreements with AIBs protect their inventory of our products against price reductions. We also sell directly to our SI customers. SIs typically sell from positions of regional or product-based strength in the market. They usually operate on short design cycles and can respond quickly with new technologies. SIs often use discrete graphics solutions as a means to differentiate their products and add value to their customers.

Competition

The markets in which our products are sold are highly competitive and delivering the latest and best products to market on a timely basis is critical to achieving revenue growth. We believe that the main factors that determine our product competitiveness are total cost of ownership, timely product introductions, product quality, product features and capabilities (including accelerations for key workloads such as AI, energy efficiency (including power consumption and battery life, given their impact on total cost of ownership), reliability, processor clock speed, performance, size (or form factor), selling price, cost, adherence to industry standards (and the creation of open industry standards), level of integration, software and hardware compatibility, ease of use and functionality of software design tools, completeness of applicable software solutions, security and stability, brand recognition and availability. We expect that competition will continue to be intense due to rapid technological changes, frequent product introductions by our competitors or new competitors of products that may provide better performance or experience or that may include additional features that render our products comparatively less competitive.

Competition in Data Center Segment

In Data Center, we compete against Intel Corporation (Intel) and NVIDIA Corporation (NVIDIA) with our CPU, GPU and DPU server products. In addition, we compete against Intel with our FPGA and Adaptive SoC server products. A variety of smaller fabless silicon companies offer proprietary accelerator solutions and ARM based CPUs targeting data center use-

cases. In addition, some of our customers are internally developing their own data center microprocessor products and accelerator products which could impact the available market for our products.

Competition in Client Segment

Our primary competitor in the supply of CPUs and APUs is Intel. A variety of companies provide or have developed ARM-based microprocessors and platforms. ARM-based designs are being used in the PC market, which could lead to further growth and development of the ARM ecosystem.

Competition in Gaming Segment

In the graphics market, our principal competitor in the supply of discrete graphics is NVIDIA, who is the market share leader, and Intel, who manufactures and sells integrated graphics processors and gaming-focused discrete GPUs. With respect to integrated graphics, higher unit shipments of our APUs and Intel's integrated graphics may drive computer manufacturers to reduce the number of systems they build paired with discrete graphics components, particularly for notebooks, because they may offer satisfactory graphics performance for most mainstream PC users at a lower cost. We are the market share leader in semi-custom game console products, where graphics performance is critical.

Competition in Embedded Segment

We expect continued competition from our primary FPGA competitors such as Intel, Lattice Semiconductor Corporation and Microsemi Corporation (Microsemi, acquired by Microchip), from ASSP vendors such as Broadcom Corporation, Marvell Technology Group, Ltd., Analog Devices, Texas Instruments Incorporated and NXP Semiconductors N.V., and from NVIDIA. In addition, we expect continued competition from the ASIC market, which has been ongoing since the inception of FPGAs. Intel is our main competitor for embedded CPUs. Other competitors include manufacturers of high-density programmable logic products characterized by FPGA-type architectures; high-volume and low-cost FPGAs as programmable replacements for ASICs and ASSPs; ASICs and ASSPs with incremental amounts of embedded programmable logic; high-speed, low-density complex programmable logic devices (CPLDs); high-performance digital signal processing (DSP) devices; products with embedded processors; products with embedded multi-gigabit transceivers; discrete general-purpose GPUs targeting data center and automotive applications; and other new or emerging programmable logic products.

Research and Development

We focus our research and development (R&D) activities on designing and developing products. Our main area of focus is on delivering the next generation of processors (CPU and GPU), FPGAs and Adaptive SoCs, accelerators (adaptive, graphics and DPU), System on Modules (SOMs) and SmartNICs and associated software. We focus on designing new ICs with improved performance and performance-per-watt in advanced semiconductor manufacturing processes, the design of logic and interface IP, advanced packaging technologies, and heterogeneous integration technologies. We also focus on software as part of the development of our products, including design automation tools for hardware, embedded software, optimized software tools and libraries that extend the reach of our platforms to software and AI developers. Through our R&D efforts, we were able to introduce a number of new products and enhance our IP core offerings and software.

We also work with industry leaders on process technology, design tools, intellectual property, software and other industry consortia to conduct early-stage research and development. We are also actively contributing to numerous industry open-source software initiatives across a broad range of technologies. We conduct product and system research and development activities for our products in the United States with additional design and development engineering teams located in various countries who undertake specific activities at the direction of our U.S. headquarters.

Manufacturing Arrangements and Assembly and Test Facilities

Third-Party Wafer Foundry Facilities

We have foundry arrangements with Taiwan Semiconductor Manufacturing Company Limited (TSMC) for the production of wafers for our HPC, FPGA and Adaptive SoC products. We are also a party to a Wafer Supply Agreement (WSA) with GLOBALFOUNDRIES Inc. (GF), with respect to wafer purchases for our HPC products at the 12 nm and 14 nm technology nodes. Additionally, we utilize TSMC, United Microelectronics Corporation (UMC) and Samsung Electronics Co., Ltd. for the production of our integrated circuits (IC) in the form of programmable logic devices.

Other Third-Party Manufacturers

We outsource board-level graphics product manufacturing to third-party manufacturers.

Assembly, Test, Mark and Packaging Facilities

Wafers for our products are either sorted by the foundry or delivered by the foundry to our assembly, test, mark and packaging (ATMP) partners or subcontractors located in the Asia-Pacific region who package and test our final semiconductor products. We are party to two ATMP joint ventures (collectively, the ATMP JVs) with Tongfu Microelectronics Co., Ltd. The ATMP JVs, Siliconware Precision Industries Ltd. (SPIL) and King Yuan Electronics Company (KYEC) provide ATMP services for our products.

Intellectual Property and Licensing

We rely on contracts and intellectual property rights to protect our products and technologies from unauthorized third-party copying and use. Intellectual property rights include copyrights, patents, patent applications, trademarks, trade secrets and mask work rights. As of December 30, 2023, we had approximately 7,500 patents in the United States and approximately 2,000 patent applications pending in the United States. In certain cases, we have filed corresponding applications in foreign jurisdictions. Including United States and foreign matters, we have approximately 18,500 patent matters worldwide consisting of approximately 12,800 issued patents and 5,600 patent applications pending. We expect to file future patent applications in both the United States and abroad on significant inventions, as we deem appropriate. We do not believe that any individual patent, or the expiration of any patent, is or would be material to our business. As is typical in the semiconductor industry, we have numerous cross-licensing and technology exchange agreements with other companies under which we both transfer and receive technology and intellectual property rights. We have acquired various licenses from external parties to certain technologies that are implemented in our products, including our IP cores and devices. These licenses support our continuing ability to make and sell our products. We have also acquired licenses to certain proprietary software, open-source software, and related technologies, such as compilers, for our design tools. Continued use of such software and technology is important to the operation of the design tools upon which our customers depend.

Backlog

Sales are made primarily pursuant to purchase orders for current delivery or agreements covering purchases over a period of time. Although such orders or agreements may provide visibility into future quarters, they may not necessarily be indicative of actual sales for any succeeding period as some of these orders or agreements may be revised or canceled without penalty.

Seasonality

Our operating results tend to vary seasonally. Historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends.

Human Capital

As of December 30, 2023, we had approximately 26,000 employees in our global workforce. We believe we are at our best when our culture of innovation, creative minds and people from all kinds of backgrounds work together in an engaging and open environment. Areas of focus for us include the following:

Mission, Culture, and Engagement

Our History - Founded in 1969 as a Silicon Valley start-up, the AMD journey began with dozens of employees focused on leading-edge semiconductor products. From those modest beginnings, we have grown into a global company achieving many important industry firsts along the way. Today, we develop high-performance and adaptive computing to solve some of the world’s toughest and most interesting challenges.

Our Vision - High performance and adaptive computing is transforming our lives.

Our Mission - Build great products that accelerate next-generation computing experiences.

Our employees are driven by this vision and mission. Innovation occurs when creative minds and diverse perspectives from all over the world work together. This is the foundation of our unique culture and the reason why we believe our employees are among the most engaged in our industry.

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We conduct a confidential annual survey of our global workforce to measure our culture, engagement, and manager quality. The results are reviewed by our Board of Directors and acted upon by our senior leadership team and individual managers at every level. Results from our 2023 survey reported scores that continued to be among the very best for global companies in the technology industry. Our employees described our culture as inclusive, innovative, open, and respectful, and rated the quality of our managers among the top 10% of our technology industry peers.

Diversity, Belonging and Inclusion (DB&I)

Our diverse and inclusive workforce encourages employees to share their opinions and different perspectives. We believe that building a diverse talent pipeline, encouraging a culture of respect and belonging, and increasing inclusion of unique and underrepresented voices makes our company stronger. Our Employee Resource Groups, which are open to all our employees, encourage employee engagement and play an important role in our culture. More than 85% of all new hires join at least one of AMD's employee resource groups when starting employment.

We are focused on hiring and developing underrepresented groups and women leaders. In 2023, we increased focus on developing our female engineering community by launching an experiential program, "Advancing Women in Technology," that aims to support career development. We are proud to be led by Dr. Lisa Su, a highly regarded CEO who has won many esteemed awards for her business and leadership prowess.

Total Rewards

We invest in our workforce by offering competitive salaries, incentives, and benefits to ensure that we continue to attract and retain the industry's best and brightest in an equitable manner. We perform pay equity analysis regularly and act on results, if warranted. Our rewards are guided by employees' preferences and the market for talent. We focus on flexibility and choice in our benefits that resonate with a multi-generational workforce as well as offering inclusive benefits that support our DB&I objectives, such as global parental and bereavement leave, and financial assistance to build a family through adoption or surrogacy. While we believe that there is unique collaboration that can occur when employees meet in person, we have not mandated that all employees return to the office five days a week, allowing flexibility with hybrid and remote work as options for our employees.

We have a strong pay for performance culture that we believe drives superior results. Our employees have benefited from our robust financial results through our strong short-term and long-term incentive programs. Our rewards programs enable us to attract, retain and motivate our workforce.

Development

We offer our employees opportunities to advance their careers at the Company and the majority of our new leaders are promoted from within. We are focused on leadership progression and encourage our employees to take advantage of new opportunities. Our manager and leadership development programs are highly rated, and we provide specialized development programs for our employees as well as educational assistance in the form of tuition reimbursement for eligible employees to continue their university education or achieve advanced certifications.

We have an enterprise-wide mentoring program where employees have the opportunity to learn from experienced colleagues, develop new skills, and build their professional networks. The program also supports effective onboarding, helping new hires more quickly acclimate to our company culture and work processes. We believe that our mentoring program is a valuable investment in our workforce, and we are committed to its ongoing success.

Employee Voice

At AMD, we value the importance of employee voice and actively engage in efforts to ensure that our employees' opinions and perspectives are heard and considered. Our employee voice strategy includes an annual AMDer Survey (engagement survey). Our scores rank AMD in the top 10% of high tech firms on like questions, categories and overall score. Additionally, we measure effectiveness across all elements of the employee lifecycle, including onboarding, exit, and various ad hoc surveys including benefits and total rewards satisfaction. Further, our executive team holds frequent employee roundtables, town halls and global team meetings with question-and-answer segments which facilitates open communication and feedback from our workforce.

Government Regulations

Our global operations are subject to various United States and foreign laws and regulations, including, but not limited to, those relating to export control, customs, intellectual property, data privacy and security, climate, environmental, health and safety requirements, cybersecurity, tax, employment, competition and anti-trust, anti-corruption, anti-bribery, conflict minerals, corporate governance, financial and other disclosures, and AI. Compliance with these governmental laws and regulations do not presently have a material adverse impact on our capital expenditures, results of operations or competitive position. However, compliance with changes to existing or new regulations may have a material adverse impact on our future capital expenditures, results of operations or competitive position. In addition, the failure to comply with government laws and regulations may subject us to consequences including fines, limits on our ability to sell our products, suspension of certain of our business activities, reputational damage, criminal and civil liabilities, and sanctions, which may have a material adverse effect on our capital expenditures, results of operations or competitive position. For additional information about government regulations applicable to our business, and their potential impacts see Risk Factors in Item 1A.

Environmental Regulations

Our operations and properties are subject to various United States and foreign laws and regulations, including those relating to materials used in our products and the manufacturing processes of our products, discharge of pollutants into the environment, the treatment, transport, storage and disposal of solid and hazardous wastes and remediation of contamination. These laws and regulations require our suppliers to obtain permits for operations making our products, including the discharge of air pollutants and wastewater. Environmental laws are complex, change frequently and tend to become more stringent over time. For example, the European Union (EU) and China are among a growing number of jurisdictions that have enacted restrictions on the use of lead and other materials in electronic products. These regulations affect semiconductor devices and packaging. Jurisdictions including the EU, Australia, California and China are developing or have finalized market entry or public procurement regulations for computers and servers based on ENERGY STAR specifications as well as additional energy consumption limits.

Certain environmental laws, including the United States Comprehensive, Environmental Response, Compensation and Liability Act of 1980, or the Superfund Act, impose strict or, under certain circumstances, joint and several liability on current and previous owners or operators of real property for the cost of removal or remediation of hazardous substances and impose liability for damages to natural resources. These laws often impose liability even if the owner or operator did not know of, or was not responsible for, the release of such hazardous substances. These environmental laws also assess liability on persons who arrange for hazardous substances to be sent to disposal or treatment facilities when such facilities are found to be contaminated. Such persons can be responsible for cleanup costs even if they never owned or operated the contaminated facility. We have been named as a responsible party on Superfund clean-up orders for three sites in Sunnyvale, California that are on the National Priorities List. Since 1981, we have discovered hazardous material releases to the groundwater from former underground tanks and proceeded to investigate and conduct remediation at these three sites. The chemicals released into the groundwater were commonly used in the semiconductor industry in the United States in the wafer fabrication process prior to 1979.

In 1991, we received Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites. We have entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. We remain responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements.

To address anticipated future remediation costs under the orders, we have computed and recorded an estimated environmental liability of approximately $4.8 million and have not recorded any potential insurance recoveries in determining the estimated costs of the cleanup. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. We believe that any amount in addition to what has already been accrued would not be material.

ITEM 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones we face. If any of the following risks actually occurs, our business, financial condition or results of operations could be materially adversely affected. In addition, you should consider the interrelationship and compounding effects of two or more risks occurring simultaneously.

Risk Factors Summary

The following is a summary of the principal risks that could adversely affect our business, financial condition and results of operations.

Economic and Strategic Risks

- Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit our ability to compete effectively on a level playing field.
- Economic and market uncertainty may adversely impact our business and operating results.
- The semiconductor industry is highly cyclical and has experienced severe downturns.
- The demand for our products depends in part on the market conditions in the industries into which they are sold. There may be fluctuations in demand for our products or a market decline in any of these industries.
- The loss of a significant customer may have a material adverse effect on us.
- We are subject to risks associated with public health crises, such as pandemics and epidemics.
- The markets in which our products are sold are highly competitive.
- Our operating results are subject to quarterly and seasonal sales patterns.
- If we cannot adequately protect our technology or other intellectual property through patents, copyrights, trade secrets, trademarks and other measures, we may lose a competitive advantage and incur significant expenses.
- Unfavorable currency exchange rate fluctuations could adversely affect us.

Operational and Technology Risks

- We rely on third parties to manufacture our products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, our business could be materially adversely affected.
- Essential equipment, materials, substrates or manufacturing processes may not be available to us.
- We may fail to achieve expected manufacturing yields for our products.
- The success of our business is dependent upon our ability to introduce products on a timely basis with features and performance levels that provide value to our customers while supporting significant industry transitions.
- Our revenue from our semi-custom System-on-Chip (SoC) products is dependent upon our semi-custom SoC products being incorporated into customers' products and the success of those products.
- Our products may be subject to security vulnerabilities that could have a material adverse effect on us.
- IT outages, data loss, data breaches and cyberattacks could disrupt operations and compromise our intellectual property or other sensitive information, be costly to remediate or cause significant damage to our business, reputation, financial condition and results of operations.
- We may encounter difficulties in operating our newly upgraded enterprise resource planning (ERP) system.
- Uncertainties involving the ordering and shipment of our products could materially adversely affect us.
- Our ability to design and introduce new products includes the use of third-party intellectual property.
- We depend on third-party companies for the design, manufacture and supply of motherboards, software, memory and other computer platform components to support our business and products.

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- If we lose Microsoft Corporation's support for our products or other software vendors do not design and develop software to run on our products, our ability to sell our products could be materially adversely affected.
- Our reliance on third-party distributors and add-in-board (AIB) partners subjects us to certain risks.
- Our business depends on the proper functioning of our internal business processes and information systems.
- Our products may not be compatible with some or all industry-standard software and hardware.
- Costs related to defective products could have a material adverse effect on us.
- We may fail to maintain the efficiency of our supply chain as we respond to changes in customer demand.
- We outsource to third parties certain supply-chain logistics functions.
- We may be unable to effectively control the sales of our products on the gray market.
- Climate change may have a long-term impact on our business.

Legal and Regulatory Risks

- Government actions and regulations may limit our ability to export our products to certain customers.
- If we cannot realize our deferred tax assets, our results of operations could be adversely affected.
- Our business is subject to potential tax liabilities, including as a result of tax regulation changes.
- We are party to litigation and may become a party to other claims or litigation.
- We are subject to environmental laws, conflict minerals-related provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and other laws or regulations that could result in additional costs and liabilities.
- Evolving expectations from governments, investors, customers and other stakeholders regarding corporate responsibility matters could result in additional costs, harm to our reputation and a loss of customers.
- Issues related to the responsible use of AI may result in reputational, competitive and financial harm and liability.

Merger, Acquisition and Integration Risks

- Acquisitions, joint ventures, and/or investments, and the failure to integrate acquired businesses may fail to materialize their anticipated benefits and disrupt our business.
- Any impairment of our tangible, definite-lived intangible or indefinite-lived intangible assets, including goodwill, may adversely impact our financial position and results of operations.

Liquidity and Capital Resources Risks

- The agreements governing our notes, our guarantees of Xilinx's notes, and our Revolving Credit Agreement impose restrictions on us that may adversely affect our ability to operate our business.
- Our indebtedness could adversely affect our financial position and prevent us from implementing our strategy or fulfilling our contractual obligations.
- We may not generate sufficient cash to meet our working capital requirements. If we cannot generate sufficient revenue and operating cash flow, we may face a cash shortfall. Also, our cash and cash equivalents could be adversely affected if the financial institutions in which we hold our cash and cash equivalents fail.

General Risks

- Our worldwide operations are subject to political, legal and economic risks and natural disasters.
- We may incur future impairments of our technology license purchases.
- Our inability to continue to attract and retain qualified personnel may hinder our business.
- Our stock price is subject to volatility.

For a more complete discussion of the material risks facing our business, see below.

Economic and Strategic Risks

Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit our ability to compete effectively on a level playing field.

Intel's microprocessor market share position, significant financial resources, introduction of competitive new products, and existing relationships with top-tier OEMs have enabled it to market and price its products aggressively, to target our customers and our channel partners with special incentives and to influence customers who do business with us. These aggressive activities have in the past resulted in lower unit sales and a lower average selling price for many of our products and adversely affected our margins and profitability. Intel also dominates the computer system platform and has a heavy influence on PC manufacturers, other PC industry participants, and benchmarks. It is able to drive de facto standards and specifications for x86 microprocessors that could cause us and other companies to have delayed access to such standards. We may be materially adversely affected by Intel's business practices, including rebating and allocation strategies and pricing actions, designed to limit our market share and margins; product mix and introduction schedules; product bundling, marketing and merchandising strategies; and exclusivity payments to its current and potential customers, retailers and channel partners. We expect Intel to continue to heavily invest substantial resources in marketing, research and development, new manufacturing facilities and other technology companies. To the extent Intel manufactures a significantly larger portion of its microprocessor products using more advanced process technologies or introduces competitive new products into the market before we do, we may be more vulnerable to Intel's aggressive marketing and pricing strategies for microprocessor products.

We also compete with Intel in field programmable gate arrays (FPGAs) and Adaptive SoC products. In the graphics processing unit (GPU) market, Intel has developed and released their own high-end discrete GPUs, including gaming focused discrete GPUs. Intel could take actions that place our GPUs at a competitive disadvantage, including giving one or more of our competitors in the graphics market preferential access to its proprietary graphics interface or other useful information or restricting access to external companies.

Economic and market uncertainty may adversely impact our business and operating results.

Uncertain global or regional economic conditions have and may in the future adversely impact our business. Uncertainty in the economic environment or other unfavorable changes in economic conditions, such as inflation, higher interest rates, recession, slowing growth, increased unemployment, tighter credit markets, changes in fiscal monetary or trade policy, or currency fluctuations, may negatively impact consumer confidence and spending causing our customers to stop or postpone purchases. For example, our Client segment revenue decreased due to a decline in the PC market in the second half of 2022 and the first half of 2023, and our Embedded segment revenue decreased as a result of an inventory correction in several end markets in the second half of 2023. During challenging economic times, our current or potential future customers may experience cash flow problems and as a result may modify, delay or cancel plans to purchase our products. Additionally, if our customers are not successful in generating sufficient revenue or are unable to secure financing, they may not be able to pay, or may delay payment of, accounts receivable that they owe us. The risk related to our customers potentially defaulting on or delaying payments to us is increased because we expect that a small number of customers will continue to account for a substantial part of our revenue. Any inability of our current or potential future customers to pay us for our products may adversely affect our earnings and cash flow. Moreover, our key suppliers may reduce their output or become insolvent, thereby adversely impacting our ability to manufacture our products. Adverse changes in economic conditions could increase costs of memory, equipment, materials or substrates and other supply chain expenses. If we are not able to procure a stable supply of materials on an ongoing basis and at reasonable costs to meet our production requirements, we could experience a supply shortage or an increase in production costs, which could negatively impact our gross margin and materially adversely affect our business. In addition, uncertain economic conditions could lead to higher borrowing costs and reduced availability of capital and credit markets, making it more difficult for us to raise funds through borrowings or private or public sales of debt or equity securities. An economic downturn or increased uncertainty could also lead to failures of counterparties including financial institutions and insurers, asset impairments and declines in the value of our financial instruments.

The semiconductor industry is highly cyclical and has experienced severe downturns that have materially adversely affected, and may continue to materially adversely affect, our business in the future.

The semiconductor industry is highly cyclical and has experienced significant downturns, often in conjunction with constant and rapid technological change, wide fluctuations in supply and demand, continuous new product introductions, price erosion and declines in general economic conditions. We have incurred substantial losses in previous downturns, due to substantial declines in average selling prices; the cyclical nature of supply and demand imbalances in the semiconductor industry; a decline in demand for end-user products that incorporate our products; and excess inventory levels and periods of inventory adjustment. Such industry-wide fluctuations may materially adversely affect us in the future.

Global economic uncertainty and weakness have in the past impacted the semiconductor market as consumers and businesses have deferred purchases, which negatively impacted demand for our products. For example, our Client segment revenue decreased due to a decline in the PC market in the second half of 2022 and the first half of 2023, and our Embedded segment revenue decreased as a result of an inventory correction in several end markets in the second half of 2023. Our financial performance has been, and may in the future be, negatively affected by these downturns.

The growth of our business is also dependent on continued demand for our products from high-growth adjacent emerging global markets. Our ability to be successful in such markets depends in part on our ability to establish adequate local infrastructure, as well as our ability to cultivate and maintain local relationships in these markets. If demand from these markets is below our expectations, sales of our products may decrease, which would have a material adverse effect on us.

The demand for our products depends in part on the market conditions in the industries into which they are sold. Fluctuations in demand for our products or a market decline in any of these industries could have a material adverse effect on our results of operations.

Industry-wide fluctuations in the computer marketplace have materially adversely affected us in the past and may materially adversely affect us in the future. We offer products that are used in different end markets and the demand for our products can vary among our Data Center, Client, Gaming and Embedded end markets. For instance, in our Data Center segment, we offer products that are optimized for generative AI applications and in the fourth quarter of 2023, we experienced significant demand for our AI accelerators. The demand for such products will depend on the extent to which our customers utilize generative AI solutions in a wide variety of applications. Also, in our Client segment revenue is focused on the consumer desktop and notebook PC segments. Our Client segment revenue decreased due to a decline in the PC market in the second half of 2022 and the first half of 2023. In the past, revenues from the Client and Gaming segments have experienced a decline driven by, among other factors, the adoption of smaller and other form factors, increased competition and changes in replacement cycles. In addition, our GPU revenue in the past has been affected in part by the volatility of the cryptocurrency mining market. If we are unable to manage the risks related to the volatility of the cryptocurrency mining market (including potential actions by global monetary authorities), our GPU business could be materially adversely affected. The success of our semi-custom SoC products in our Gaming segment is dependent on securing customers for our semi-custom design pipeline and consumer market conditions, including the success of game console systems and next generation consoles for Sony and Microsoft. Our Embedded segment primarily includes embedded CPUs and GPUs, APUs, FPGAs and Adaptive SoC products some of which are subject to macroeconomic trends and volatile business conditions. To the extent our embedded customers are faced with higher inventory levels, they may choose to draw down their existing inventory and order less of our products. Our Embedded segment revenue decreased as a result of an inventory correction in several end markets in the second half of 2023.

The loss of a significant customer may have a material adverse effect on us.

We depend on a small number of customers for a substantial portion of our business and we expect that a small number of customers will continue to account for a significant part of our revenue in the future. If one of our key customers decides to stop buying our products, materially reduces its operations or its demand for our products, or has operations that are materially impaired for a significant period of time such that it is unable to receive or utilize our products, our business would be materially adversely affected.

We are subject to risks associated with public health crises, such as pandemics and epidemics, including the COVID-19 pandemic, which may have a material adverse effect on our business.

We are subject to risks associated with public health crises, such as pandemics and epidemics, which may have a material adverse effect on our business. Global health outbreaks, such as COVID-19, have and may continue to adversely affect our employees, disrupt our business operations and practices, as well those of our customers, partners, vendors and suppliers. Public health measures by government authorities such as travel bans, social-distancing, lockdown measures, vaccination requirements may cause us to incur additional costs, limit our operations, modify our business practices, diminish employee productivity or disrupt our supply chain, which may have a material adverse effect on our business. To the extent a public health crisis will impact our business, financial condition and results of operations depends on factors outside of our control, including severity, duration and the measures to contain the health outbreak.

The markets in which our products are sold are highly competitive.

The markets in which our products are sold are highly competitive and delivering the latest and best products to market on a timely basis is critical to achieving revenue growth. We believe that the main factors that determine our product competitiveness are total cost of ownership, timely product introductions, product quality, product features and capabilities (including accelerations for key workloads such as artificial intelligence (AI)), energy efficiency relating to power consumption and battery life given their impact on total cost of ownership, reliability, processor clock speed, performance, size (or form factor), selling price, cost, adherence to industry standards (and the creation of open industry standards), level of integration, software and hardware compatibility, ease of use and functionality of software design tools, completeness of applicable software solutions, security and stability, brand recognition and availability.

We expect that competition will continue to be intense due to rapid technological changes, frequent product introductions by our competitors or new competitors of products that may provide better performance/experience or that may include additional features that render our products comparatively less competitive. We may also face aggressive pricing by competitors, especially during challenging economic times. In addition, our competitors have significant marketing and sales resources which could increase the competitive environment in a declining market or during challenging economic times, leading to lower prices and margins. Some competitors may have greater access or rights to complementary technologies, including interface, processor and memory technical information. For instance, with our APU products and other competing solutions with integrated graphics, we believe that demand for additional discrete graphics chips and cards may decrease in the future due to improvements in the quality and performance of integrated graphics. If competitors introduce competitive new products into the market before us, demand for our products could be adversely impacted and our business could be adversely affected. In addition, Intel is expanding its position in integrated graphics for the PC market with high-end discrete graphics solutions for a broad range of computing markets, which may negatively impact our ability to compete in these computing markets, and Nvidia has added an ARM CPU offering which adds competition in the CPU market. Also, increased adoption of ARM-based semiconductor designs could lead to further growth and development of the ARM ecosystem. While we see significant opportunity in AI, we expect intense competition from companies such as Nvidia in the supply of GPUs and other accelerators for the AI market.

In addition, we are entering markets with current and new competitors who may be able to adapt more quickly to customer requirements and emerging technologies. We cannot guarantee that we will be able to compete successfully against current or new competitors who may have stronger positions in these new markets or superior ability to anticipate customer requirements and emerging industry trends. Furthermore, we may face competition from some of our customers who internally develop the same products as us. We may face delays or disruptions in research and development efforts, or we may be required to invest significantly greater resources in research and development than anticipated. Also, the semiconductor industry has seen several mergers and acquisitions over the last number of years. Further consolidation could adversely impact our business due to there being fewer suppliers, customers and partners in the industry.

From time to time, governments provide incentives or make other investments that could benefit and give a competitive advantage to our competitors. For example, the United States government enacted the Creating Helpful Incentives to Produce Semiconductors for America and Science Act (CHIPS Act) of 2022 to provide financial incentives to the U.S. semiconductor industry. Government incentives, including the CHIPS Act, may not be available to us on acceptable terms or at all. If our competitors can benefit from such government incentives and we cannot, it could strengthen our competitors' relative position and have a material adverse effect on our business.

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Our operating results are subject to quarterly and seasonal sales patterns.

The profile of our sales may be weighted differently during the year. A large portion of our quarterly sales have historically been made in the last month of the quarter. This uneven sales pattern makes prediction of revenue for each financial period difficult and increases the risk of unanticipated variations in quarterly results and financial condition. In addition, our operating results tend to vary seasonally with the markets in which our products are sold. For example, historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends. Many of the factors that create and affect quarterly and seasonal trends are beyond our control.

If we cannot adequately protect our technology or other intellectual property in the United States and abroad, through patents, copyrights, trade secrets, trademarks and other measures, we may lose a competitive advantage and incur significant expenses.

We rely on a combination of protections provided by contracts, including confidentiality and nondisclosure agreements, copyrights, patents, trademarks and common law rights, such as trade secrets, to protect our intellectual property. However, we cannot assure you that we will be able to adequately protect our technology or other intellectual property from third-party infringement or from misappropriation in the United States and abroad. Any patent licensed by us or issued to us could be challenged, invalidated, expire, or circumvented or rights granted thereunder may not provide a competitive advantage to us.

Furthermore, patent applications that we file may not result in issuance of a patent or, if a patent is issued, the patent may not be issued in a form that is advantageous to us. Despite our efforts to protect our intellectual property rights, others may independently develop similar products, duplicate our products or design around our patents and other rights. In addition, it is difficult to monitor compliance with, and enforce, our intellectual property on a worldwide basis in a cost-effective manner. In jurisdictions where foreign laws provide less intellectual property protection than afforded in the U.S. and abroad, our technology or other intellectual property may be compromised, and our business would be materially adversely affected.

Unfavorable currency exchange rate fluctuations could adversely affect us.

We have costs, assets and liabilities that are denominated in foreign currencies. As a consequence, movements in exchange rates could cause our foreign currency denominated expenses to increase as a percentage of revenue, affecting our profitability and cash flows. Whenever we believe appropriate, we hedge a portion of our foreign currency exposure to protect against fluctuations in currency exchange rates. We determine our total foreign currency exposure using projections of long-term expenditures for items such as payroll. We cannot assure you that these activities will be effective in reducing foreign exchange rate exposure. Failure to do so could have an adverse effect on our business, financial condition, results of operations and cash flow. In addition, the majority of our product sales are denominated in U.S. dollars. Fluctuations in the exchange rate between the U.S. dollar and the local currency can cause increases or decreases in the cost of our products in the local currency of such customers. An appreciation of the U.S. dollar relative to the local currency could reduce sales of our products.

Operational and Technology Risks

We rely on third parties to manufacture our products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, our business could be materially adversely affected.

We utilize third-party wafer foundries to fabricate the silicon wafers for all of our products. We rely on Taiwan Semiconductor Manufacturing Company Limited (TSMC) for the production of all wafers for microprocessor and GPU products at 7 nanometer (nm) or smaller nodes, and we rely primarily on GLOBALFOUNDRIES Inc. (GF) for wafers for microprocessor and GPU products manufactured at process nodes larger than 7 nm. We also utilize TSMC, United Microelectronics Corporation (UMC) and Samsung Electronics Co., Ltd. for our integrated circuits (IC) in the form of programmable logic devices. We also rely on third-party manufacturers to assemble, test, mark and pack (ATMP) our products. Our third-party package assembly partners are responsible for packaging technology used to fabricate our products. It is important to have reliable relationships with all of these third-party manufacturing suppliers to ensure adequate product supply to respond to customer demand.

We cannot guarantee that these manufacturers or our other third-party manufacturing suppliers will be able to meet our near-term or long-term manufacturing requirements. If we experience supply constraints from our third-party manufacturing suppliers, we may be required to allocate the reduced quantities of affected products amongst our customers, which could have a material adverse effect on our relationships with these customers and on our financial condition. In addition, if we are unable to meet customer demand due to fluctuating or late supply from our manufacturing suppliers, it could result in lost sales and have a material adverse effect on our business. For example, if TSMC is not able to manufacture wafers for our microprocessor and GPU products at 7 nm or smaller nodes and our newest IC products in sufficient quantities to meet customer demand, it could have a material adverse effect on our business.

We do not have long-term commitment contracts with some of our third-party manufacturing suppliers. We obtain many of these manufacturing services on a purchase order basis and these manufacturers are not required to provide us with any specified minimum quantity of product beyond the quantities in an existing purchase order. Accordingly, we depend on these suppliers to allocate to us a portion of their manufacturing capacity sufficient to meet our needs, to produce products of acceptable quality and at acceptable manufacturing yields and to deliver those products to us on a timely basis and at acceptable prices. The manufacturers we use also fabricate wafers and ATMP products for other companies, including certain of our competitors. They could choose to prioritize capacity for other customers, increase the prices that they charge us on short notice, require onerous prepayments, or reduce or eliminate deliveries to us, which could have a material adverse effect on our business.

Other risks associated with our dependence on third-party manufacturers include limited control over delivery schedules, yield, cycle times, quality assurance, price increases, lack of capacity in periods of excess demand, misappropriation of our intellectual property, dependence on several subcontractors, and limited ability to manage inventory and parts. Moreover, if any of our third-party manufacturers (or their subcontractors) suffer any damage to facilities, lose benefits under material agreements, experience power outages, water shortages, or high heat events, lack sufficient capacity to manufacture our products, encounter financial difficulties, are unable to secure necessary raw materials from their suppliers, suffer any other disruption or reduction in efficiency, or experience uncertain environmental, social, atmospheric or natural, economic or political circumstances or conditions, we may encounter supply delays or disruptions. If we are unable to secure sufficient or reliable supplies of products, our ability to meet customer demand may be adversely affected and this could materially affect our business.

If we transition the production of some of our products to new manufacturers, we may experience delayed product introductions, lower yields or poorer performance of our products. If we experience problems with product quality or are unable to secure sufficient capacity from a particular third-party manufacturer, or if we for other reasons cease utilizing one of those manufacturers, we may be unable to timely secure an alternative supply for any specific product. We could experience significant delays in the shipment of our products if we are required to find alternative third-party manufacturers, which could have a material adverse effect on our business.

We are a party to a wafer supply agreement (WSA) with GF that governs the terms by which we purchase products manufactured by GF and this agreement is in place through 2025. GF will provide a minimum annual capacity allocation to us through 2025 and we have corresponding annual wafer purchase targets. If we do not meet the annual wafer purchase target, we will be required to pay to GF a portion of the difference between the actual wafer purchases and the wafer purchase target for such year. AMD and GF also have agreed to wafer pricing through 2025. We do not have any exclusivity commitments with GF, and we have full flexibility to contract with any wafer foundry with respect to all products manufactured at any technology node. If our actual wafer requirements are less than the number of wafers required to meet the applicable annual wafer purchase target, we could have excess inventory or higher inventory unit costs, both of which may adversely impact our gross margin and our results of operations. If GF fails to meet its minimum annual capacity allocation obligations, we could experience significant delays in the shipment of our products, which could have a material adverse effect on our business.

We are party to two ATMP joint ventures (collectively, the ATMP JVs) with affiliates of Tongfu Microelectronics Co., Ltd. The majority of our ATMP services are provided by the ATMP JVs and there is no guarantee that the ATMP JVs will be able to fulfill our long-term ATMP requirements. If we are unable to meet customer demand due to fluctuating or late supply from the ATMP JVs, it could result in lost sales and have a material adverse effect on our business.

If essential equipment, materials, substrates or manufacturing processes are not available to manufacture our products, we could be materially adversely affected.

We may purchase equipment, materials and substrates for use by our back-end manufacturing service providers from a number of suppliers and our operations depend upon obtaining deliveries of adequate supplies of equipment and materials on a timely basis. Our third-party suppliers also depend on the same timely delivery of adequate quantities of equipment and materials in the manufacture of our products. In addition, as many of our products increase in technical complexity, we rely on our third-party suppliers to update their processes in order to continue meeting our back-end manufacturing needs. Certain equipment and materials that are used in the manufacture of our products are available only from a limited number of suppliers, or in some cases, a sole supplier. We also depend on a limited number of suppliers to provide the majority of certain types of IC packages for our microprocessors, including our APU products. Similarly, certain non-proprietary materials or components such as memory, printed circuit boards (PCBs), interposers, substrates and capacitors used in the manufacture of our products are currently available from only a limited number of suppliers. If we are unable to procure a stable supply of memory, equipment, materials or substrates on an ongoing basis and at reasonable costs to meet our production requirements, we could experience a shortage in memory, equipment, materials or substrate supply or an increase in production costs, which could have a material adverse effect on our business. We have long-term purchase commitments and prepayment arrangements with some of our suppliers. If the delivery of such supply is delayed or does not occur for any reason, it could materially impact our ability to procure and process the required volume of supply to meet customer demand. Conversely, a decrease in customer demand could result in excess inventory and an increase in our production costs, particularly since we have prepayment arrangements with certain suppliers. Because some of the equipment and materials that we and our third-party manufacturers purchase are complex, it is sometimes difficult to substitute one equipment or materials supplier for another.

From time to time, suppliers may extend lead times, limit supply or increase prices due to capacity constraints or other factors. Also, some of these materials and components may be subject to rapid changes in price and availability. Interruption of supply or increased demand in the industry could cause shortages and price increases in various essential materials. Dependence on a sole supplier or a limited number of suppliers exacerbates these risks. If we are unable to procure certain of these materials for our back-end manufacturing operations, or our third-party manufacturers are unable to procure materials for manufacturing our products, our business would be materially adversely affected.

Failure to achieve expected manufacturing yields for our products could negatively impact our results of operations.

Semiconductor manufacturing yields are a result of product design, process technology and packaging technology, which is typically proprietary to the manufacturer, and low yields can result from design failures, packaging technology failures, process technology failures or a combination of some or all of these. Our third-party manufacturers are responsible for the process technologies used to fabricate silicon wafers. If our third-party manufacturers experience manufacturing inefficiencies or encounter disruptions, errors or difficulties during production, we may fail to achieve acceptable yields or we may experience product delivery delays. We cannot be certain that our third-party manufacturers will be able to develop, expand, obtain or successfully implement leading-edge manufacturing process or packaging technologies needed to manufacture future generations of our products profitably or on a timely basis or that our competitors will not develop new technologies, products or processes earlier. Moreover, during periods when our third-party manufacturers are implementing new process or packaging technologies, their manufacturing facilities may not be fully productive. A substantial delay in the technology transitions to smaller process technologies could have a material adverse effect on us, particularly if our competitors transition to more cost effective technologies before us. For example, we are presently focusing our 7 nm and lower product microprocessor and GPU portfolio on TSMC's processes. If TSMC is not able to manufacture wafers for our products at 7 nm or smaller nodes in sufficient quantities to meet customer demand, it could have a material adverse effect on our business. Moreover, we rely on TSMC, UMC and our other foundries to produce wafers with competitive performance attributes for our IC products. Therefore, the foundries, particularly TSMC which manufactures our newest IC products, must be able to transition to advanced manufacturing process technologies and increased wafer sizes, produce wafers at acceptable yields and deliver them in a timely manner.

Any decrease in manufacturing yields could result in an increase in per unit costs, which would adversely impact our gross margin and/or force us to allocate our reduced product supply amongst our customers, which could harm our relationships and reputation with our customers and materially adversely affect our business.

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The success of our business is dependent upon our ability to introduce products on a timely basis with features and performance levels that provide value to our customers while supporting and coinciding with significant industry transitions.

Our success depends to a significant extent on the development, qualification, implementation and acceptance of new product designs and improvements that provide value to our customers. Our ability to develop, qualify and distribute, and have manufactured, new products and related technologies to meet evolving industry requirements, at prices acceptable to our customers and on a timely basis, are significant factors in determining our competitiveness in our target markets. We cannot assure you that our efforts to execute our product roadmap will result in innovative products and technologies that provide value to our customers. If we fail to or are delayed in developing, qualifying or shipping new products or technologies that provide value to our customers and address these new trends or if we fail to predict which new form factors, product features preferences or requirements, consumers will adopt and adjust our business accordingly, we may lose competitive positioning, which could cause us to lose market share and require us to discount the selling prices of our products. Although we make substantial investments in research and development, we cannot be certain that we will be able to develop, obtain or successfully implement new products and technologies on a timely basis or that they will be well-received by our customers. Moreover, our investments in new products and technologies involve certain risks and uncertainties and could disrupt our ongoing business. New investments may not generate sufficient revenue, may incur unanticipated liabilities and may divert our limited resources and distract management from our current operations. We cannot be certain that our ongoing investments in new products and technologies will be successful, will meet our expectations and will not adversely affect our reputation, financial condition and operating results. For example, as part of our Pervasive AI strategy, we have a portfolio of hardware products and software tools to allow our customers to develop scalable and pervasive AI solutions. We are increasingly building AI capabilities into our products, but if we fail to develop and timely offer such products and technologies or keep pace with the product offerings of our competitors, our business could be adversely affected. Additionally, our efforts in developing new AI technology solutions are inherently risky and may not always succeed. We may incur significant costs, resources, investments and delays and not achieve a return on investment or capitalize on the opportunities presented by demand for AI solutions. Moreover, while AI adoption is likely to continue and may accelerate, the long-term trajectory of this technological trend is uncertain.

Delays in developing, qualifying or shipping new products can also cause us to miss our customers' product design windows or, in some cases, breach contractual obligations or cause us to pay penalties. If our customers do not include our products in the initial design of their computer systems or products, they will typically not use our products in their systems or products until at least the next design configuration. The process of being qualified for inclusion in a customer's system or product can be lengthy and could cause us to further miss a cycle in the demand of end-users, which also could result in a loss of market share and harm our business. We also depend on the success and timing of our customers' platform launches. If our customers delay their product launches or if our customers do not effectively market their platforms with our products, it could result in a delay in bringing our products to market and cause us to miss a cycle in the demand of end-users, which could materially adversely affect our business. In addition, market demand requires that products incorporate new features and performance standards on an industry-wide basis. Over the life of a specific product, the sale price is typically reduced over time. The introduction of new products and enhancements to existing products is necessary to maintain the overall corporate average selling price. If we are unable to introduce new products with sufficiently high sale prices or to increase unit sales volumes capable of offsetting the reductions in the sale prices of existing products over time, our business could be materially adversely affected.

Our revenue from our semi-custom SoC products is dependent upon our semi-custom SoC products being incorporated into customers' products and the success of those products.

The revenue that we receive from our semi-custom SoC products is in the form of non-recurring engineering fees charged to third parties for design and development services and revenue received in connection with sales of our semi-custom SoC products to these third parties. As a result, our ability to generate revenue from our semi-custom products depends on our ability to secure customers for our semi-custom design pipeline, our customers' desire to pursue the project and our semi-custom SoC products being incorporated into those customers' products. Any revenue from sales of our semi-custom SoC products is directly related to sales of the third-party's products and reflective of their success in the market. Moreover, we have no control over the marketing efforts of these third parties, and we cannot make any assurances that sales of their products will be successful in current or future years. Consequently, the semi-custom SoC product revenue expected by us may not be fully realized and our operating results may be adversely affected.

Our products may be subject to security vulnerabilities that could have a material adverse effect on us.

The products that we sell are complex and have been and may in the future be subject to security vulnerabilities that could result in, among other things, the loss, corruption, theft or misuse of confidential data or system performance issues. Our efforts to prevent and address security vulnerabilities may decrease performance, be only partially effective or not successful at all. We may depend on vendors to create mitigations to their technology that we incorporate into our products and they may delay or decline to make such mitigations. We may also depend on third parties, such as customers and end users, to deploy our mitigations alone or as part of their own mitigations, and they may delay, decline or modify the implementation of such mitigations. Our relationships with our customers could be adversely affected as some of our customers may stop purchasing our products, reduce or delay future purchases of our products, or use competing products. Any of these actions by our customers could adversely affect our revenue. We have and may in the future be subject to claims and litigation related to security vulnerabilities. Actual or perceived security vulnerabilities of our products may subject us to adverse publicity, damage to our brand and reputation, and could materially harm our business or results of operations.

IT outages, data loss, data breaches and cyberattacks could disrupt operations and compromise our intellectual property or other sensitive information, be costly to remediate or cause significant damage to our business, reputation, financial condition and results of operations.

Our business relies on technology hardware, software, cloud services, infrastructure, networks and systems (collectively, IT Systems). We own and manage some IT Systems but also rely on critical third-party IT Systems, products and services. In the ordinary course of business, we and various third-party providers and business partners process and maintain sensitive data, including personal information about workers, customers and others, as well as intellectual property and proprietary or confidential information relating to our business and that of our customers and business partners (collectively, Confidential Data). Maintaining the availability, integrity and security of our IT Systems and Confidential Data is critical to our business and reputation. While we and others have implemented various controls and defenses, AMD and companies like AMD and our vendors and customers have been and are increasingly subject to cybersecurity attacks, risks and threats. Threat actors range in sophistication from individual hackers and insiders to ransom gangs and state-sponsored attackers. Cyber threats may be generic, or they may be custom-crafted against our IT Systems or supply chain. The increased prevalence of remote working arrangements at AMD and our providers present additional operational risks and attack vectors to our IT Systems. Our IT Systems and Confidential Data are vulnerable to a range of cybersecurity risks and threats, including malicious code that is added to widely available open-source software, compromised commercial software or security vulnerabilities in our products or systems, or those of a third party, that are being used by attackers prior to mitigations being put in place, such as zero-day attacks. Cyberattacks have and may come into our IT Systems through the compromise of user' access credentials. Users' access credentials can be compromised by phishing, vishing, smishing, multi-factor authentication (MFA) prompt bombing, hacking, or other social engineering, cybersecurity, or theft activities.

Threat actors are also increasingly using tools and techniques that circumvent controls, evade detection, and remove forensic evidence, which means that we and others may be unable to anticipate, detect, deflect, contain or recover from cyberattacks in a timely or effective manner. As AI capabilities improve and are increasingly adopted, we may see cyberattacks created through AI. These attacks could be crafted with an AI tool to directly attack IT Systems with increased speed and/or efficiency than a human threat actor or create more effective phishing emails. In addition, the threat could be introduced from the result of our or our customers and business partners incorporating the output of an AI tool that includes a threat, such as introducing malicious code by incorporating AI generated source code. Our network and storage applications, as well as those of our customers, business partners, and third-party providers, may be subject to unauthorized access by hackers or breached due to operator error, malfeasance or other system disruptions.

Cyberattacks that breach our security measures, or those of our third-party service providers, customers or business partners, could result in any or all of the following, which individually or collectively could materially adversely affect our financial condition, our competitive position; unauthorized access to, misuse or disclosure of Confidential Data (such as intellectual property, sensitive business information or personally identifiable information (PII)); reputational harm and/or diminution in our competitiveness; loss of existing and/or future customers; litigation and/or regulatory investigations or enforcement; significant remediation, restoration and compliance costs; and the diversion of management's attention and key information technology resources. In addition, many governments have enacted and are continuing to enact strict privacy and security laws, such as the UK's and European Union's General Data Protection Regulation (GDPR) and the California Consumer Privacy Act of 2018 (CCPA), as amended by the California Privacy Rights Act (CPRA), which provide for fines, penalties, and in the case of the CCPA and similar legislation, the basis for private claims for certain types of data breaches. We anticipate ongoing and increasing costs related to enhancing and implementing information security controls, including costs related to upgrading application, computer, and network security components; training workers to maintain and monitor our security controls; investigating, responding to and remediating any data security breach, and addressing any related litigation or regulatory proceedings; mitigating reputational harm; and complying with external regulations.

We may encounter difficulties in operating our newly upgraded enterprise resource planning system, which could materially adversely affect us.

We have recently upgraded our enterprise resource planning (ERP) system to help us manage our operations and financial reporting. Our newly upgraded ERP system may not operate as we expect it to and may cause disruption to our operations, which could have a material adverse effect on our business. Difficulties that may occur in connection with operating our newly upgraded ERP system include disruptions to business continuity, administrative or technical problems, difficulty in maintaining effective internal controls, and interruptions or delays to our sales processes. Any of these events could have an adverse effect on our business, operating results and financial condition.

Uncertainties involving the ordering and shipment of our products could materially adversely affect us.

We typically sell our products pursuant to individual purchase orders. We generally do not have long-term supply arrangements with our customers or minimum purchase requirements except that orders generally must be for standard pack quantities. Generally, our customers may cancel orders for standard products more than 30 days prior to shipment without incurring significant fees. We base our inventory levels in part on customers' estimates of demand for their products, which may not accurately predict the quantity or type of our products that our customers will want in the future or ultimately end up purchasing. Our ability to forecast demand is further complicated when our products are sold indirectly through downstream channel distributors and customers, as our forecasts for demand are then based on estimates provided by multiple parties throughout the downstream channel. To the extent we fail to forecast demand and product mix accurately or are unable to increase production or secure sufficient capacity and there is a mismatch between supply and demand for our products, it could limit our ability to meet customer demand and have a material adverse effect on our business. Many of our markets are characterized by short product lifecycles, which can lead to rapid obsolescence and price erosion. In addition, our customers may change their inventory practices on short notice for any reason. For example, our Client segment revenue decreased due to a decline in the PC market in the second half of 2022 and the first half of 2023, and our Embedded segment revenue decreased as a result of an inventory correction in several end markets in the second half of 2023. We may build inventories during periods of anticipated growth, and the cancellation or deferral of product orders or overproduction due to failure of anticipated orders to materialize could result in excess or obsolete inventory, which could result in write-downs of inventory and an adverse effect on gross margins. Our customers may also experience a shortage of, or delay in receiving certain components to build their products, which in turn may affect the demand for or the timing of our products. For instance, OEMs have and continue to experience industry-wide challenges securing matched component sets to build their products.

Excess or obsolete inventory have resulted in, and may in the future result in, write-downs of the value of our inventory. For example, in the third quarter of 2022, we recorded certain charges primarily for inventory, pricing and related reserves in the Gaming and Client segments. Factors that may result in excess or obsolete inventory, a reduction in the average selling price, or a reduction in our gross margin include: a sudden or significant decrease in demand for our products; a production or design defect in our products; a higher incidence of inventory obsolescence because of rapidly changing technology and customer requirements; a failure to accurately estimate customer demand for our products, including for our older products as our new products are introduced; or our competitors introducing new products or taking aggressive pricing actions.

Our ability to design and introduce new products in a timely manner includes the use of third-party intellectual property.

In the design and development of new and enhanced products, we rely on third-party intellectual property such as development and testing tools for software and hardware. Furthermore, certain product features may rely on intellectual property acquired from third parties that incorporate into our software or hardware. The design requirements necessary to meet customer demand for more features and greater functionality from semiconductor products may exceed the capabilities of the third-party intellectual property or development or testing tools available to us. If the third-party intellectual property that we use becomes unavailable, is not available with required functionality or performance in the time frame, manufacturing technology, or price point needed for our new products or fails to produce designs that meet customer demands, or laws are adopted that affect our use of third party intellectual property in certain regions or products, our business could be materially adversely affected.

We depend on third-party companies for the design, manufacture and supply of motherboards, software, memory and other computer platform components to support our business and products.

We depend on third-party companies for the design, manufacture and supply of motherboards, graphics cards, software (e.g., BIOS, operating systems, drivers), memory and other components that we use to design, support and sell, and our customers utilize to support and/or use our product offerings. We also rely on our AIB partners to support our products. In addition, our microprocessors are not designed to function with motherboards and chipsets designed to work with Intel microprocessors. If the designers, manufacturers, AIBs and suppliers of motherboards, graphics cards, software, memory and other components cease or reduce their design, manufacture or production of current or future products that are based on, utilized in, or support our products, or laws are adopted that result in the same, our business could be materially adversely affected.

If we lose Microsoft Corporation's support for our products or other software vendors do not design and develop software to run on our products, our ability to sell our products could be materially adversely affected.

Our ability to innovate beyond the x86 instruction set controlled by Intel depends partially on Microsoft designing and developing its operating systems to run on or support our x86-based microprocessor products. With respect to our graphics products, we depend in part on Microsoft to design and develop its operating system to run on or support our graphics products. Similarly, the success of our products in the market, such as our APU products, is dependent on independent software providers designing and developing software to run on our products. If Microsoft does not continue to design and develop its operating systems so that they work with our x86 instruction sets or does not continue to develop and maintain their operating systems to support our graphics products, independent software providers may forego designing their software applications to take advantage of our innovations and customers may not purchase PCs with our products. In addition, some software drivers licensed for use with our products are certified by Microsoft. If Microsoft did not certify a driver, or if we otherwise fail to retain the support of Microsoft or other software vendors, our ability to market our products would be materially adversely affected.

Our reliance on third-party distributors and AIB partners subjects us to certain risks.

We market and sell our products directly and through third-party distributors and AIB partners pursuant to agreements that can generally be terminated for convenience by either party upon prior notice. These agreements are non-exclusive and permit both our distributors and AIB partners to offer our competitors' products. We are dependent on our distributors and AIB partners to supplement our direct marketing and sales efforts. If any significant distributor or AIB partner or a substantial number of our distributors or AIB partners terminated their relationship with us, decided to market our competitors' products over our products or decided not to market our products at all, our ability to bring our products to market would be impacted and we would be materially adversely affected. We extend credit to certain of our distributors and AIB partners. If we are unable to collect accounts receivable from our significant distributors and/or AIB partners or incur higher allowances for credit losses, it could have a material adverse effect on our business. If we are unable to manage the risks related to the use of our third-party distributors and AIB partners or offer appropriate incentives to focus them on the sale of our products, our business could be materially adversely affected.

Additionally, distributors and AIB partners typically maintain an inventory of our products. In most instances, our agreements with distributors protect their inventory of our products against price reductions, as well as provide return rights for any product that we have removed from our price book that is less than 12 months older than the manufacturing date. Some agreements with our distributors also contain standard stock rotation provisions permitting limited levels of product returns. Our agreements with AIB partners protect their inventory of our products against price reductions. In the event of a significant decline in the price of our products, the price protection rights we offer would materially adversely affect us because our revenue and corresponding gross margin would decline.

Our business is dependent upon the proper functioning of our internal business processes and information systems and modification or interruption of such systems may disrupt our business, processes and internal controls.

We rely upon a number of internal business processes and information systems to support key business functions, and the efficient operation of these processes and systems is critical to our business. Our business processes and information systems need to be sufficiently scalable to support the growth of our business and may require modifications or upgrades that expose us to a number of operational risks. As such, our information systems will continually evolve and adapt in order to meet our business needs. These changes may be costly and disruptive to our operations and could impose substantial demands on management time.

These changes may also require changes in our information systems, modification of internal control procedures and significant training of employees and third-party resources. We continuously work on simplifying our information systems and applications through consolidation and standardization efforts. There can be no assurance that our business and operations will not experience any disruption in connection with this transition. Our information technology systems, and those of third-party information technology providers or business partners, may also be vulnerable to damage or disruption caused by circumstances beyond our control including catastrophic events, power anomalies or outages, natural disasters, viruses or malware, cyberattacks, insider threat attacks, unauthorized system or data modifications, data breaches and computer system or network failures, exposing us to significant cost, reputational harm and disruption or damage to our business.

In addition, as our IT environment continues to evolve, we are embracing new ways of communicating and sharing data internally and externally with customers and partners using methods such as mobility and the cloud that can promote business efficiency. However, these practices can also result in a more distributed IT environment, making it more difficult for us to maintain visibility and control over internal and external users, and meet scalability and administrative requirements. If our security controls cannot keep pace with the speed of these changes or if we are not able to meet regulatory and compliance requirements, our business would be materially adversely affected.

If our products are not compatible with some or all industry-standard software and hardware, we could be materially adversely affected.

Our products may not be fully compatible with some or all industry-standard software and hardware. Further, we may be unsuccessful in correcting any such compatibility problems in a timely manner. If our customers are unable to achieve compatibility with software or hardware, we could be materially adversely affected. In addition, the mere announcement of an incompatibility problem relating to our products could have a material adverse effect on our business.

Costs related to defective products could have a material adverse effect on us.

Products as complex as those we offer may contain defects or failures when first introduced or when new versions or enhancements to existing products are released. We cannot assure you that, despite our testing procedures, errors will not be found in new products or releases after commencement of commercial shipments in the future, which could result in loss of or delay in market acceptance of our products, material recall and replacement costs, loss of revenue, writing down the inventory of defective products, the diversion of the attention of our engineering personnel from product development efforts, defending against litigation related to defective products or related liabilities, including property damage, personal injury, damage to our reputation in the industry and loss of data or intangible property, and could adversely affect our relationships with our customers. In addition, we may have difficulty identifying the end customers of the defective products in the field. As a result, we could incur substantial costs to implement modifications to correct defects. Any of these problems could materially adversely affect our business.

We could be subject to potential product liability claims if one of our products causes, or merely appears to have caused, an injury, whether tangible or intangible. Claims may be made by consumers or others selling our products, and we may be subject to claims against us even if an alleged injury is due to the actions of others. A product liability claim, recall or other claim with respect to uninsured liabilities or for amounts in excess of insured liabilities could have a material adverse effect on our business.

If we fail to maintain the efficiency of our supply chain as we respond to changes in customer demand for our products, our business could be materially adversely affected.

Our ability to meet customer demand for our products depends, in part, on our ability to deliver the products our customers want on a timely basis. Accordingly, we rely on our supply chain for the manufacturing, distribution and fulfillment of our products. As we continue to grow our business, expand to high-growth adjacent markets, acquire new customers and strengthen relationships with existing customers, the efficiency of our supply chain will become increasingly important because many of our customers tend to have specific requirements for particular products, geographic requirements, and specific time-frames in which they require delivery of these products. If we are unable to consistently deliver the right products to our customers on a timely basis in the right locations, our customers may reduce the quantities they order from us, which could have a material adverse effect on our business.

We outsource to third parties certain supply-chain logistics functions, including portions of our product distribution, transportation management and information technology support services.

We rely on third-party providers to operate our regional product distribution centers and to manage the transportation of our work-in-process and finished products among our facilities, to our third-party manufacturers and to our customers. In addition, we rely on third parties to provide certain information technology services to us, including help desk support, desktop application services, business and software support applications, server and storage administration, data center operations, database administration and voice, video and remote access. We cannot guarantee that these providers will fulfill their respective responsibilities in a timely manner in accordance with the contract terms, in which case our internal operations and the distribution of our products to our customers could be materially adversely affected. Also, we cannot guarantee that our contracts with these third-party providers will be renewed, in which case we would have to transition these functions in-house or secure new providers, which could have a material adverse effect on our business if the transition is not executed appropriately.

Our inability to effectively control the sales of our products on the gray market could have a material adverse effect on us.

We market and sell our products directly to OEMs and through authorized third-party distributors. From time to time, our products are diverted from our authorized distribution channels and are sold on the “gray market.” Gray market products result in shadow inventory that is not visible to us, thus making it difficult to forecast demand accurately. Also, when gray market products enter the market, we and our distribution channels compete with these heavily discounted gray market products, which adversely affects demand for our products and negatively impacts our margins. In addition, our inability to control gray market activities could result in customer satisfaction issues because any time products are purchased outside our authorized distribution channels there is a risk that our customers are buying counterfeit or substandard products, including products that may have been altered, mishandled or damaged, or are used products represented as new.

Climate change may have a long-term impact on our business.

Climate change may have an adverse impact on our business and the business of our suppliers and customers. Global climate change may result in certain natural disasters and climate-related events occurring with increasing frequency and severity and its physical impact on the U.S., China and other major regions where we have operations has the potential to disrupt our business and those of our customers and suppliers. Our headquarters and some of our operations and facilities are located in areas that are susceptible to earthquakes and tsunamis, wildfires, extreme storms, extreme heat, drought, freezing and other natural disasters. Water and energy availability and reliability in the regions where we have facilities and where our suppliers have operations is important to our business. Certain natural disasters, including drought, wildfires, storms, sea-level rise and flooding could disrupt the availability of water necessary for the operations of our business or those of our suppliers and customers. Global climate change may also result in chronic changes that result in certain natural disasters occurring more frequently or with greater intensity, which could disrupt our operations, or the operations of our third parties. Such disruptions could cause delays in manufacturing or shipping our products, affect our supply chain and may result in the loss of business, and additional costs to maintain or resume operations, any of which could adversely affect our business and results of operation. We may also experience contractual disputes relating to supply chain delays resulting from climate change related disruptions, which could result in increased litigation and costs. Data centers depend on access to clean water and reliable energy, thus potential power or water shortages could impair our customer's ability to expand their data center capacity and consume our products and services.

Although we maintain insurance coverage for a variety of property, casualty, and other risks, the types and amounts of insurance we obtain vary depending on coverage, availability and cost. Some of our policies have large deductibles and broad exclusions. Additionally, 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.

Our business and the business of our suppliers and customers may also be subject to further climate-related regulations, contract terms and lawsuits. New increased regulations regarding carbon taxes, greenhouse gas emissions, fuel or energy taxes and other climate-related risks could result in greater costs; for example, as a result of carbon pricing impacts on electrical utilities and/or necessitating that we purchase more renewable energy than otherwise planned. Our supply chain manufacturing suppliers may be exposed to increased costs of doing business should they be affected by new climate-related expectations such as those affecting abatement equipment, renewable energy, and/or alter production processes and materials selections. The additional compliance costs incurred by our suppliers may be passed on to us and result in greater indirect costs to us. These costs and restrictions could harm our business and results of operations by increasing our expenses, impacting our reputation if there is actual or perceived non-compliance, or requiring us to alter our operations and products. The long-term effects of climate change on the global economy and the technology industry are unclear but could be severe.

Legal and Regulatory Risks

Government actions and regulations such as export regulations, tariffs, and trade protection measures may limit our ability to export our products to certain customers.

We have equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. In June 2019, the Bureau of Industry and Security (BIS) of the United States Department of Commerce added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. Since that time, the United States administration has called for changes to domestic and foreign policy, including policies with respect to China and Russia. Specifically, United States-China trade relations remain uncertain as the United States continues to add more Chinese companies to the Entity List and more regulations targeted to advanced computing, semiconductor manufacturing, and emerging technologies such as AI. Further, the United States and other countries and coalitions have issued sanctions and revisions to export control and other regulations against Russia, Belarus and the DNR and LNR regions of Ukraine, due to the conflict in Ukraine.

In October 2023, BIS issued new requirements for certain advanced computing items that apply to the export of products classified ECCN 3A090 or 4A090 to a party headquartered in, or with an ultimate parent headquartered in, any of Country Groups D1, D4 or D5, including China. These controls prevent us from shipping our AMD Instinct™ MI250, MI300X, MI300A, MI388X integrated circuits and our Versal™ VC2802, VE2802 FPGAs to China, or to customers outside of the United States whose ultimate parent is headquartered in a D5 country (including China), without a license. These controls also require us to file a Notified Advanced Computing (NAC) notification with BIS 25 days before shipping certain Versal VC2602 and VE2602 FPGAs to China, or to customers outside of the United States whose ultimate parent is headquartered in a D5 country (including China). In December 2023, BIS published a series of frequently asked questions indicating an intent to revise certain sections of the controls issued in October. Such revisions may bring certain other products including the AMD Instinct MI210 into the NAC notification requirement. The NAC notification process could result in BIS prohibiting a shipment or requiring a license application before shipping a product that is the subject of a NAC notification. BIS may issue new licensing requirements and regulatory controls in the future. Even new products that fall below the licensing thresholds may not be successful because we have no assurances BIS will agree that the alternative products are not subject to the new licensing requirements or that future regulations will not control the alternative products. A significant trade disruption or the establishment or increase of any tariffs, trade protection measures or restrictions, or retaliatory actions from foreign governments could result in lost sales adversely impacting our reputation and business. There is also a possibility of future tariffs, trade protection measures, import or export regulations or other restrictions imposed on our current and future products, customers, or suppliers by the United States, China or other countries that could have a material adverse effect on our business. New export control restrictions may adversely impact the ability of our research and development teams located outside of the United States from executing our product roadmaps in a timely manner or at all. In addition, deemed export restrictions could further affect our ability to provide services or develop products in the United States.

We may, from time to time, receive technical data from third parties that is subject to the International Traffic and Arms Regulations (ITAR), which are administered by the U.S. Department of State. Export Administration Regulation (EAR) governs the export and re-export of certain AMD products, including FPGAs, as well as the transfer of related technologies or provision of services, whether in the U.S. or abroad. We are required to maintain an internal compliance program and security infrastructure to meet EAR and ITAR requirements. An inability to obtain the required export licenses, or to predict when or pursuant to which conditions they will be granted, increases the difficulties of forecasting shipments. When we file license applications or Notification Advanced Computing (NAC) exception notices we have no assurance that BIS will grant any exemptions or licenses or that the BIS will act on the filings in a timely manner. Even if BIS grants a requested license, the license may come with burdensome conditions that we cannot or decide not to fulfill. In addition, security or compliance program failures that could result in penalties or a loss of export privileges, as well as stringent licensing restrictions that may make our products less attractive to overseas customers, could have a material adverse effect on our business, financial condition and/or operating results.

If we cannot realize our deferred tax assets, our results of operations could be adversely affected.

Our deferred tax assets include net operating losses and tax credit carryforwards that can be used to offset taxable income and reduce income taxes payable in future periods. Each quarter, we consider both positive and negative evidence to determine whether all or a portion of the deferred tax assets are more likely than not to be realized. If we determine that some or all of our deferred tax assets are not realizable, it could result in a material expense in the period in which this determination is made which may have a material adverse effect on our financial condition and results of operations.

In addition, a significant amount of our deferred tax assets related to net operating losses or tax credits which remain under a valuation allowance could be subject to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The limitations could reduce our ability to utilize the net operating losses or tax credits before the expiration of the tax attributes.

Our business is subject to potential tax liabilities, and exposure to greater-than-anticipated income tax liabilities as a result of changes in tax rules and regulations, changes in interpretation of tax rules and regulations, or unfavorable assessments from tax audits, could affect our effective tax rates, financial condition, and results of operations.

We are a U.S.-based multinational company subject to income tax, indirect tax or other tax claims in multiple U.S. and foreign tax jurisdictions in which we conduct business. Significant judgment is required in determining our worldwide provision for income taxes. Tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. Any changes to tax laws could have a material adverse effect on our tax obligations and effective tax rate. Our income tax obligations could be affected by many factors, including, but not limited to, changes to our corporate operating structure, intercompany arrangements, and tax planning strategies.

Our income tax expense is computed based on tax rates enacted at the time of the respective financial period. Our future effective tax rates, financial condition and results from operations could be unfavorably affected by changes in the tax rates in jurisdictions where our income is earned, by changes in the tax rules and regulations or the interpretation of tax rules and regulations in the jurisdictions in which we do business or by changes in the valuation of our deferred tax assets. Many countries have started to implement legislation and other guidance to align their international tax rules with the Organization for Economic Co-operation and Development's (OECD) Base Erosion and Profit Shifting recommendations and action plan that aim to standardize and modernize global corporate tax policy, including changes to cross-border tax, transfer pricing documentation rules, and nexus-based tax incentive practices. The OECD is also continuing discussions surrounding fundamental changes in allocation of profits among tax jurisdictions in which companies do business, as well as the implementation of a global minimum tax (namely the "Pillar One" and "Pillar Two" proposals). The Council of the European Union has adopted the global corporate 15% minimum tax as provided for in Pillar Two and has directed EU member states to implement legislation enacting Pillar Two. Many countries, including non-EU member states, have implemented laws based on Pillar Two proposals, which may materially adversely impact our provision for income taxes, net income and cash flows. As a result of this heightened scrutiny, prior decisions by tax authorities regarding treatments and positions of corporate income taxes could be subject to review and inquiry, which could also result in changes in tax policies or existing tax rulings, and may have a material adverse effect on us.

In addition, we are subject to examinations of our income tax returns by domestic and foreign tax authorities. We regularly assess the likelihood of outcomes resulting from these examinations to determine the adequacy of our provision for income taxes and have reserved for potential adjustments that may result from the current examinations. There can be no assurance that the final determination of any of these examinations will not have an adverse effect on our effective tax rates, financial condition, and results of operations.

In the ordinary course of our business, there are many transactions and calculations where the ultimate income tax, indirect tax, or other tax determination is uncertain. Although we believe our tax estimates are reasonable, we cannot assure that the final determination of any tax audits or litigation will not be materially different from that which is reflected in historical tax provisions and accruals. Should additional taxes be assessed as a result of an audit, assessment or litigation, there could be a material adverse effect on our cash, tax provisions and results of operations in the period or periods for which that determination is made.

We are party to litigation and may become a party to other claims or litigation that could cause us to incur substantial costs or pay substantial damages or prohibit us from selling our products.

From time to time, we are a defendant or plaintiff in various legal actions, as described in Note 17 - Contingencies of the Notes to our Consolidated Financial Statements. For example, we have been subject to certain claims concerning federal securities laws and corporate governance. Our products are purchased by and/or used by consumers, which could increase our exposure to consumer actions such as product liability claims and consumer class action claims. On occasion, we receive claims that individuals were allegedly exposed to substances used in our former semiconductor wafer manufacturing facilities and that this alleged exposure caused harm. Litigation can involve complex factual and legal questions, and its outcome is uncertain. It is possible that if a claim is successfully asserted against us, it could result in the payment of damages that could be material to our business.

With respect to intellectual property litigation, from time to time, we have been notified of, or third parties may bring or have brought, actions against us and/or against our customers based on allegations that we are infringing the intellectual property rights of others, contributing to or inducing the infringement of the intellectual property rights of others, improperly claiming ownership of intellectual property or otherwise improperly using the intellectual property of others. If any such claims are asserted, we may seek to obtain a license under the third parties' intellectual property rights. We cannot assure you that we will be able to obtain all of the necessary licenses on satisfactory terms, if at all. These parties may file lawsuits against us or our customers seeking damages (potentially up to and including treble damages) or an injunction against the sale of products that incorporate allegedly infringed intellectual property or against the operation of our business as presently conducted, which could result in our having to stop the sale of some of our products or to increase the costs of selling some of our products or which could damage our reputation. The award of damages, including material royalty payments, or other types of damages, or the entry of an injunction against the manufacture and sale of some or all of our products could have a material adverse effect on us. We could decide, in the alternative, to redesign our products or to resort to litigation to challenge such claims. Such challenges could be extremely expensive and time-consuming regardless of their merit, could cause delays in product release or shipment and/or could have a material adverse effect on us. We cannot assure you that litigation related to our intellectual property rights or the intellectual property rights of others can always be avoided or successfully concluded.

Even if we were to prevail, any litigation could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations, which could have a material adverse effect on us.

We are subject to environmental laws, conflict minerals-related provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act as well as a variety of other laws or regulations that could result in additional costs and liabilities.

Our operations and properties are subject to various United States and foreign laws and regulations, including those relating to materials used in our products and the manufacturing processes of our products, discharge of pollutants into the environment, the treatment, transport, storage and disposal of solid and hazardous wastes and remediation of contamination. In addition, our operations and those of our suppliers are further governed by regulations prohibiting the use of forced labor (e.g., mining conflict materials), and restrictions on other materials, as well as laws or regulations governing the operation of our facilities, sale and distribution of our products, and real property. For the manufacturing of our products, these laws and regulations require our suppliers to obtain permits for operations, including the discharge of air pollutants and wastewater. Although our management systems are designed to oversee our suppliers' compliance, we cannot assure you that our suppliers have been or will be in complete compliance with such laws, regulations and permits. If our suppliers violate or fail to comply with any of them, a range of consequences could result, including fines, suspension of production, alteration of manufacturing processes, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. Such non-compliance from our manufacturing suppliers could result in disruptions in supply, higher sourcing costs, and/or reputational damage for us. We could also be held liable for any and all consequences arising out of exposure to hazardous materials used, stored, released, disposed of by us or located at, under or emanating from our current or former facilities or other environmental or natural resource damage. We have been named as a responsible party at three Superfund sites in Sunnyvale, California and we are subject to Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites and we have entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. We remain responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. Although we have not been, we could be named a potentially responsible party at other Superfund or contaminated sites in the future. In addition, contamination that has not been identified could exist at our other facilities.

Future environmental legal requirements may become more stringent or costly. As such, the costs of complying with current and future environmental and health and safety laws, and our liabilities arising from past and future releases of, or exposure to, hazardous substances may increase and could have a material adverse effect on us.

Environmental laws are complex, change frequently and tend to become more stringent over time. For example, the European Union (EU) and China are among a growing number of jurisdictions that have enacted restrictions on the use of lead and other materials in electronic products. These regulations affect semiconductor devices and packaging. As regulations restricting materials in electronic products continue to increase around the world, there is a risk that the cost, quality and manufacturing yields of products that are subject to these restrictions may be less favorable compared to products that are not subject to such restrictions, or that the transition to compliant products may not meet customer roadmaps, or produce sudden changes in demand, which may result in excess inventory. Jurisdictions including the EU, Australia, California and China are developing or have finalized market entry or public procurement regulations for computers and servers based on ENERGY STAR specifications, and the like, as well as additional energy consumption limits. Certain of our products may be excluded from some of these markets which could materially adversely affect us.

We incur costs associated with complying with conflict minerals reporting requirements to our customers and the SEC. In addition to the SEC regulation, the EU, China and other jurisdictions are developing new policies focused on conflict minerals that may impact and increase the cost of our compliance program. Customers are increasingly seeking information about the source of minerals used in our supply chain beyond those addressed in laws and regulations. Given the complexity of mineral supply chains, we may be unable to sufficiently verify the origins of the subject minerals and thus our reputation may be harmed. Moreover, we are likely to encounter challenges to satisfy customers who require that all of the components of our products be certified as “conflict free.” If we cannot satisfy these customers, they may choose a competitor’s products. In addition, new or increased regulations limiting the use of such components, or regulation regarding greenhouse gas emissions and climate change-related risks, could increase our energy costs, for example as a result of carbon pricing impacts on electrical utilities and/or necessitating that we purchase more renewable energy than otherwise planned. Our supply chain manufacturing suppliers may be exposed to increased cost of doing business should they be affected by new climate-related regulations, for example, affecting abatement equipment, renewable energy, and/or alter production processes and materials selections.

In addition to our Company, customers, governments and authorities continue to focus on eliminating risks of forced labor in supply chains which may increase the cost of our compliance program. Several customers have also issued expectations to eliminate these occurrences, if any, that may impact us. While we have a Human Rights Policy and management systems to identify and avoid these practices in our supply chain, we cannot guarantee that our suppliers will always be in conformance with laws and expectations. Our failure to satisfy customer expectations on forced and trafficked labor policies may result in these customers choosing a competitor’s product or enforcement liability and reputational challenges.

In addition, many governments have enacted laws around PII, such as the GDPR and the CCPA, and the failure to comply could result in sanctions or other actions by the governments. The GDPR imposes significant requirements on how we collect, process and transfer personal data, as well as significant fines for non-compliance.

New emerging technology trends, such as AI, require us to keep pace with evolving regulations and industry standards. Given the complexity and rapid development of AI, there are various current and proposed regulatory frameworks relating to the use of AI in products and services in the U.S. and foreign jurisdictions such as the EU. For example, in the EU, an AI act is being considered. Such laws and regulations may impede our ability to offer certain products and services in certain jurisdictions if we are unable to comply with them. We expect that the legal and regulatory environment relating to emerging technologies such as AI will continue to develop and could increase the cost of doing business, and create compliance risks and potential liability, all which may have a material adverse effect on our financial condition and results of operations. Governments are also considering the new issues in intellectual property law that AI creates, which could result in different intellectual property rights in technology we create with AI and development processes and procedures and could have a material adverse effect on our business.

Evolving expectations from governments, investors, customers and other stakeholders regarding corporate responsibility matters could result in additional costs, harm to our reputation and a loss of customers.

There are evolving expectations from governments, investors, customers and other stakeholders regarding corporate responsibility matters including those involving the environment and climate, energy and water consumption, diversity and inclusion, human rights and cybersecurity. This development on corporate responsibility is resulting in increased mandatory and voluntary reporting standards and disclosures. For example, various jurisdictions have adopted or are contemplating adopting legislation and regulations that may impact how we and our suppliers and customers conduct business or report on business by requiring the disclosure and tracking of greenhouse gas emissions, climate change-related risks and other sustainability matters related to our business. As the nature, scope and complexity of corporate responsibility reporting and disclosure requirements continue to evolve, we may incur additional compliance costs and indirect compliance costs from our customers and, suppliers that are passed on to us. In addition, certain corporate responsibility legislation and regulation may require us to adapt our business or supply chain in ways that are costly or inefficient. Emerging legal and regulatory requirements, can be unpredictable, are subject to change, and may be difficult for us to comply with given the complexity of our supply chain and our outsourced manufacturing. Our failure to comply, or the appearance of our failure to comply, with these legal and regulatory requirements can result in regulatory penalties, fines and legal liabilities, increase costs, and harm our reputation – any of which could have a material adverse effect on our business, financial condition and results of operation. In addition, while we may at times engage in voluntary initiatives (such as voluntary disclosures, certifications, or targets, among others) or commitments to improve our corporate responsibility profile and/or products or to respond to stakeholder expectations, such initiatives or achievement of such commitments may be costly, may not have the desired effect or may impact our reputation with other stakeholders and have a material adverse effect on our business.

We have publicly announced certain corporate responsibility goals spanning multiple topics informed by input from various of our stakeholders, including customers, investors and employees. These goals, which reflect our current plans and aspirations based on known conditions; thus, in the future they may change or may not be achieved. We may not achieve, for instance, our stated 30x25 energy efficiency goal to deliver a 30x increase in energy efficiency by 2025, for our processors and accelerators powering servers for high-performance computing and AI training from a 2020 baseline. We are also pursuing and annually reporting our progress toward a science-based target (aligned with a 1.5˚C scenario) of a 50% absolute reduction in greenhouse gas emissions from our operations (Scope 1 and 2) by 2030, from a 2020 base year. Our achievement of these goals, aspirations and other corporate responsibility initiatives is not certain and is subject to various challenges, risks and expectations such as standards, processes, and methodologies that continue to evolve or emerge. Our progress towards some goals receive third-party limited assurance and not reasonable assurance, or may rely on receipt of others' information and data that may not be subject to either third-party limited or reasonable assurance. Any failure to achieve such goals (or achieve these goals within the set timeframe) or the perception by stakeholders of such failure to achieve these goals may result in reputational or financial harm. Simultaneously, there are efforts by some stakeholders to reduce companies' efforts on certain environmental, social and sustainability-related matters. Both advocates and opponents to these matters are increasingly resorting to a range of activism forms, including media campaigns and litigation, to advance their perspectives. To the extent we are subject to such activism or litigation, it may require us to incur costs or otherwise adversely impact our business. Additionally, stakeholder groups may find our stated goals to be insufficiently responsive to the implications of issues, such as climate change, and any failure to set or achieve corporate responsibility initiatives that meet stakeholder expectations may result in loss of customers or in investors selling their shares, which could harm our reputation and could have a material adverse effect on our business.

Issues related to the responsible use of AI may result in reputational, competitive and financial harm and liability.

We offer products that include capabilities to support AI deployment and we expect this part of our business to grow. As with many new emerging technologies, AI presents risks and challenges and increasing ethical concerns relating to its responsible use that could affect the adoption of AI, and thus our business. Third-party misuse of AI applications, models, or solutions, or ineffective or inadequate AI development or deployment practices by us or our customers, could cause harm to individuals or society and impair the public's acceptance of AI. Moreover, we may be subject to competitive harm, regulatory action and legal liability as a result of new proposed legislation regulating AI, new applications of existing data protection, privacy and intellectual property and other laws. Such regulations could cause us to incur greater compliance costs and could also impact our ability to sell or the ability of our customers and users worldwide to acquire, deploy and use systems that include our AI-related products and services, which could thus require us to change our business practices and could adversely affect our business, financial condition and results of operations. If the AI-related products that we offer have unintended consequences or unintended usage or customization by our customers or are otherwise controversial due to their perceived or actual impact on human rights, privacy, employment or other social, economic or political issues the public's acceptance of AI may be impaired and may result in reputational and financial harm and liability to our business.

Merger, Acquisition and Integration Risks

Acquisitions, joint ventures, and/or investments, and the failure to integrate acquired businesses, may fail to materialize their anticipated benefits and could disrupt our business, which could adversely affect our results of operation and financial condition.

We have acquired and invested in businesses, and may continue to do so, that offer products, services and technologies that we believe will help expand our product offerings and grow our business in response to changing technologies, customer demands and competitive pressures. Acquisitions or joint ventures include numerous risks including our inability to identify suitable opportunities in a timely manner or on terms acceptable to us; failure to complete a transaction in a timely manner, or at all, due to our inability to obtain required government or other approvals or IP disputes or other litigation; difficulty in obtaining financing on terms acceptable to us or at all; or other unforeseen factors. Even if we successfully complete an acquisition or joint venture, we may not be able to realize any of the anticipated benefits in a timely manner or at all for a variety of reasons, including, but not limited to: difficulty in integrating the technology, systems, products, policies, processes or operations and integrating and retaining the employees including key personnel of the acquired business; diversion of capital and other resources, including management's attention from our existing business; unanticipated costs or liabilities, such as increased interest expense and compliance with debt covenants or other obligations; coordinating and integrating in countries in which we have not previously operated; the potential impact of the acquisitions on our relationships with employees, vendors, suppliers and customers; our inability to effectively retain suppliers, vendors and customers of the acquired businesses; entry into geographic or business markets in which we have little or no experience; adverse changes in general economic conditions in regions in which we and the acquired companies operate; potential litigation associated with the acquisitions; difficulties in the assimilation of employees and culture; difficulties in managing the expanded operations of a larger and more complex company; and difficulties with integrating and upgrading our and the acquired companies' financial reporting systems. Any one of these factors could have a material adverse effect on our business, financial condition, results of operations, or cash flows.

In addition, to complete an acquisition, we may issue equity securities, which would dilute our stockholders' ownership and could adversely affect the price of our common stock, and/or incur debt, assume contingent liabilities or have amortization expenses and write-downs of acquired assets, which could adversely affect our results of operations.

Moreover, we may not adequately assess the risks of new business initiatives and subsequent events may arise that alter the risks that were initially considered. Acquisitions, joint ventures and other investments involve significant challenges and risks and could impair our ability to grow our business, develop new products or sell our products, which could have a negative impact on our results of operations. Acquisitions or joint ventures may also reduce our cash available for operation and other uses which could harm our business. For example, the majority of our ATMP services are provided by the ATMP JVs, and there is no guarantee that the JVs will be able to fulfill our long-term ATMP requirements. If we are unable to meet customer demand due to fluctuating or late supply from the ATMP JVs, it could result in lost sales and have a material adverse effect on our business. We may not realize the expected benefits from the THATIC JV's expected future performance, including the receipt of any future milestone payments and any royalties from certain licensed intellectual property. In June 2019, the BIS added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. We are complying with U.S. law pertaining to the Entity List designation.

Furthermore, we may at times invest in private companies to further our strategic objectives and to support certain key business initiatives. Many of the instruments that we invest in are non-marketable and illiquid at the time of our initial investment, and we are not always able to achieve a return. To the extent any of the companies in which we invest in are not successful, we could recognize an impairment and/or lose all or part of our investment.

Any impairment of our tangible, definite-lived intangible or indefinite-lived intangible assets, including goodwill, may adversely impact our financial position and results of operations.

We account for certain acquisitions, including the Xilinx, Inc. (Xilinx) and Pensando Systems Inc. (Pensando) acquisitions, using the acquisition method of accounting under the provisions of ASC 805, Business Combinations, with AMD representing the accounting acquirer under this guidance. We record assets acquired, including identifiable intangible assets, and liabilities assumed, at their respective fair values at the acquisition date. Any excess of the purchase price over the net fair value of such assets and liabilities will be recorded as goodwill. In connection with the Xilinx and Pensando acquisitions, we recorded significant goodwill and other intangible assets on our consolidated balance sheet. Indefinite-lived intangible assets, including goodwill, are tested for impairment at least annually, and all tangible and intangible assets including goodwill will be tested for impairment when certain indicators are present. If, in the future, we determine that tangible or intangible assets, including goodwill, are impaired, we would record an impairment charge at that time. Impairment testing of goodwill requires significant use of judgment and assumptions, particularly as it relates to the determination of fair value. Subsequent to our annual goodwill impairment analysis, we monitor for any events or changes in circumstances, such as significant adverse changes in business climate or operating results, changes in management's business strategy, an inability to successfully introduce new products in the marketplace, an inability to successfully achieve internal forecasts or significant declines in our stock price, which may represent an indicator of impairment. A decrease in the long-term economic outlook and future cash flows of our business could significantly impact asset values and potentially result in the impairment of tangible and intangible assets, including goodwill and may require us to record future impairment charges, which may have a material adverse impact on our financial position and results of operations.

Liquidity and Capital Resources Risks

The agreements governing our notes, our guarantees of the Assumed Xilinx Notes, and our Revolving Credit Agreement impose restrictions on us that may adversely affect our ability to operate our business.

The indenture governing our 3.924% Senior Notes due 2032 and 4.393% Senior Notes due 2052 contains various covenants that limit our ability to, among other things: create liens on certain assets to secure debt, enter into certain sale and leaseback transactions; and consolidate with, merge into or sell, convey or lease all or substantially all of our assets to any other person.

Additionally, in connection with the acquisition of Xilinx, we entered into supplemental indentures for the Xilinx's 2.950% Notes and 2.375% Notes (together, the *Assumed Xilinx Notes*), pursuant to which all obligations of Xilinx under the Assumed Xilinx Notes are unconditionally guaranteed on a senior unsecured basis by us. The indentures governing the Assumed Xilinx Notes also contain various covenants which limit our ability to, among other things, create certain liens on principal property or the capital stock of certain subsidiaries, enter into certain sale and leaseback transactions with respect to principal property, and consolidate or merge with, or convey, transfer or lease all or substantially all our assets, taken as a whole, to another person.

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We also have an unsecured revolving credit facility in the aggregate principal amount of $3.0 billion (Revolving Credit Agreement). Our Revolving Credit Agreement contains various covenants which limit our ability to, among other things, incur liens; and consolidate or merge or sell our assets as an entirety or substantially as an entirety (in each case, except for certain customary exceptions). In addition, our Revolving Credit Agreement requires us to maintain a minimum consolidated interest coverage ratio at the end of each fiscal quarter. The agreement governing our convertible notes and our Revolving Credit Agreement contains provisions whereby a payment default or acceleration under certain agreements with respect to other material indebtedness would result in cross defaults under our convertible indenture or the Revolving Credit Agreement and allow note holders or the lenders under our Revolving Credit Agreement to declare all amounts outstanding under certain of our indentures or the Revolving Credit Agreement to be immediately due and payable. If the lenders under our Revolving Credit Agreement accelerate the repayment of borrowings, we cannot assure you that we will have sufficient assets to repay those borrowings.

Our indebtedness could adversely affect our financial position and prevent us from implementing our strategy or fulfilling our contractual obligations.

Our total debt principal amount outstanding as of December 30, 2023 was $2.5 billion. Our indebtedness may make it difficult for us to satisfy our financial obligations, including making scheduled principal and interest payments; limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions and general corporate and other purposes; limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions or other general corporate purposes; require us to use a substantial portion of our cash flow from operations to make debt service payments; place us at a competitive disadvantage compared to our competitors with relatively less debt; and increase our vulnerability to the impact of adverse economic and industry conditions.

We enter into sale and factoring arrangements from time to time with respect to certain accounts receivables, which arrangements are non-recourse to us in the event that an account debtor fails to pay for credit-related reasons, and are not included in our indebtedness. We could become obligated to repurchase such accounts receivables or otherwise incur liability to the counterparties under these arrangements under certain circumstances, such as where a commercial dispute arises between us and an account debtor.

We may not be able to generate sufficient cash to meet our working capital requirements. If we cannot generate sufficient revenue and operating cash flow, we may face a cash shortfall and be unable to make all of our planned investments in research and development or other strategic investments. Also, our cash and cash equivalents could be adversely affected if the banking institutions in which we hold our cash and cash equivalents fail.

Our ability to generate sufficient cash to meet our working capital requirements will depend on our financial and operating performance, which may fluctuate significantly from quarter to quarter, and is subject to prevailing economic, financial and business conditions along with other factors, many of which are beyond our control. We cannot assure you that we will be able to generate cash flow in amounts sufficient to enable us to meet our working capital requirements. If we are not able to generate sufficient cash flow from operations, we may be required to sell assets or equity, reduce expenditures, refinance all or a portion of our existing debt or obtain additional financing.

In addition, our ability to fund research and development expenditures depends on generating sufficient revenue and cash flow from operations and the availability of external financing, if necessary. Our research and development expenditures, together with ongoing operating expenses, will be a substantial drain on our cash flow and may decrease our cash balances. If new competitors, technological advances by existing competitors, or other competitive factors require us to invest significantly greater resources than anticipated in our research and development efforts, our operating expenses would increase. If we are required to invest significantly greater resources than anticipated in research and development efforts without an increase in revenue, our operating results could decline.

Our inability to generate sufficient cash from operations may require us to abandon projects or curtail planned investments in research and development or other strategic initiatives. If we curtail planned investments in research and development or abandon projects, our products may fail to remain competitive and our business would be materially adversely affected.

We maintain our cash and cash equivalents in accounts at certain banking institutions, and our deposits at these banking institutions may exceed insured limits. If a banking institution in which we hold funds fails or is subject to significant adverse conditions in the financial or credit markets, we could be subject to a risk of loss of all or a portion of such uninsured funds or be subject to a delay in accessing all or a portion of such uninsured funds. Any such loss or lack of access to these funds could adversely impact our short-term liquidity and ability to meet our operating expense obligations. Further, these events may make equity or debt financing more difficult to obtain, and additional equity or debt financing might not be available on reasonable terms, if at all.

General Risks

Our worldwide operations are subject to political, legal and economic risks and natural disasters, which could have a material adverse effect on us.

We maintain operations around the world, including in the United States, Canada, Europe, Australia, Latin America and Asia. We rely on third-party wafer foundries in the United States, Europe and Asia. Nearly all product assembly and final testing of our products is performed at third-party operated manufacturing facilities, in China, Malaysia and Taiwan. Our shipping services are provided by third-party subcontractors. We also have international sales operations. International sales, as a percent of net revenue, were 65% for the year ended December 30, 2023. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future. The political, legal and economic risks associated with our operations in foreign countries include, without limitation: expropriation; changes in a specific country's or region's political or economic conditions; changes in tax laws, trade protection measures and import or export licensing requirements and restrictions; difficulties in protecting our intellectual property; difficulties in managing staffing and exposure to different employment practices and labor laws; changes in foreign currency exchange rates; restrictions on transfers of funds and other assets of our subsidiaries between jurisdictions; changes in freight rates; changes to macroeconomic conditions, including interest rates, inflation and recession; disruption in air transportation between the U.S. and our overseas facilities; loss or modification of exemptions for taxes and tariffs; and compliance with U.S. laws and regulations related to international operations, including export control and economic sanctions laws and regulations and the Foreign Corrupt Practices Act. Recently, the U.S. and other countries and coalitions have issued sanctions and revisions to export control and other regulations against Russia, Belarus, and the DNR and LNR regions of Ukraine, due to the conflict in Ukraine. Also, geopolitical changes between China and Taiwan could disrupt the operations of our Taiwan-based third-party wafer foundries, manufacturing facilities and subcontractors, and materially adversely affect delivery of products and our business, financial condition and/or operating results. Moreover, the Ukraine-Russia and Israel-Hamas conflicts could escalate and expand, which in turn could have negative impacts on the global economy and financial markets.

In addition, our worldwide operations (or those of our business partners) could be subject to natural disasters and climate change such as earthquakes, tsunamis, flooding, typhoons, droughts, fires, sea-level rise, extreme heat and volcanic eruptions that disrupt our operations, or those of our manufacturers, vendors or customers. For example, our Santa Clara and San Jose operations are located near major earthquake fault lines in California. We also have operations and employees in regions that have experienced extreme weather such as prolonged heat waves, wildfires and freezing. Extreme weather events and natural disasters can also disrupt the ability of our suppliers to deliver expected manufacturing parts and/or services for periods of time. In addition, certain natural disasters, including drought, wildfires, storms, sea-level rise and flooding, could disrupt the availability of water necessary for the operations of our business or the business of our suppliers or customers. Global climate change also may result in chronic changes that result in certain natural disasters occurring more frequently or with greater intensity, which could disrupt our operations, or the operations of our third parties. There may be conflict or uncertainty in the countries in which we operate, including public health issues (for example, an outbreak of a contagious disease such as COVID-19, avian influenza, measles or Ebola), safety issues, natural disasters, fire, disruptions of service from utilities, nuclear power plant accidents or general economic or political factors. We have experienced, and will continue to experience, disruptions to our business as these measures have, and will continue to have, an effect on our business operations and practices.

The United States has been and may continue to be involved in armed conflicts that could have a further impact on our sales and our supply chain. The consequences of armed conflict, political instability or civil or military unrest are unpredictable, and we may not be able to foresee events that could have a material adverse effect on us. Terrorist attacks or other hostile acts may negatively affect our operations, or adversely affect demand for our products, and such attacks or related armed conflicts may impact our physical facilities or those of our suppliers or customers. Furthermore, these attacks or hostile acts may make travel and the transportation of our products more difficult and more expensive, which could materially adversely affect us. Any of these events could cause consumer spending to decrease or result in increased volatility in the U.S. economy and worldwide financial markets.

Any of the above risks, should they occur, could result in increased costs, shipment delays, general business interruptions, the inability to obtain, or delays in obtaining export licenses for certain technology, penalties or a loss of export privileges, as well as stringent licensing restrictions that may make our products less attractive to international customers, tariffs and other barriers and restrictions, longer payment cycles, increased taxes, restrictions on the repatriation of funds and the burdens of complying with a variety of foreign laws, any of which could ultimately have a material adverse effect on our business.

We may incur future impairments of our technology license purchases.

We license certain third-party technologies and tools for the design and production of our products. We report the value of those licenses as other non-current assets on the balance sheet and we periodically evaluate the carrying value of those licenses based on their future economic benefit to us. Factors such as the life of the assets, changes in competing technologies, and changes to the business strategy may represent an indicator of impairment. The occurrence of any of these events may require us to record future technology license impairment charges.

Our inability to continue to attract and retain qualified personnel may hinder our business.

Much of our future success depends upon the continued service of numerous qualified engineering, marketing, sales and executive employees. Competition for highly skilled executives and employees in the technology industry, especially in the areas of AI and machine learning, is intense and our competitors have targeted individuals in our organization that have desired skills and experience. If we are not able to continue to attract, train and retain our leadership team and our qualified employees necessary for our business, the progress of our product development programs could be hindered, and we could be materially adversely affected. To help attract, retain and motivate our executives and qualified employees, we use share-based incentive awards such as employee stock options and non-vested share units (restricted stock units). If the value of such stock awards does not appreciate as measured by the performance of the price of our common stock, or if our share-based compensation otherwise ceases to be viewed as a valuable benefit, our ability to attract, retain and motivate our executives and employees could be weakened, which could harm our results of operations. Also, if the value of our stock awards increases substantially, this could potentially create great personal wealth for our executives and employees and affect our ability to retain our personnel. In addition, any future restructuring plans may adversely impact our ability to attract and retain key employees.

Our stock price is subject to volatility.

Our stock price has experienced price and volume fluctuations and could be subject to wide fluctuations in the future. The trading price of our stock may fluctuate widely due to various factors including actual or anticipated fluctuations in our financial conditions and operating results, changes in financial estimates by us or financial estimates and ratings by securities analysts, changes in our capital structure, including issuance of additional debt or equity to the public, interest rate changes, inflation, news regarding our products or products of our competitors, and broad market and industry fluctuations. Stock price fluctuations could impact the value of our equity compensation, which could affect our ability to recruit and retain employees. In addition, volatility in our stock price could adversely affect our business and financing opportunities.

We have an approved stock repurchase program that authorizes repurchases of up to $12 billion of our common stock (Repurchase Program). As of December 30, 2023, $5.6 billion remained available for future stock repurchases under the Repurchase Program. The Repurchase Program does not obligate us to acquire any common stock, has no termination date and may be suspended or discontinued at any time. Our stock repurchases could affect the trading price of our stock, the volatility of our stock price, reduce our cash reserves, and may be suspended or discontinued at any time, which may result in a decrease in our stock price.

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ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 1C. CYBERSECURITY

Cybersecurity Risk Management and Strategy

We have developed and implemented a cybersecurity risk management program intended to protect the confidentiality, integrity, and availability of our critical systems and information.

We design and assess our program based on the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF and AI Risk Management Framework). This does not mean that we meet any particular technical standards, specifications, or requirements, but only that we use the NIST CSF as a guide to help us identify, assess, and manage cybersecurity risks relevant to our business.

Information about cybersecurity risks and our risk management processes is collected, analyzed and considered as part of our overall enterprise risk management program.

Key components of our cybersecurity risk management program include:

- risk assessments designed to help identify cybersecurity risks to our critical systems, information, services, and our broader enterprise IT environment;
- a security team principally responsible for managing (1) our cybersecurity risk assessment processes, (2) our security controls, and (3) our response to cybersecurity incidents;
- the use of external service providers, where appropriate, to assess, test or otherwise assist with aspects of our security processes;
- cybersecurity awareness training of our employees, incident response personnel and senior management;
- a cybersecurity incident response plan that includes procedures for responding to cybersecurity incidents; and
- a third-party cyber risk management process for vendors including, among other things, a security assessment and contracting program for vendors based on their risk profile.

At this time, we have not identified risks from known cybersecurity threats, including as a result of any prior cybersecurity incidents, that have materially affected us, including our operations, business strategy, results of operations, or financial condition. We face certain ongoing risks from cybersecurity threats that, if realized, are reasonably likely to materially affect us, including our operations, business strategy, results of operations, or financial condition. *See "Risk Factors - IT outages, data loss, data breaches and cyberattacks could disrupt operations and compromise our intellectual property or other sensitive information, be costly to remediate or cause significant damage to our business, reputation, financial condition and results of operations."*

Cybersecurity Governance

Our Board considers cybersecurity risk as part of its risk oversight function and has delegated to the Audit and Finance Committee (Committee) oversight of cybersecurity and other information technology risks. The Committee oversees management's implementation of our cybersecurity risk management program.

The Committee receives quarterly reports from management on our cybersecurity risks. In addition, management updates the Committee, as necessary, regarding any significant cybersecurity incidents.

The Committee reports to the full Board regarding its activities, including those related to cybersecurity. The full Board also receives a briefing from management on our cyber risk management program at least annually. Board members receive presentations on cybersecurity matters from our Chief Information Security Officer (CISO), information security team or external experts as part of the Board's continuing education on topics that impact public companies.

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Our management team, led by our CISO and Sr. Director of Information Security, are responsible for assessing and managing our material risks from cybersecurity threats. The team has primary responsibility for our overall cybersecurity risk management program and supervises both our internal cybersecurity personnel and any retained external cybersecurity consultants. Our Sr. Director of Information Security has served in various roles in information technology and information security for over 20 years and holds multiple industry-recognized certifications. Our CISO, who is also our Chief Information Officer, has over 20 years of experience managing global IT operations, including strategy, applications, infrastructure, information security, support and execution.

Our management team, led by our CISO and Sr. Director of Information Security, is informed about and monitors the prevention, detection, mitigation, and remediation of cybersecurity risks and incidents through various means, which may include, among other things, briefings with internal security personnel, threat intelligence and other information obtained from governmental, public or private sources, including external consultants engaged by us, and alerts and reports produced by security tools deployed in our IT environment.

ITEM 2. PROPERTIES

As of December 30, 2023, we have approximately 6 million square feet of space for research and development, engineering, administrative and warehouse use throughout the world. These facilities include approximately 5 million square feet of leased space and approximately 1 million square feet of owned space. Our headquarters are located in Santa Clara, California, and we have significant operations in Austin, Texas; San Jose, California; Shanghai, China; Markham, Ontario, Canada; Longmont, Colorado; Dublin, Ireland; Singapore; and Bangalore and Hyderabad, India. We also have a number of regional sales offices located in commercial centers near customers, principally in the United States, Europe, Asia and Latin America.

We currently do not anticipate difficulty in either retaining occupancy of any of our facilities through lease renewals prior to expiration or through month-to-month occupancy or replacing them with equivalent facilities. We believe that our existing facilities are suitable and adequate for our present purposes and that the productive capacity of such facilities is substantially being utilized or we have plans to utilize such capacity.

ITEM 3. LEGAL PROCEEDINGS

For a discussion of our legal proceedings, refer to Note 17 – Contingencies of the Notes to Consolidated Financial Statements (Part II, Item 8 of this Form 10-K).

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

Our common stock is listed on The NASDAQ Global Select Market (NASDAQ) under the symbol "AMD". On January 25, 2024, there were 4,909 registered holders of our common stock, and the closing price of our common stock was $180.33 per share as reported on NASDAQ.

Issuer Purchases of Equity Securities

We have an approved stock repurchase program authorizing repurchases of up to $12 billion of our common stock (Repurchase Program). We expect to fund repurchases through cash generated from operations. Our Repurchase Program does not obligate us to acquire any common stock, has no termination date and may be suspended or discontinued at any time. The following table provides information relating to our repurchase of common stock during the fourth quarter of fiscal year 2023:

Date of Repurchase	Total Number of Shares Repurchased	Average Price Paid per Share	Total Number of Shares Repurchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet be Purchased Under the Publicly Announced Plans or Programs
				(In millions)
Oct 1, 2023 - Oct 28, 2023	—	$ —	—	$ 5,788
Oct 29, 2023 - Nov 25, 2023	781,106	$ 119.59	781,106	$ 5,694
Nov 26, 2023 - Dec 30, 2023	1,164,316	$ 119.99	1,164,316	$ 5,555
Total	1,945,422		1,945,422	

Equity Award Share Withholding

Shares of common stock withheld as payment of withholding taxes in connection with the vesting or exercise of equity awards are also treated as common stock repurchases. Those withheld shares of common stock are not considered common stock repurchases under an authorized common stock repurchase plan. During fiscal year 2023, we withheld 4 million shares at an average price of $110.51 per share as payment of withholding taxes in connection with the vesting and exercise of equity awards.

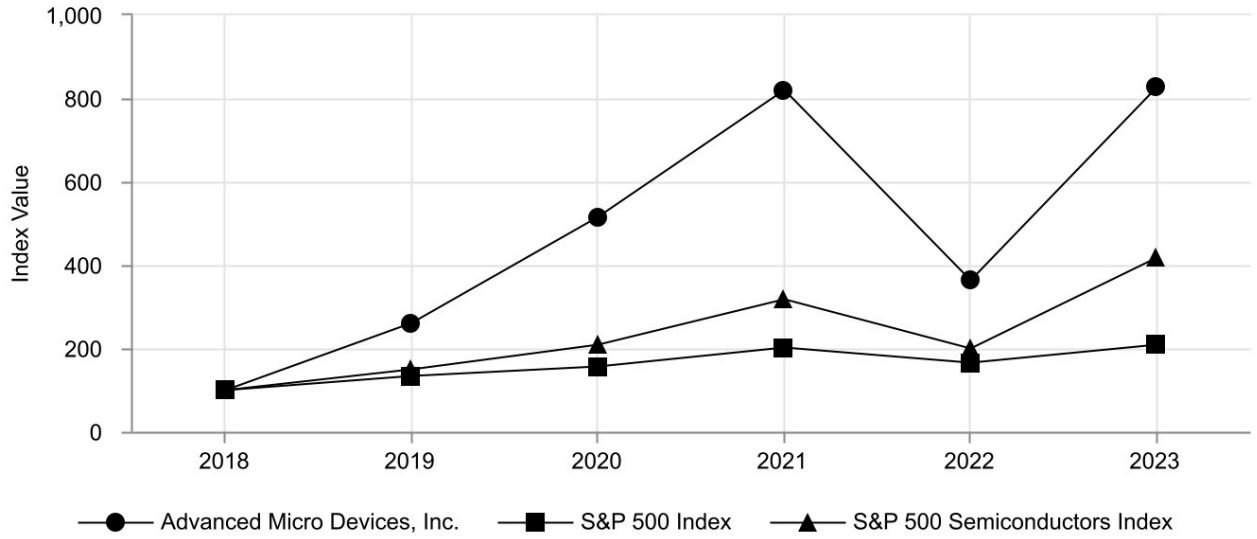
For information about our equity compensation plans, see Part III, Item 11, below.

Performance Graph

Comparison of Five-Year Cumulative Total Returns
Advanced Micro Devices, S&P 500 Index and S&P 500 Semiconductors Index

The following graph shows a five-year comparison of cumulative total return on our common stock, the S&P 500 Index and the S&P 500 Semiconductors Index from December 29, 2018 through December 30, 2023, assuming reinvestment of dividends. The past performance of our common stock is no indication of future performance.

Comparison of Cumulative Five Year Total Return



Company / Index	Base Period 12/29/2018	Years Ended 12/28/2019	12/26/2020	12/25/2021	12/31/2022	12/30/2023
Advanced Micro Devices, Inc.	$100	$ 259	$ 515	$ 820	$ 363	$ 827
S&P 500 Index	$100	$ 133	$ 155	$ 200	$ 165	$ 209
S&P 500 Semiconductors Index	$100	$ 148	$ 208	$ 317	$ 198	$ 417

Unregistered Sales of Equity Securities

None.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the consolidated financial statements as of December 30, 2023 and December 31, 2022 and for each of the three years in the period ended December 30, 2023 and related notes, which are included in this Annual Report on Form 10-K as well as with the other sections of this Annual Report on Form 10-K, "Part II, Item 8: Financial Statements and Supplementary Data."

Introduction

In this section, we will describe the general financial condition and the results of operations of Advanced Micro Devices, Inc. and its wholly-owned subsidiaries (collectively, "us," "our" or "AMD"), including a discussion of our results of operations for 2023 compared to 2022, an analysis of changes in our financial condition and a discussion of our off-balance sheet arrangements. Discussions of 2021 items and year-to-year comparisons between 2022 and 2021 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Overview

During 2023 we successfully launched multiple leadership products across our business and made important progress on our artificial intelligence (AI) strategy. In Data Center, we launched several 4th Gen AMD EPYC™ processors, including our AMD EPYC 97x4 processors, formerly codenamed "Bergamo," built with our "Zen 4c" architecture core and designed to deliver leadership cloud-native computing, and our AMD EPYC 8004 Series processors, formerly codenamed "Siena", that bring the "Zen 4c" core into a purpose-built CPU. In addition, we announced the extension of our 3rd Gen AMD EPYC processor family with six new offerings to meet the needs of general IT and mainstream computing for businesses seeking to leverage the economics of established platforms. For our AI Data Center solutions, we announced the availability of the AMD Instinct™ MI300X accelerators that are designed to deliver leadership performance for generative AI workloads and high performance computing (HPC) applications. In addition, we unveiled the AMD Instinct MI300A APU, which integrate the CPU and GPU cores on a single package delivering an efficient platform while also providing the compute performance to accelerate training on the latest AI models. We enhanced the performance and features of our AMD RoCm™ software by releasing our latest AMD ROCm 6 open software platform for AI and HPC workloads.

We expanded our Embedded processor portfolio with powerful, scalable offerings for a variety of embedded applications such as the AMD Ryzen™ Embedded 7000 Series processor family. We launched the AMD Versal™ Premium VP1902 adaptive SoC designed to help chipmakers streamline the verification of application-specific integrated circuits (SICs) and SoC designs, and we introduced the Spartan™ Ultrascale+™ FPGA ideal for cost-sensitive applications requiring low power and high I/O. We launched the AMD Alveo™ MA35D media accelerator to power live interactive streaming services at scale, as well as the AMD Alveo UL3524 accelerator card. We expanded our Zynq™ UltraScale™ RFSoC digital front-end portfolio with two additional devices to enable the expansion and deployment of 4G/5G radios where lower cost, power and spectrum-efficient radios are required to address increased wireless connectivity. For our adaptive System-on-Modules (SOMs), we announced the addition of AMD Kria™ K24 SOM and KD240 Drives Starter Kit which offer power-efficient compute in a small factor and target cost-sensitive industrial and commercial edge applications.

We continued to expand our Client product portfolio by launching our Ryzen 7000 Series Mobile processors bringing the power of "Zen 4" and AMD RDNA 3 integrated graphics architecture to notebook users. We expanded our commercial portfolio with AMD Ryzen PRO 7000 Series Mobile processors to bring advanced and power efficient x86 processors to business notebooks and mobile workstations. We announced our Ryzen 7045HX3D gaming mobile processor with AMD 3D V-cache technology with leadership mobile gaming performance. We also introduced AMD Ryzen X3D desktop processors, the Ryzen 9 7900X3D and Ryzen 9 7950X3D processors with 3D V-Cache technology. For handheld PC gaming consoles, we introduced the AMD Ryzen Z1 and Z1 Extreme processors featuring RDNA 3 architecture based graphics, to bring portability and battery life to handled PC gaming consoles.

In Gaming, we introduced the AMD Radeon RX 7900M graphics for laptops, delivering desktop-class performance for gaming and content creation. We also introduced the new AMD Radeon™ PRO W7000 Series graphics, our first professional graphic cards built on advanced AMD chiplet design to deliver leadership performance and unique features: the AMD Radeon PRO W7600 and AMD Radeon PRO W7500. We designed these workstation graphics cards for mainstream professional workflows. We also unveiled the AMD Radeon RX 7800 XT and Radeon RX 7700 XT graphics cards optimized to deliver high-performance and high-refresh 1440p gaming experiences along with AMD FidelityFX™ Super Resolution 3 designed to offer performance boosts in supported games.

We expanded our AI engagements with a broad set of data center customers during the year. In our Data Center GPU business, demand for our Data Center GPUs products was very strong as we had large hyperscaler customers committed to deploy our next generation AMD Instinct MI300 accelerators. Our AI strategy is focused on three areas: first, to deliver a broad portfolio and multigenerational roadmap of leadership CPUs, GPUs and adaptive computing solutions for AI inference and training; second, to extend the open software platform we have established to enable our AI hardware to be deployed broadly and with ease; and third, expand the deep and collaborative engagements we have established across the ecosystems to accelerate deployments of AMD-based AI solutions at scale. To help execute our AI strategy and accelerate our AI business, we brought together multiple AI teams across AMD to execute our end-to-end AI hardware strategy and drive development of a comprehensive software ecosystem that will span our full product portfolio. We strengthened our AI software capabilities with strategic acquisitions during the year. In August 2023, we acquired Mipsology SAS, an AI software company to help develop the full AMD AI software stack and expand the open ecosystem of software tools, libraries and models. We further expanded our open AI software capabilities with the acquisition of Nod, Inc., an open AI software company, in October 2023. Nod, Inc.'s software technology helps accelerate the deployment of AI solutions optimized for AMD Instinct data center accelerators, Ryzen AI processors, EPYC processors, Versal SoCs and Radeon GPUs.

Against the backdrop of a mixed demand environment, net revenue for 2023 was $22.7 billion, a decrease of 4% compared to 2022 net revenue of $23.6 billion. The decrease in net revenue was primarily due to a 25% decrease in Client segment revenue primarily due to lower processor sales and a 9% decrease in Gaming segment revenue primarily due to lower semi-custom product sales. This decrease was partially offset by a 17% increase in Embedded segment revenue primarily due to the inclusion of embedded product revenue from Xilinx, Inc. (Xilinx) for the full twelve months period in 2023, as compared to a partial period from February 14, 2022 (the Xilinx Acquisition Date) in the prior year period, and a 7% increase in Data Center segment revenue primarily driven by higher sales of AMD Instinct GPUs and 4th Gen AMD EPYC CPUs. Gross margin, as a percentage of net revenue for 2023, was 46%, compared to 45% in 2022. The increase in gross margin was primarily due to higher Embedded segment revenue and lower amortization of acquisition-related intangible assets, partially offset by lower Client segment revenue and product mix. Operating income for 2023 was $401 million compared to operating income of $1.3 billion for 2022. The decrease in operating income was primarily due to lower Client segment performance and increased R&D investments, partially offset by lower amortization of acquisition-related intangible assets. Net income for 2023 was $854 million compared to $1.3 billion in the prior year. The decrease in net income was primarily driven by lower operating income.

Cash, cash equivalents and short-term investments as of December 30, 2023 were $5.8 billion, compared to $5.9 billion at the end of 2022. Our aggregate principal amount of total debt as of December 30, 2023 and December 31, 2022 was $2.5 billion.

During the twelve months ended December 30, 2023, we returned a total of $985 million to shareholders through the repurchase of 9.7 million shares of common stock under our stock repurchase program. As of December 30, 2023, $5.6 billion remained available for future stock repurchases under this program. The repurchase program does not obligate us to acquire any common stock, has no termination date and may be suspended or discontinued at any time.

We intend the discussion of our financial condition and results of operations that follows to provide information that will assist in understanding our financial statements, the changes in certain key items in those financial statements from period to period, the primary factors that resulted in those changes, and how certain accounting principles, policies and estimates affect our financial statements.

Critical Accounting Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The preparation of our financial statements requires us to make estimates and judgments that affect the reported amounts in our consolidated financial statements. We evaluate our estimates on an on-going basis, including those related to our revenue, inventories, goodwill, long-lived and intangible assets, and income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Although actual results have historically been reasonably consistent with management's expectations, the actual results may differ from these estimates or our estimates may be affected by different assumptions or conditions.

Management believes the following critical accounting estimates are the most significant to the presentation of our financial statements and require the most difficult, subjective and complex judgments.

Revenue Allowances. Revenue contracts with our customers include variable amounts which we evaluate under ASC 606-10-32-8 through 14 in order to determine the net amount of consideration to which we are entitled and which we recognize as revenue. We determine the net amount of consideration to which we are entitled by estimating the most likely amount of consideration we expect to receive from the customer after adjustments to the contract price for rights of return and rebates to our original equipment manufacturers (OEM) customers and rights of return, rebates and price protection on unsold merchandise to our distributor customers.

We base our determination of necessary adjustments to the contract price by reference to actual historical activity and experience, including actual historical returns, rebates and credits issued to OEM and distributor customers adjusted, as applicable, to include adjustments, if any, for known events or current economic conditions, or both.

Our estimates of necessary adjustments for distributor price incentives and price protection on unsold products held by distributors are based on actual historical incentives provided to distributor customers and known future price movements based on our internal and external market data analysis.

Our estimates of necessary adjustments for OEM price incentives utilize, in addition to known pricing agreements, actual historical rebate attainment rates and estimates of future OEM rebate program attainment based on internal and external market data analysis.

We offer incentive programs through cooperative advertising and marketing promotions. Where funds provided for such programs can be estimated, we recognize a reduction to revenue at the time the related revenue is recognized; otherwise, we recognize such reduction to revenue at the later of when: i) the related revenue transaction occurs; or ii) the program is offered. For transactions where we reimburse a customer for a portion of the customer's cost to perform specific product advertising or marketing and promotional activities, such amounts are recognized as a reduction to revenue unless they qualify for expense recognition.

We also provide limited product return rights to certain OEMs and to most distribution customers. These return rights are generally limited to a contractual percentage of the customer's prior quarter shipments, although, from time to time we may approve additional product returns beyond the contractual arrangements based on the applicable facts and circumstances. In order to estimate adjustments to revenue to account for these returns, including product restocking rights provided to distributor and OEM customers, we utilize relevant, trended actual historical product return rate information gathered, adjusted for actual known information or events, as applicable.

Overall, our estimates of adjustments to contract price due to variable consideration under our contracts with OEM and distributor customers, based on our assumptions and include adjustments, if any, for known events, have been materially consistent with actual results; however, these estimates are subject to management's judgment and actual provisions could be different from our estimates and current provisions, resulting in future adjustments to our revenue and operating results.

Inventory Valuation. We value inventory at standard cost, adjusted to approximate the lower of actual cost or estimated net realizable value using assumptions about future demand and market conditions. Material assumptions we use to estimate necessary inventory carrying value adjustments can be unique to each product and are based on specific facts and circumstances. In determining excess or obsolescence reserves for products, we consider assumptions such as changes in business and economic conditions, other-than-temporary decreases in demand for our products, and changes in technology or customer requirements. In determining the lower of cost or net realizable value reserves, we consider assumptions such as recent historical sales activity and selling prices, as well as estimates of future selling prices. If in any period we anticipate a change in assumptions such as future demand or market conditions to be less favorable than our previous estimates, additional inventory write-downs may be required and would be reflected in cost of sales, resulting in a negative impact to our gross margin in that period. If in any period we are able to sell inventories that had been written down to a level below the ultimate realized selling price in a previous period, related revenue would be recorded with a lower or no offsetting charge to cost of sales resulting in a net benefit to our gross margin in that period. Overall, our estimates of inventory carrying value adjustments have been materially consistent with actual results.

Goodwill. Goodwill is the excess of the aggregate of the consideration transferred over the identifiable assets acquired and liabilities assumed in connection with business combinations. Our reporting units are at the operating segment level. Our goodwill is contained within four reporting units: Data Center, Client, Gaming and Embedded.

We perform our goodwill impairment analysis as of the first day of the fourth quarter of each year and, if certain events or circumstances indicate that an impairment loss may have been incurred, on a more frequent basis. The analysis may include both qualitative and quantitative factors to assess the likelihood of an impairment, which occurs when the carrying value of a reporting unit exceeds its fair value. Significant judgment is required in estimating the fair value of our reporting units to determine if the fair values of those units exceed their carrying values and an impairment to goodwill is required when a quantitative goodwill impairment test is performed. We typically obtain the assistance of third-party valuation specialists to help in determining the fair value of our reporting units. Changes in operating plans or adverse changes in the business or in the macroeconomic environment in the future could reduce the underlying cash flows used to estimate fair values and could result in a decline in fair value that would trigger future impairment charges of our reporting units' goodwill. Based on our annual qualitative impairment test, we concluded it is not more likely than not that the fair value of each reporting unit exceeded its carrying amount.

Long-Lived and Intangible Assets. Long-lived and intangible assets to be held and used are reviewed for impairment if indicators of potential impairment exist and at least annually for indefinite-lived intangible assets. Impairment indicators are reviewed on a quarterly basis. Assets are grouped and evaluated for impairment at the lowest level of identifiable cash flows. When indicators of impairment exist and assets are held for use, we estimate future undiscounted cash flows attributable to the related asset groups. In the event such cash flows are not expected to be sufficient to recover the recorded value of the assets, the assets are written down to their estimated fair values based on the expected discounted future cash flows attributable to the asset group or based on appraisals.

Income Taxes. In determining taxable income for financial statement reporting purposes, we must make certain estimates and judgments. These estimates and judgments are applied in the calculation of certain tax liabilities and in the determination of the recoverability of deferred tax assets which arise from temporary differences between the recognition of assets and liabilities for tax and financial statement reporting purposes.

We regularly assess the likelihood that we will be able to recover our deferred tax assets. Unless recovery is considered more-likely-than-not (a probability level of more than 50%), we will record a charge to income tax expense in the form of a valuation allowance for the deferred tax assets that we estimate will not ultimately be recoverable or maintain the valuation allowance recorded in prior periods. When considering all available evidence, if we determine it is more-likely-than-not we will realize our deferred tax assets, we will reverse some or all of the existing valuation allowance, which would result in a credit to income tax expense and the establishment of an asset in the period of reversal.

In determining the need to establish or maintain a valuation allowance, we consider the four sources of jurisdictional taxable income: (i) carryback of net operating losses to prior years; (ii) future reversals of existing taxable temporary differences; (iii) viable and prudent tax planning strategies; and (iv) future taxable income exclusive of reversing temporary differences and carryforwards.

Through the end of 2023, we continue to maintain a valuation allowance of approximately $2.1 billion for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to limitations, under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. Certain state and foreign valuation allowances are maintained due to a lack of sufficient sources of future taxable income.

In addition, the calculation of our tax liabilities involves addressing uncertainties in the application of complex, multi-jurisdictional tax rules and the potential for future adjustment of our uncertain tax positions by the Internal Revenue Service or other taxing authorities.

Results of Operations

Additional information on our reportable segments is contained in Note 4 – Segment Reporting of the Notes to Financial Statements (Part II, Item 8 of this Form 10-K).

Our operating results tend to vary seasonally. Historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends.

The following table provides a summary of net revenue and operating income (loss) by segment for 2023 and 2022:

	Year Ended	
	December 30, 2023	December 31, 2022
	(In millions)	
Net revenue:		
Data Center	$ 6,496	$ 6,043
Client	4,651	6,201
Gaming	6,212	6,805
Embedded	5,321	4,552
Total net revenue	$ 22,680	$ 23,601
Operating income (loss):		
Data Center	$ 1,267	$ 1,848
Client	(46)	1,190
Gaming	971	953
Embedded	2,628	2,252
All Other	(4,419)	(4,979)
Total operating income	$ 401	$ 1,264

Data Center

Data Center net revenue of $6.5 billion in 2023 increased by 7%, compared to net revenue of $6.0 billion in 2022. The increase was primarily driven by higher sales of AMD Instinct GPUs and 4th Gen AMD EPYC CPUs.

Data Center operating income was $1.3 billion in 2023, compared to operating income of $1.8 billion in 2022. The decrease in operating income was primarily due to product mix and higher research and development (R&D) investment.

Client

Client net revenue of $4.7 billion in 2023 decreased by 25%, compared to net revenue of $6.2 billion in 2022, primarily due to lower sales of Ryzen mobile and desktop processors, resulting from a 16% decrease in average selling price and a 12% decrease in unit shipments. Lower Ryzen processor sales were due to weak PC market conditions and inventory correction across the PC supply chain that impacted the first half of 2023.

Client operating loss was $46 million in 2023, compared to operating income of $1.2 billion in 2022. The decrease in operating income was primarily due to lower revenue.

Gaming

Gaming net revenue of $6.2 billion in 2023 decreased by 9%, compared to net revenue of $6.8 billion in 2022. The decrease in net revenue was primarily due to lower semi-custom product revenue.

Gaming operating income was $971 million in 2023, compared to operating income of $953 million in 2022. The increase in operating income was primarily driven by product mix, partially offset by higher R&D investment.

Embedded

Embedded net revenue of $5.3 billion in 2023 increased by 17%, compared to net revenue of $4.6 billion in 2022. The increase in net revenue was primarily driven by the inclusion of embedded product revenue from Xilinx, Inc. (Xilinx) for the full twelve months period in 2023, as compared to a partial period from February 14, 2022 (the Xilinx Acquisition Date) in the prior year period.

Embedded operating income was $2.6 billion in 2023, compared to operating income of $2.3 billion in 2022. The increase in operating income was primarily driven by the inclusion of Xilinx for the full twelve months period as compared to a partial period from the Xilinx Acquisition Date in the prior year period.

All Other

All Other operating loss of $4.4 billion in 2023 primarily consisted of $2.8 billion of amortization of acquisition-related intangibles, $1.4 billion of stock-based compensation expense, and $258 million of acquisition-related and other costs. All Other operating loss of $5.0 billion in 2022 primarily consisted of $3.5 billion of amortization of acquisition-related intangibles, $1.1 billion of stock-based compensation expense and $452 million of acquisition-related and other costs.

Comparison of Gross Margin, Expenses, Licensing Gain, Interest Expense, Other Income (expense) and Income Taxes

The following is a summary of certain consolidated statement of operations data for 2023 and 2022:

	December 30, 2023	December 31, 2022
	(In millions, except for percentages)	
Net revenue	$ 22,680	$ 23,601
Cost of sales	11,278	11,550
Amortization of acquisition-related intangibles	942	1,448
Gross profit	10,460	10,603
Gross margin	46 %	45 %
Research and development	5,872	5,005
Marketing, general and administrative	2,352	2,336
Amortization of acquisition-related intangibles	1,869	2,100
Licensing gain	(34)	(102)
Interest expense	(106)	(88)
Other income (expense), net	197	8
Income tax (benefit)	(346)	(122)

Gross Margin

Gross margin as a percentage of net revenue was 46% in 2023 compared to 45% in 2022. The increase in gross margin was primarily driven by higher Embedded segment revenue and lower amortization of acquisition-related intangible assets, partially offset by lower Client segment revenue and product mix.

Expenses

Research and Development Expenses

Research and development expenses of $5.9 billion in 2023 increased by $867 million, or 17%, compared to $5.0 billion in 2022. The increase was primarily due to higher employee-related costs due to an increase in headcount to support increased investment in AI.

Marketing, General and Administrative Expenses

Marketing, general and administrative expenses of $2.4 billion in 2023 increased by $16 million, or 1%, compared to $2.3 billion in 2022. The increase was primarily due to an increase in employee-related costs.

Amortization of Acquisition-Related Intangibles

Amortization of acquisition-related intangibles of $2.8 billion for 2023 decreased by $737 million, or 21%, compared to $3.5 billion in 2022. The decrease was primarily due to certain acquisition-related intangibles being fully amortized in the first half of the current fiscal year.

Licensing Gain

We recognized $34 million of licensing gain from royalty income and $102 million of licensing gain from milestone achievement and royalty income associated with the licensed IP to the THATIC JV, our two joint ventures with Higon Information Technology Co., Ltd., a third-party Chinese entity, in 2023 and 2022, respectively.

Interest Expense

Interest expense of $106 million in 2023 increased by $18 million compared to $88 million in 2022, primarily due to interest expense from our 3.924% Senior Notes Due 2032 (3.924% Notes) and our 4.393% Senior Notes Due 2052 (4.393% Notes) that were issued in June 2022.

Other Income (expense), net

Other income (expense), net is primarily comprised of interest income from short-term investments, changes in valuation of equity investments and foreign currency transaction gains and losses.

Other income (expense), net was $197 million in 2023 compared to $8 million of Other income, net in 2022. The change was primarily due to an increase in interest income driven by rising interest rates.

Income Tax Benefit

We recorded an income tax benefit of $346 million and $122 million in 2023 and 2022, respectively, representing effective tax rates of (68%) and (10%), respectively. The increase in income tax benefit in 2023 was primarily due to the lower pre-tax income coupled with a $185 million foreign-derived intangible income tax benefit and $169 million of research and development tax credits.

Global Minimum Tax

The OECD is continuing discussions surrounding fundamental changes in allocation of profits among tax jurisdictions in which companies do business, as well as the implementation of a global minimum tax (namely the “Pillar One” and “Pillar Two” proposals). The Council of the European Union has adopted the global corporate 15% minimum tax as provided for in Pillar Two and has directed EU member states to implement legislation enacting Pillar Two. Many countries, including non-EU member states, have implemented laws based on Pillar Two proposals, with effective dates starting in 2024. Although many countries have already introduced Pillar Two legislation applicable to the Company effective in 2024, certain jurisdictions in which we operate have not adopted corresponding legislation to date. The impact associated with Pillar Two will be accounted for as period costs. We continue to evaluate the impact of proposed and enacted legislative changes to our effective tax rate and cash flows as new guidance becomes available.

International Sales

International sales as a percentage of net revenue were 65% in 2023 and 66% in 2022. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future. Substantially all of our sales transactions are denominated in U.S. dollars.

FINANCIAL CONDITION

Liquidity and Capital Resources

As of December 30, 2023, our cash, cash equivalents and short-term investments were $5.8 billion compared to $5.9 billion as of December 31, 2022. The percentage of cash and cash equivalents held domestically was 77% as of December 30, 2023, and 73% as of December 31, 2022.

Our operating, investing and financing cash flow activities for 2023 and 2022 were as follows:

	December 30, 2023	December 31, 2022
	(In millions)	
Net cash provided by (used in):		
Operating activities	$ 1,667	$ 3,565
Investing activities	(1,423)	1,999
Financing activities	(1,146)	(3,264)
Net increase (decrease) in cash and cash equivalents	$ (902)	$ 2,300

We have $3.0 billion available under an unsecured revolving credit agreement (Revolving Credit Agreement) that expires on April 29, 2027. No funds were drawn from this credit facility during the year ended December 30, 2023.

We also have a commercial paper program to issue unsecured commercial paper notes up to a maximum principal amount outstanding, at any time, of $3.0 billion, with a maturity of up to 397 days from the date of issue. We did not issue any commercial paper during the year ended December 30, 2023.

Our aggregate principal debt obligations were $2.5 billion as of December 30, 2023. Our 2.95% Notes with a principal amount of $750 million are due in June 2024.

As of December 30, 2023, we had unconditional purchase commitments of approximately $4.6 billion, of which $3.9 billion are in fiscal year 2024. On an ongoing basis, we work with our suppliers on the timing of payments and deliveries of purchase commitments, taking into account business conditions. Our contractual obligations and purchase commitments relate primarily to our obligations to purchase wafers and substrates from third parties and future payments related to certain software and technology licenses and IP licenses. See Note 16 – Commitments and Guarantees.

We believe our cash, cash equivalents, short-term investments and cash flows from operations along with our Revolving Credit Facility and commercial paper program will be sufficient to fund operations, including capital expenditures and purchase commitments, over the next 12 months and beyond. We believe we will be able to access the capital markets should we require additional funds. However, we cannot assure that such funds will be available on favorable terms, or at all.

Operating Activities

Our working capital cash inflows and outflows from operations consist primarily of cash collections from our customers, payments for inventory purchases and payments for employee-related expenditures.

Net cash provided by operating activities was $1.7 billion in 2023, primarily due to our net income of $854 million in 2023, adjusted for non-cash adjustments of $3.9 billion and net cash outflows of $3.0 billion from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a $1.3 billion increase in accounts receivable driven primarily by higher revenue in the last month of 2023 compared to the last month of 2022, and a $580 million increase in inventories driven primarily by build of advanced process nodes to support the ramp of new products.

Net cash provided by operating activities was $3.6 billion in 2022, primarily due to our net income of $1.3 billion in 2022, adjusted for non-cash adjustments of $4.1 billion and net cash outflows of $1.8 billion from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a $1.4 billion increase in inventories driven primarily by build of advanced process nodes to support the ramp of new products, a $1.1 billion increase in accounts receivable driven primarily by higher revenue in the fourth quarter of 2022 compared to the fourth quarter of 2021, and a $1.2 billion increase in prepaid expenses and other assets due primarily to prepayments under long-term supply agreements in 2022, offset by an $931 million increase in accounts payable primarily due to timing of payments to our suppliers, and a $546 million increase in accrued liabilities and other driven mainly by higher customer-related accruals.

Investing Activities

Net cash used in investing activities was $1.4 billion in 2023, which primarily consisted of cash used for purchases of short-term investments of $3.7 billion, $546 million for purchases of property and equipment, and cash used in acquisitions, net of cash acquired of $131 million, partially offset by proceeds from maturities of short-term investments of $2.7 billion and sale of short-term investments of $300 million.

Net cash provided by investing activities was $2 billion in 2022, which primarily consisted of higher cash provided by maturities of short-term investments of $4.3 billion and cash acquired as part of the acquisition of Xilinx of $2.4 billion, partially offset by higher cash used for purchases of short-term investments of $2.7 billion, cash used in the acquisition of Pensando Systems Inc. (“Pensando”) of $1.5 billion and $450 million for purchases of property and equipment.

Financing Activities

Net cash used in financing activities was $1.1 billion in 2023, which primarily consisted of common stock repurchases of $985 million under the Repurchase Program and repurchases to cover tax withholding on employee equity plans of $427 million, partially offset by proceeds from the issuance of common stock under our employee equity plans of $268 million.

Net cash used in financing activities was $3.3 billion in 2022, which primarily consisted of common stock repurchases of $3.7 billion under the Repurchase Program, higher repurchases to cover tax withholding on employee equity plans of $406 million and repayment of debt of $312 million, partially offset by proceeds from the issuance of debt of $991 million and higher proceeds from the issuance of common stock under our employee equity plans of $167 million.

Off-Balance Sheet Arrangements

As of December 30, 2023, we had no off-balance sheet arrangements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

Interest Rate Risk. Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and long-term debt. We usually invest our cash in investments with short maturities or with frequent interest reset terms. Accordingly, our interest income fluctuates with short-term market conditions. As of December 30, 2023, our investment portfolio consisted of fixed income instruments, time deposits and commercial paper. Our primary aim with our investment portfolio is to invest available cash while preserving principal and meeting liquidity needs. In accordance with our investment policy, we place investments with high credit quality issuers and limit the amount of credit exposure to any one issuer based upon the issuer's credit rating. These securities are subject to interest rate risk and will decrease in value if market interest rates increase. A hypothetical 50 basis-point (half percentage point) increase or decrease in interest rates compared to rates at December 30, 2023 would have affected the fair value of our cash equivalent and investment portfolio by approximately $7 million.

As of December 30, 2023, all of our outstanding long-term debt had fixed interest rates. Consequently, our exposure to market risk for changes in interest rates on reported interest expense and corresponding cash flows is minimal.

We will continue to monitor our exposure to interest rate risk.

Default Risk. We mitigate default risk in our investment portfolio by investing in only high credit quality securities and by constantly positioning our portfolio to respond to a significant reduction in a credit rating of any investment issuer or guarantor. Our portfolio includes investments in marketable debt securities with active secondary or resale markets to ensure portfolio liquidity. We are averse to principal loss and strive to preserve our invested funds by limiting default risk and market risk.

We actively monitor market conditions and developments specific to the securities and security classes in which we invest. We believe that we take a conservative approach to investing our funds in that we invest only in highly-rated debt securities with relatively short maturities and do not invest in securities which we believe involve a higher degree of risk. As of December 30, 2023, all of our investments in debt securities were A-rated by at least one of the rating agencies. While we believe we take prudent measures to mitigate investment-related risks, such risks cannot be fully eliminated as there are circumstances outside of our control.

Foreign Exchange Risk. As a result of our foreign operations, we incur costs and we carry assets and liabilities that are denominated in foreign currencies, while sales of products are primarily denominated in U.S. dollars.

We maintain a foreign currency hedging strategy which uses derivative financial instruments to mitigate the risks associated with changes in foreign currency exchange rates. This strategy takes into consideration all of our exposures. We do not use derivative financial instruments for trading or speculative purposes.

The following table provides information about our foreign currency forward contracts as of December 30, 2023 and December 31, 2022. All of our foreign currency forward contracts mature within 24 months.

	December 30, 2023			December 31, 2022		
	Notional Amount	Average Contract Rate	Estimated Fair Value Gain (Loss)	Notional Amount	Average Contract Rate	Estimated Fair Value Gain (Loss)
	(In millions except contract rates)					
Foreign currency forward contracts:						
Chinese Renminbi	$ 655	6.7593	$ (10)	$ 599	6.7848	$ (3)
Canadian Dollar	645	1.3479	11	607	1.3137	(16)
Indian Rupee	514	84.6922	1	516	82.1493	(9)
Taiwan Dollar	171	29.3064	(3)	207	29.1231	(4)
Singapore Dollar	495	1.3314	6	259	1.3600	4
Euro	303	0.9017	1	142	0.9334	1
Pound Sterling	167	0.8057	2	88	0.8204	(1)
Japanese Yen	—	—	—	2	133.7593	—
Australian Dollar	—	—	—	1	1.4689	—
Total	**$ 2,950**		**$ 8**	**$ 2,421**		**$ (28)**

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Advanced Micro Devices, Inc.

Consolidated Statements of Operations

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions, except per share amounts)		
Net revenue	$ 22,680	$ 23,601	$ 16,434
Cost of sales	11,278	11,550	8,505
Amortization of acquisition-related intangibles	942	1,448	—
Total cost of sales	12,220	12,998	8,505
Gross profit	10,460	10,603	7,929
Research and development	5,872	5,005	2,845
Marketing, general and administrative	2,352	2,336	1,448
Amortization of acquisition-related intangibles	1,869	2,100	—
Licensing gain	(34)	(102)	(12)
Operating income	401	1,264	3,648
Interest expense	(106)	(88)	(34)
Other income (expense), net	197	8	55
Income before income taxes and equity income	492	1,184	3,669
Income tax provision (benefit)	(346)	(122)	513
Equity income in investee	16	14	6
Net income	$ 854	$ 1,320	$ 3,162
Earnings per share			
Basic	$ 0.53	$ 0.85	$ 2.61
Diluted	$ 0.53	$ 0.84	$ 2.57
Shares used in per share calculation			
Basic	1,614	1,561	1,213
Diluted	1,625	1,571	1,229

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Statements of Comprehensive Income

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Net income	$ 854	$ 1,320	$ 3,162
Other comprehensive income (loss)			
Net change in unrealized gains (losses) on cash flow hedges	31	(38)	(20)
Total comprehensive income	$ 885	$ 1,282	$ 3,142

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Balance Sheets

	December 30, 2023	December 31, 2022
	(In millions, except par value amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 3,933	$ 4,835
Short-term investments	1,840	1,020
Accounts receivable, net	5,376	4,126
Inventories	4,351	3,771
Receivables from related parties	9	2
Prepaid expenses and other current assets	1,259	1,265
Total current assets	16,768	15,019
Property and equipment, net	1,589	1,513
Operating lease right-of-use assets	633	460
Goodwill	24,262	24,177
Acquisition-related intangibles	21,363	24,118
Investment: equity method	99	83
Deferred tax assets	366	58
Other non-current assets	2,805	2,152
Total assets	$ 67,885	$ 67,580
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,055	$ 2,493
Payables to related parties	363	463
Accrued liabilities	3,082	3,077
Current portion of long-term debt, net	751	—
Other current liabilities	438	336
Total current liabilities	6,689	6,369
Long-term debt, net of current portion	1,717	2,467
Long-term operating lease liabilities	535	396
Deferred tax liabilities	1,202	1,934
Other long-term liabilities	1,850	1,664
Commitments and Contingencies (see Notes 16 and 17)		
Stockholders' equity:		
Capital stock:		
Common stock, par value $0.01; shares authorized: 2,250; shares issued: 1,663 and 1,645; shares outstanding: 1,616 and 1,612	17	16
Additional paid-in capital	59,676	58,005
Treasury stock, at cost (shares held: 47 and 33)	(4,514)	(3,099)
Retained earnings (Accumulated deficit)	723	(131)
Accumulated other comprehensive loss	(10)	(41)
Total stockholders' equity	55,892	54,750
Total liabilities and stockholders' equity	$ 67,885	$ 67,580

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Statements of Stockholders' Equity

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Capital stock			
Common stock			
Balance, beginning of period	$ 16	$ 12	$ 12
Common stock issued under employee equity plans	1	—	—
Issuance of common stock as consideration for acquisition	—	4	—
Balance, end of period	$ 17	$ 16	$ 12
Additional paid-in capital			
Balance, beginning of period	$ 58,005	$ 11,069	$ 10,544
Common stock issued under employee equity plans	273	167	104
Stock-based compensation	1,384	1,080	379
Issuance of common stock to settle convertible debt	1	—	25
Issuance of common stock as consideration for acquisition	—	45,372	—
Fair value of replacement share-based awards related to acquisition	—	275	—
Issuance of common stock warrants	13	42	17
Balance, end of period	$ 59,676	$ 58,005	$ 11,069
Treasury stock			
Balance, beginning of period	$ (3,099)	$ (2,130)	$ (131)
Repurchases of common stock	(985)	(3,702)	(1,762)
Reissuance of treasury stock as consideration for acquisition	—	3,138	—
Common stock repurchases for tax withholding on employee equity plans	(430)	(405)	(237)
Balance, end of period	$ (4,514)	$ (3,099)	$ (2,130)
Retained earnings (Accumulated deficit)			
Balance, beginning of period	$ (131)	$ (1,451)	$ (4,605)
Cumulative effect of adoption of accounting standard	—	—	(8)
Net income	854	1,320	3,162
Balance, end of period	$ 723	$ (131)	$ (1,451)
Accumulated other comprehensive income (loss)			
Balance, beginning of period	$ (41)	$ (3)	$ 17
Other comprehensive income (loss)	31	(38)	(20)
Balance, end of period	$ (10)	$ (41)	$ (3)
Total stockholders' equity	$ 55,892	$ 54,750	$ 7,497

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Statements of Cash Flows

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Cash flows from operating activities:			
Net income	$ 854	$ 1,320	$ 3,162
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	3,453	4,174	407
Stock-based compensation	1,384	1,081	379
Amortization of operating lease right-of-use assets	98	88	56
Amortization of inventory fair value adjustment	3	189	—
Loss on debt redemption, repurchase and conversion	—	—	7
Loss on sale or disposal of property and equipment	11	16	34
Deferred income taxes	(1,019)	(1,505)	308
(Gains) losses on equity investments, net	(1)	62	(56)
Other	(67)	(14)	(2)
Changes in operating assets and liabilities:			
Accounts receivable, net	(1,250)	(1,091)	(640)
Inventories	(580)	(1,401)	(556)
Receivables from related parties	(7)	(13)	8
Prepaid expenses and other assets	(472)	(1,197)	(920)
Payables to related parties	(100)	379	7
Accounts payable	(419)	931	801
Accrued and other liabilities	(221)	546	526
Net cash provided by operating activities	1,667	3,565	3,521
Cash flows from investing activities:			
Purchases of property and equipment	(546)	(450)	(301)
Purchases of short-term investments	(3,722)	(2,667)	(2,056)
Proceeds from maturity of short-term investments	2,687	4,310	1,678
Proceeds from sale of short-term investments	300	—	—
Cash received from acquisition of Xilinx	—	2,366	—
Acquisitions, net of cash acquired	(131)	(1,544)	—
Other	(11)	(16)	(7)
Net cash provided by (used in) investing activities	(1,423)	1,999	(686)
Cash flows from financing activities:			
Proceeds from debt, net of issuance costs	—	991	—
Repayment of debt	—	(312)	—
Proceeds from sales of common stock through employee equity plans	268	167	104
Repurchases of common stock	(985)	(3,702)	(1,762)
Common stock repurchases for tax withholding on employee equity plans	(427)	(406)	(237)
Other	(2)	(2)	—
Net cash used in financing activities	(1,146)	(3,264)	(1,895)
Net increase (decrease) in cash and cash equivalents	(902)	2,300	940
Cash and cash equivalents at beginning of year	4,835	2,535	1,595
Cash and cash equivalents at end of year	$ 3,933	$ 4,835	$ 2,535

Advanced Micro Devices, Inc.

Consolidated Statements of Cash Flows

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Supplemental cash flow information:			
Cash paid during the year for:			
Interest	$ 84	$ 85	$ 25
Income taxes, net of refund	$ 523	$ 685	$ 35
Non-cash investing and financing activities:			
Purchases of property and equipment, accrued but not paid	$ 106	$ 157	$ 72
Issuance of common stock and treasury stock for the acquisition of Xilinx	$ —	$ 48,514	$ —
Fair value of replacement share-based awards related to acquisition of Xilinx	$ —	$ 275	$ —
Non-cash activities for leases:			
Operating lease right-of-use assets acquired by assuming related liabilities	$ 273	$ 115	$ 227

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Notes to Consolidated Financial Statements

NOTE 1 – The Company

Advanced Micro Devices, Inc. is a global semiconductor company. References herein to AMD or the Company mean Advanced Micro Devices, Inc. and its consolidated subsidiaries. AMD's products include x86 microprocessors (CPUs) and graphics processing units (GPUs), as standalone devices or as incorporated into accelerated processing units (APUs), chipsets, data center and professional GPUs, embedded processors, semi-custom System-on-Chip (SoC) products, microprocessor and SoC development services and technology, data processing units (DPUs), Field Programmable Gate Arrays (FPGAs), System on Modules (SOMs), Smart Network Interface Cards (SmartNICs), AI Accelerators and Adaptive SoC products. From time to time, the Company may also sell or license portions of its intellectual property (IP) portfolio.

NOTE 2 – Basis of Presentation and Significant Accounting Policies

Fiscal Year. The Company uses a 52- or 53-week fiscal year ending on the last Saturday in December. Fiscal 2023, 2022 and 2021 ended on December 30, 2023, December 31, 2022 and December 25, 2021, respectively. Fiscal 2023 and 2021 each consisted of 52 weeks, while fiscal 2022 consisted of 53 weeks.

Principles of Consolidation. The consolidated financial statements include the Company's accounts and those of its wholly-owned subsidiaries. Upon consolidation, all inter-company accounts and transactions have been eliminated.

Reclassification. Certain immaterial prior period amounts have been reclassified to conform to current period presentation.

Use of Estimates. The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of commitments and contingencies at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results are likely to differ from those estimates, and such differences may be material to the financial statements. Areas where management uses subjective judgment include, but are not limited to, revenue allowances, inventory valuation, valuation of goodwill and long-lived and intangible assets, and income taxes.

Revenue Recognition

Revenue is recognized when a customer obtains control of promised goods or services and is recognized in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. Sales, value-added, and other taxes collected concurrently with the provision of goods or services are excluded from revenue. Shipping and handling costs associated with product sales are included in cost of sales. Substantially all the Company's revenue is derived from product sales, representing a single performance obligation.

Customers are generally required to pay for products and services within the Company's standard contractual terms, which are typically net 30 to 60 days. The Company has determined that it does not have significant financing components in its contracts with customers.

Non-custom products

The Company transfers control and recognizes revenue when non-custom products are shipped to customers, which includes original equipment manufacturers (OEM) and distributors, in accordance with the shipping terms of the sale. Non-custom product arrangements generally comprise a single performance obligation. Certain OEMs may be entitled to rights of return and rebates under OEM agreements. The Company also sells to distributors under terms allowing the majority of distributors certain rights of return and price protection on unsold merchandise held by them. The Company estimates the amount of variable consideration under OEM and distributor arrangements and, accordingly, records a provision for product returns, allowances for price protection and rebates based on actual historical experience and any known events.

The Company offers incentive programs to certain customers, including cooperative advertising, marketing promotions, volume-based incentives and special pricing arrangements. Where funds provided for such programs can be estimated, the Company recognizes a reduction to revenue at the time the related revenue is recognized; otherwise, the Company recognizes such reduction to revenue at the later of when: i) the related revenue transaction occurs; or ii) the program is offered. For transactions where the Company reimburses a customer for a portion of the customer's cost to perform specific product advertising or marketing and promotional activities, such amounts are recognized as a reduction to revenue unless they qualify for expense recognition.

Constraints of variable consideration have not been material.

Custom products

Custom products, which are primarily associated with the Company's Gaming segment, are sold under non-cancellable purchases orders, for which the Company has an enforceable right to payment, and which have no alternative use to the Company at contract inception, are recognized as revenue, over the time of production of the products by the Company. The Company utilizes a cost-based input method, calculated as cost incurred plus estimated margin, to determine the amount of revenue to recognize for in-process or completed customer orders at a reporting date. The Company believes that a cost-based input method is the most appropriate manner to measure how the Company satisfies its performance obligations to customers because the effort and costs incurred best depict the Company's satisfaction of its performance obligation.

Sales of custom products are not subject to a right of return and arrangements generally involve a single performance obligation. Generally, there are no variable consideration estimates associated with custom products.

Development and intellectual property licensing agreements

From time to time, the Company may enter into arrangements with customers that combine the provision of development services and a license to the right to use the Company's IP. These arrangements are deemed to be single or multiple performance obligations based upon the nature of the arrangements. Revenue is recognized upon the transfer of control, over time or at a point in time, depending on the nature of the arrangements. The Company evaluates whether the licensing component is distinct. A licensing component is distinct if it is both (i) capable of being distinct and (ii) distinct in the context of the arrangement. If the license is not distinct, it is combined with the development services as a single performance obligation and recognized over time. If the license is distinct, revenue is recognized at a point in time when the customer has the ability to benefit from the license.

From time to time, the Company may enter into arrangements with customers that solely involve the sale or licensing of its patents or IP. Generally, there are no performance obligations beyond transferring the designated license to the Company's patents or IP. Accordingly, revenue is recognized at a point in time when the customer has the ability to benefit from the license.

There are no variable consideration estimates associated with either combined development and IP arrangements or for standalone arrangements involving either the sale or licensing of IP.

Inventories

The Company values inventory at standard cost, adjusted to approximate the lower of actual cost or estimated net realizable value using assumptions about future demand and market conditions. In determining excess or obsolescence reserves for its products, the Company considers assumptions such as changes in business and economic conditions, other-than-temporary decreases in demand for its products, and changes in technology or customer requirements. In determining the lower of cost or net realizable value reserves, the Company considers assumptions such as recent historical sales activity and selling prices, as well as estimates of future selling prices. The Company fully reserves for inventories and non-cancellable purchase orders for inventory deemed obsolete. The Company performs periodic reviews of inventory items to identify excess inventories on hand by comparing on-hand balances and non-cancellable purchase orders to anticipated usage using recent historical activity as well as anticipated or forecasted demand. If estimates of customer demand diminish further or market conditions become less favorable than those projected by the Company, additional inventory carrying value adjustments may be required.

Business Combinations

The Company is required to use the acquisition method of accounting for business combinations. The acquisition method of accounting requires the Company to allocate the purchase consideration to the assets acquired and liabilities assumed from the acquiree based on their respective fair values as of the acquisition date. The excess of the fair value of purchase consideration over the fair value of these assets acquired and liabilities assumed is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions, especially with respect to intangible assets. Critical estimates in valuing intangible assets include, but are not limited to, expected future revenue growth rates and margins, future changes in technology, time to recreate customer relationships, useful lives, and discount rates. Fair value estimates are based on the assumptions that management believes a market participant would use in pricing the asset or liability. These estimates are inherently uncertain and, therefore, actual results may differ from the estimates made.

Goodwill

The Company performs its goodwill impairment analysis as of the first day of the fourth quarter of each year and, if certain events or circumstances indicate that an impairment loss may have been incurred, on a more frequent basis. The analysis may include both qualitative and quantitative factors to assess the likelihood of an impairment.

The Company has the option to first perform qualitative testing to determine if it is more likely than not that the fair value of a reporting unit exceeds its carrying amount. Qualitative factors include industry and market considerations, overall financial performance, share price trends and market capitalization and Company-specific events. If the Company concludes it is more likely than not that the fair value of a reporting unit exceeds its carrying amount, the Company does not proceed to perform a quantitative impairment test.

If the Company concludes it is more likely than not that the fair value of a reporting unit is less than its carrying value or elects to bypass the qualitative test, a quantitative goodwill impairment test will be performed by comparing the fair value of each reporting unit to its carrying value. If a reporting unit's fair value is determined to be less than its carrying value, a goodwill impairment charge is recognized for the amount by which the reporting unit's fair value is less than its carrying value, not to exceed the total amount of goodwill allocated to that reporting unit.

Long-Lived and Intangible Assets

Long-lived and intangible assets to be held and used are reviewed for impairment if indicators of potential impairment exist and at least annually for indefinite-lived intangible assets. Impairment indicators are reviewed on a quarterly basis. Assets are grouped and evaluated for impairment at the lowest level of identifiable cash flows.

When indicators of impairment exist and assets are held for use, the Company estimates future undiscounted cash flows attributable to the related asset groups. In the event such cash flows are not expected to be sufficient to recover the recorded value of the assets, the assets are written down to their estimated fair values based on the expected discounted future cash flows attributable to the asset group or based on appraisals. Factors affecting impairment of assets held for use include the ability of the specific assets to generate separately identifiable positive cash flows.

When assets are removed from operations and held for sale, the Company estimates impairment losses as the excess of the carrying value of the assets over their fair value. Market conditions are among the factors affecting impairment of assets held for sale. Changes in any of these factors could necessitate impairment recognition in future periods for assets held for use or assets held for sale.

Cash Equivalents

Cash equivalents consist of financial instruments that are readily convertible into cash and have original maturities of three months or less at the time of purchase.

Accounts Receivable

Accounts receivable are primarily comprised of trade receivables presented net of rebates, price protection and an allowance for credit loss. Accounts receivable also include unbilled receivables, which primarily represent work completed on development services recognized as revenue but not yet invoiced to customers and custom products under non-cancellable purchase orders that have no alternative use to the Company at contract inception, for which revenue has been recognized but not yet invoiced to customers. All unbilled accounts receivables are expected to be billed and collected within twelve months.

The Company manages its exposure to customer credit risk through credit limits, credit lines, ongoing monitoring procedures and credit approvals. Furthermore, the Company performs in-depth credit evaluations of all new customers and, at intervals, for existing customers. From this, the Company may require letters of credit, bank or corporate guarantees or advance payments if deemed necessary. The Company maintains an allowance for credit loss, consisting of known specific troubled accounts as well as an amount based on overall estimated potential uncollectible accounts receivable based on historical experience and review of their current credit quality. The Company does not believe the receivable balance from its customers represents a significant credit risk.

Investments

Available-for-Sale Debt Securities. The Company classifies its investments in debt securities at the date of acquisition as available-for-sale. Available-for-sale debt securities are reported at fair value with the related unrealized gains and losses included, net of tax, in accumulated other comprehensive income (loss), a component of stockholders' equity. If an available-for-sale debt security's fair value is less than its amortized cost basis, then the Company evaluates whether the decline is the result of a credit loss, in which case an impairment is recorded through an allowance for credit losses. Unrealized gains and losses not attributable to credit losses are included, net of tax, in accumulated other comprehensive income (loss), a component of stockholders' equity. The Company classifies and accounts for its short-term investments in debt securities as available-for-sale as the Company may sell these securities at any time for use in its current operations or for other purposes. As a result, the Company classifies its short-term investments, including securities with stated maturities beyond twelve months, within current assets in the Consolidated Balance Sheets.

Non-marketable Equity Securities. The Company's investments in non-marketable securities of privately-held companies are accounted for under the measurement alternative, defined as cost, less impairments, adjusted for subsequent observable price changes and are periodically assessed for impairment when events or circumstances indicate that a decline in value may have occurred. The Company's periodic assessment of impairment is made by considering available evidence, including the investee's general market and industry conditions and product development status. The Company also assesses the investee's ability to meet business milestones, its financial condition, and near-term prospects, including the rate at which the investee is using its cash, the investee's need for possible additional funding at a lower valuation and any bona fide offer to purchase the investee.

Fair Value Measurements

The Company's financial instruments are measured and recorded at fair value on a recurring basis, except for non-marketable equity investments in privately-held companies, which are generally accounted for under the measurement alternative.

Fair Value Hierarchy

The fair value framework requires the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets or liabilities. The guidance for fair value measurements requires that assets and liabilities carried at fair value be classified and disclosed in one of the following categories:

Level 1 — Quoted (unadjusted) prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the asset or liability.

Level 3 — Unobservable inputs to the valuation methodology that are supported by little or no market activity and that are significant to the measurement of the fair value of the assets or liabilities. Level 3 assets and liabilities include those whose fair value measurements are determined using pricing models, discounted cash flow methodologies or similar valuation techniques, as well as significant management judgment or estimation.

Property and Equipment

Property and equipment are stated at cost. Depreciation and amortization are provided on a straight-line basis over the estimated useful lives of two to 15 years for equipment, 34 to 44 years for buildings, and leasehold improvements are measured by the shorter of the remaining terms of the leases or the estimated useful economic lives of the improvements.

Leases

Operating and finance leases are recorded as right-of-use (ROU) assets and lease liabilities on the Company's balance sheet. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating and finance lease ROU assets and liabilities are initially recognized based on the present value of lease payments over the lease term. In determining the present value of lease payments, the Company uses the implicit interest rate if readily determinable. When the implicit interest rate is not readily determinable, the Company uses its incremental borrowing rate, which is based on its collateralized borrowing capabilities over a similar term of the lease payments. When using the incremental borrowing rate, the Company utilizes the consolidated group incremental borrowing rate. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term. The Company has elected the accounting policy to not recognize ROU assets and lease liabilities that arise from short-term (12 months or less) leases for any class of underlying asset. Operating leases are included in operating lease ROU assets, other current liabilities, and long-term operating lease liabilities on the Company's consolidated balance sheets. The Company's finance leases are immaterial.

Foreign Currency Translation/Transactions

The functional currency of the Company's foreign subsidiaries is the U.S. dollar. Assets and liabilities denominated in non-U.S. dollars have been remeasured into U.S. dollars at current exchange rates for monetary assets and liabilities and historical exchange rates for non-monetary assets and liabilities. Non-U.S. dollar denominated transactions have been remeasured at average exchange rates in effect during each period, except for those cost of sales and expense transactions related to non-monetary balance sheet amounts which have been remeasured at historical exchange rates. The gains or losses from foreign currency remeasurement are included in earnings.

Marketing and Advertising Expenses

Advertising costs are expensed as incurred. In addition, the Company's marketing and advertising expenses include certain cooperative advertising funding obligations under customer incentive programs, which costs are recorded upon agreement with customers and vendor partners. Cooperative advertising expenses are recorded as marketing, general and administrative expense to the extent the cash paid does not exceed the estimated fair value of the advertising benefit received. Any excess of cash paid over the estimated fair value of the advertising benefit received is recorded as a reduction of revenue. Total marketing and advertising expenses for 2023, 2022 and 2021 were approximately $695 million, $683 million and $578 million, respectively.

Stock-Based Compensation

The Company estimates stock-based compensation cost for stock options at the grant date based on the option's fair value as calculated by the Black-Scholes model. For time-based restricted stock units (RSUs), fair value is based on the closing price of the Company's common stock on the grant date. The Company estimates the grant-date fair value of RSUs that involve a market condition using the Monte Carlo simulation model. The Company estimates the grant-date fair value of stock to be issued under the Company's Employee Stock Purchase plan (ESPP) using the Black-Scholes model. Compensation expense is recognized over the vesting period of the applicable award using the straight-line method, except for the compensation expense related to RSUs with performance or market conditions (PRSUs), which are recognized ratably for each vesting tranche from the service inception date to the end of the requisite service period. Forfeiture rates are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Contingencies

From time to time the Company is a defendant or plaintiff in various legal actions that arise in the normal course of business. The Company is also subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which it conducts business. In addition, the Company is a party to environmental matters including local, regional, state and federal government clean-up activities at or near locations where the Company currently or has in the past conducted business. The Company is required to assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of reasonably possible losses. A determination of the amount of reserves required for these commitments and contingencies that would be charged to earnings, if any, includes assessing the probability of adverse outcomes and estimating the amount of potential losses. The required reserves, if any, may change due to new developments in each matter or changes in circumstances such as a change in settlement strategy.

Income Taxes

The Company computes the provision for income taxes using the liability method and recognizes deferred tax assets and liabilities for temporary differences between financial statement and income tax bases of assets and liabilities, as well as for operating loss and tax credit carryforwards. The Company measures deferred tax assets and liabilities using tax rates applicable to taxable income in effect for the years in which those tax assets are expected to be realized or settled and provides a valuation allowance against deferred tax assets when it cannot conclude that it is more likely than not that some or all deferred tax assets will be realized. The assessment requires significant judgment and is performed in each of the applicable taxing jurisdictions. In addition, the Company recognizes tax benefits from uncertain tax positions only if it is more likely than not that they will be sustained, based on the technical merits of the positions, on examination by the jurisdictional tax authority. Interest and penalties related to income taxes are recorded in the Income tax provision (benefit) line in the Consolidated Statements of Operations. The Company is subject to the Global Intangible Low Taxed Income (GILTI) tax in the U.S. and recognizes deferred taxes for temporary basis differences that are expected to reverse as GILTI tax in future years.

Recently Issued Accounting Standard Updates Not Yet adopted

In November 2023, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2023-07 Segment Reporting (Topic 280) Improvements to Reportable Segment Disclosures to enhance disclosures about significant segment expenses. This ASU is effective for the Company's fiscal year 2024 and interim periods in fiscal year 2025. Early adoption is permitted. The Company is currently evaluating segment expense disclosures related to its annual report for fiscal year 2024.

In December 2023, the FASB issued ASU 2023-09 Income Taxes (Topic 740) Improvements to Income Tax Disclosures that requires disclosure of disaggregated income taxes paid, prescribes standard categories for the components of the effective tax rate reconciliation, and modifies other income tax-related disclosures. This ASU is effective for the Company's fiscal year 2025. Early adoption is permitted. The Company is currently evaluating income tax disclosures related to its annual report for fiscal year 2025.

Although there are several other new accounting pronouncements issued by the FASB, the Company does not believe any of these accounting pronouncements had or will have a material impact on its Consolidated Financial Statements.

NOTE 3 – Supplemental Financial Statement Information

Accounts Receivable, net

As of December 30, 2023 and December 31, 2022, Accounts receivable, net included unbilled accounts receivable of $1.1 billion. Unbilled accounts receivables primarily represent work completed for development services and on custom products for which revenue has been recognized but not yet invoiced. All unbilled accounts receivable are expected to be billed and collected within 12 months.

Inventories	December 30, 2023	December 31, 2022
	(In millions)	
Raw materials	$ 279	$ 231
Work in process	3,260	2,648
Finished goods	812	892
Total inventories	$ 4,351	$ 3,771

Property and Equipment, net	December 30, 2023	December 31, 2022
	(In millions)	
Land, building and leasehold improvements	$ 821	$ 714
Equipment	2,346	2,163
Construction in progress	209	143
Property and equipment, gross	3,376	3,020
Accumulated depreciation	(1,787)	(1,507)
Total property and equipment, net	$ 1,589	$ 1,513

Depreciation expense for 2023, 2022 and 2021 was $441 million, $439 million and $296 million, respectively.

Accrued Liabilities	December 30, 2023	December 31, 2022
	(In millions)	
Accrued marketing programs	$ 827	$ 876
Accrued compensation and benefits	884	701
Customer program liabilities	544	859
Other accrued and current liabilities	827	641
Total accrued liabilities	$ 3,082	$ 3,077

Revenue

Revenue allocated to remaining performance obligations that are unsatisfied (or partially unsatisfied) include amounts received from customers and amounts that will be invoiced and recognized as revenue in future periods for development services, IP licensing and product revenue. As of December 30, 2023, the aggregate transaction price allocated to remaining performance obligations under contracts with an original expected duration of more than one year was $137 million, of which $85 million is expected to be recognized in the next 12 months. The revenue allocated to remaining performance obligations does not include amounts which have an original expected duration of one year or less.

Revenue recognized over time associated with custom products and development services accounted for approximately 25%, 24% and 23% of the Company's revenue in 2023, 2022 and 2021, respectively.

NOTE 4 – Segment Reporting

Management, including the Chief Operating Decision Maker (CODM), who is the Company's Chief Executive Officer, reviews and assesses operating performance using segment net revenue and operating income (loss). These performance measures include the allocation of expenses to the reportable segments based on management's judgment.

The Company's four reportable segments are:

- the Data Center segment, which primarily includes server microprocessors (CPUs), graphics processing units (GPUs), accelerated processing units (APUs), data processing units (DPUs), Field Programmable Gate Arrays (FPGAs), Smart Network Interface Cards (SmartNICs), Artificial Intelligence (AI) accelerators and Adaptive System-on-Chip (SoC) products for data centers;
- the Client segment, which primarily includes CPUs, APUs, and chipsets for desktop, notebook and handheld personal computers;
- the Gaming segment, which primarily includes discrete GPUs, and semi-custom SoC products and development services; and
- the Embedded segment, which primarily includes embedded CPUs, GPUs, APUs, FPGAs, System on Modules (SOMs), and Adaptive SoC products.

From time to time, the Company may also sell or license portions of its IP portfolio.

In addition to these reportable segments, the Company has an All Other category, which is not a reportable segment. This category primarily includes certain expenses and credits that are not allocated to any of the reportable segments because the CODM does not consider these expenses and credits in evaluating the performance of the reportable segments. This category primarily includes amortization of acquisition-related intangibles, employee stock-based compensation expense, acquisition-related and other costs, and licensing gain. Acquisition-related and other costs primarily include transaction costs, purchase price adjustments for inventory, certain compensation charges, contract termination and workforce rebalancing charges.

The following table provides a summary of net revenue and operating income (loss) by segment for 2023, 2022 and 2021.

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Net revenue:			
Data Center	$ 6,496	$ 6,043	$ 3,694
Client	4,651	6,201	6,887
Gaming	6,212	6,805	5,607
Embedded	5,321	4,552	246
Total net revenue	$ 22,680	$ 23,601	$ 16,434
Operating income (loss):			
Data Center	$ 1,267	$ 1,848	$ 991
Client	(46)	1,190	2,088
Gaming	971	953	934
Embedded	2,628	2,252	44
All Other	(4,419)	(4,979)	(409)
Total operating income	$ 401	$ 1,264	$ 3,648

The following table provides items included in All Other category:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Operating loss:			
Stock-based compensation expense	$ 1,384	$ 1,081	$ 379
Acquisition-related and other costs	258	452	42
Amortization of acquisition-related intangibles	2,811	3,548	—
Licensing gain	(34)	(102)	(12)
Total operating loss	$ 4,419	$ 4,979	$ 409

The Company does not discretely allocate assets to its operating segments, nor does management evaluate operating segments using discrete asset information.

The following table summarizes sales to external customers by geographic regions based on billing location of the customer:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
United States	$ 7,837	$ 8,049	$ 4,656
Japan	4,629	4,177	2,381
China (including Hong Kong)	3,417	5,207	4,096
Singapore	2,231	1,380	1,389
Europe	2,030	1,773	1,249
Taiwan	1,841	2,369	2,091
Other countries	695	646	572
Total sales to external customers	$ 22,680	$ 23,601	$ 16,434

The following table summarizes sales to major customers that accounted for at least 10% of the Company's consolidated net revenue for the respective years:

		Year Ended		
	Segment	December 30, 2023	December 31, 2022	December 25, 2021
Customer A	Gaming	18 %	16 %	14 %
Customer B	Client	*	*	11 %

* Less than 10%

The following table summarizes Property and equipment, net by geographic areas:

	December 30, 2023	December 31, 2022
	(In millions)	
United States	$ 1,143	$ 1,102
Singapore	144	132
India	86	67
Canada	84	80
Ireland	46	48
China	42	42
Other countries	44	42
Total property and equipment, net	$ 1,589	$ 1,513

NOTE 5 – Business Combinations

Fiscal Year 2023 Acquisitions

During the year ended December 30, 2023, the Company completed business acquisitions for a total consideration of $134 million that resulted in the recognition of $49 million of identifiable net assets and $85 million of goodwill. The financial results of these acquired businesses, which were not material, were included in the Company's Consolidated Statements of Operations from their respective dates of acquisition under the Data Center, Client and Embedded segments.

Fiscal Year 2022 Acquisitions

Pensando Acquisition

On May 26, 2022 (Pensando Acquisition Date), the Company completed the acquisition of all issued and outstanding shares of Pensando, a leader in next-generation distributed computing, for a transaction valued at approximately $1.9 billion. The recorded purchase consideration of $1.7 billion is net of deferred cash compensation requiring future services and other customary closing adjustments. The acquisition of Pensando and its leading distributed services platform expands the Company's ability to offer leadership solutions for cloud, enterprise, and edge customers.

The purchase consideration was allocated as follows:

	(In millions)
Cash and cash equivalents	$ 111
Accounts receivable	31
Inventory	66
Prepaid expenses and other current assets	43
Property and equipment	11
Deferred tax assets	22
Acquisition-related intangibles	349
Total Assets	**633**
Accounts payable	15
Accrued and other liabilities	61
Total Liabilities	**76**
Fair value of net assets acquired	557
Goodwill	1,098
Total purchase consideration	**$ 1,655**

The Company allocated the purchase price to tangible and identified intangible assets acquired and liabilities assumed based on the estimates of their fair values, which were determined using generally accepted valuation techniques based on estimates and assumptions made by management. Goodwill arising from the Pensando acquisition was assigned to the Company's Data Center segment. Goodwill was primarily attributed to expanded market opportunities expected to be achieved from the integration of Pensando. Goodwill is not expected to be deductible for income tax purposes.

Following are details of the purchase consideration allocated to acquired intangible assets:

	Fair Value	Weighted-average estimated useful life
	(In millions)	(In years)
Developed technology [1]	$ 60	4 years
Customer relationships [2]	34	3 years
Customer backlog [3]	16	1 year
Product trademarks [4]	19	5 years
Identified intangible assets subject to amortization	129	
In-process research and development (IPR&D) not subject to amortization [5]	220	N/A
Total identified intangible assets acquired	$ 349	

1. The fair value of developed technology was determined using the income approach, specifically the multi-period excess earnings method.
2. Customer relationships represent the fair value of existing contractual relationships and customer loyalty determined based on existing relationships using the income approach, specifically the with and without method.
3. Customer backlog represents the fair value of non-cancellable customer contract orders using the income approach, specifically the multi-period excess earnings method.
4. Product trademarks primarily relate to the Pensando product-related trademarks, and the fair value was determined by applying the income approach, specifically the relief from royalty method.
5. The fair value of IPR&D was determined using the income approach, specifically the multi-period excess earnings method.

The fair value of the identified intangible assets subject to amortization are amortized over the assets' estimated useful lives based on the pattern in which the economic benefits are expected to be received to cost of sales and operating expenses.

IPR&D consists of projects that have not yet reached technological feasibility as of the acquisition date. Accordingly, the Company recorded an indefinite-lived intangible asset of $220 million for the fair value of these projects, which will initially not be amortized. Instead, these projects will be tested for impairment annually and whenever events or changes in circumstances indicate that these projects may be impaired. Once the project reaches technological feasibility, the Company will begin to amortize the intangible assets over their estimated useful lives.

From the Pensando Acquisition Date to December 30, 2023, the Consolidated Statements of Operations include immaterial revenue and operating results attributable to Pensando, which are reported under the Data Center segment.

In 2023 and 2022, Pensando acquisition-related costs of $190 million and $102 million was recorded under Cost of sales, Research and development, and Marketing, general and administrative expenses on the Company's Consolidated Statements of Operations. Acquisition-related costs are primarily comprised of direct transaction costs, fair value adjustments for acquired inventory and certain compensation charges.

Xilinx Acquisition

On February 14, 2022 (Xilinx Acquisition Date), the Company completed the acquisition of all issued and outstanding shares of Xilinx, a leading provider of adaptive computing solutions, for a total purchase consideration of $48.8 billion ($46.4 billion, net of cash acquired of $2.4 billion). The acquisition of Xilinx expands the Company's product portfolio to include adaptable hardware platforms that enable hardware acceleration and rapid innovation across a variety of technologies. With the acquisition of Xilinx, the Company now offers FPGAs, Adaptive SoC products and ACAP products. The purchase consideration consisted of $48.5 billion of fair value of 429 million shares of the Company's common stock issued to Xilinx stockholders and $275 million of fair value of replacement equity awards attributable to services rendered pre-combination. As the transaction closed prior to the opening of markets on the Xilinx Acquisition Date, the fair value of the common stock issued to Xilinx stockholders was based on the closing price of the Company's common stock on February 11, 2022 of $113.18 per share.

The financial results of Xilinx are included in the Company's consolidated financial statements from the Xilinx Acquisition Date to December 30, 2023 and are reported under the Embedded and Data Center segments.

The purchase consideration was allocated as follows:

	(In millions)
Cash and cash equivalents	$ 2,366
Short-term investments	1,582
Accounts receivable	299
Inventories	539
Prepaid expenses and other current assets	61
Property and equipment	692
Operating lease right-of-use assets	61
Acquisition-related intangibles	27,308
Deferred tax assets	15
Other non-current assets	418
Total Assets	**33,341**
Accounts payable	116
Accrued liabilities	634
Other current liabilities	185
Long-term debt	1,474
Long-term operating lease liabilities	45
Deferred tax liabilities	4,346
Other long-term liabilities	532
Total Liabilities	**7,332**
Fair value of net assets acquired	26,009
Goodwill	22,784
Total purchase consideration	**$ 48,793**

The Company allocated the purchase price to tangible and identified intangible assets acquired and liabilities assumed based on the estimates of their fair values, which were determined using generally accepted valuation techniques based on estimates and assumptions made by management. Goodwill arising from the acquisition of Xilinx was assigned to the Embedded and Data Center segments. Goodwill was primarily attributed to increased synergies expected to be achieved from the integration of Xilinx. Goodwill is not expected to be deductible for income tax purposes.

Following are details of the purchase consideration allocated to acquired intangible assets:

	Fair Value	Weighted-average estimated useful life
	(In millions)	(In years)
Developed technology [1]	$ 12,295	16 years
Customer relationships [2]	12,290	14 years
Customer backlog [3]	793	1 year
Corporate trade name [4]	65	1 year
Product trademarks [4]	895	12 years
Identified intangible assets subject to amortization	26,338	
In-process research and development (IPR&D) not subject to amortization [5]	970	N/A
Total identified intangible assets acquired	$ 27,308	

1. The fair value of developed technology was determined using the income approach, specifically, the multi-period excess earnings method.
2. Customer relationships represent the fair value of existing contractual relationships and customer loyalty determined based on existing relationships using the income approach, specifically the with and without method.
3. Customer backlog represents the fair value of non-cancellable customer contract orders using the income approach, specifically the multi-period excess earnings method.
4. Corporate trade name and product trademarks primarily relate to the Xilinx brand and product-related trademarks, respectively, and the fair values were determined by applying the income approach, specifically the relief from royalty method.
5. The fair value of IPR&D was determined using the income approach, specifically the multi-period excess earnings method.

The fair value of the identified intangible assets subject to amortization are amortized over the assets' estimated useful lives based on the pattern in which the economic benefits are expected to be received to cost of sales and operating expenses.

IPR&D consists of projects that have not yet reached technological feasibility as of the acquisition date. Accordingly, the Company recorded an indefinite-lived intangible asset of $970 million for the fair value of these projects, which were initially not amortized. In the fourth quarter of 2023, these IPR&D assets reached technological feasibility and were reclassified as developed technology, and began amortization over their estimated useful lives of 15 years.

The Company also assumed unvested restricted stock units with estimated fair value of $1.2 billion, of which $275 million was included as a component of the purchase consideration and $951 million will be recognized as expense subsequent to the acquisition.

The Consolidated Statements of Operations include the following revenue and operating income attributable to Xilinx in 2022:

	2022
	(In millions)
Net revenue	$ 4,612
Operating income	$ 2,247

Operating income attributable to Xilinx recorded under the Embedded and Data Center segments does not include $4.2 billion of amortization of acquisition-related intangibles, employee stock-based compensation expense and acquisition-related costs, which are recorded under the "All Other" segment.

In 2023 and 2022, Xilinx acquisition-related costs of $26 million and $350 million were recorded under Cost of sales, Research and development, and Marketing, general and administrative expenses on the Company's Consolidated Statements of Operations. Acquisition-related costs are primarily comprised of direct transaction costs, fair value adjustments for acquired inventory and certain compensation charges.

Supplemental Unaudited Pro Forma Information

Following are the supplemental consolidated financial results of the Company, Xilinx and Pensando on an unaudited pro forma basis, as if the acquisitions had been consummated as of the beginning of the fiscal year 2021 (i.e., December 27, 2020).

	December 31, 2022	December 25, 2021
	(in millions)	
Net revenue	$ 24,117	$ 20,150
Net income	$ 2,311	$ 8

The Company's fiscal year ends on the last Saturday in December of each year, Xilinx's fiscal year ended on the Saturday nearest March 31 of each year and Pensando's fiscal year ended on January 31 of each year. The unaudited pro forma information above is presented on the basis of the Company's fiscal year and combines the historical results of the fiscal periods of the Company with the following historical results of Xilinx and Pensando: the twelve months ended December 31, 2022 includes Xilinx results for the twelve-month period beginning January 2, 2022 through December 31, 2022 and Pensando results for the twelve-month period beginning January 1, 2022 through December 31, 2022; and the twelve months ended December 25, 2021 includes Xilinx results for the twelve months ended January 1, 2022 and Pensando results for the twelve months ended December 31, 2021.

The unaudited pro forma financial information presented is for informational purposes only and is not necessarily indicative of the results of operations that would have been achieved if the Xilinx and Pensando acquisitions were completed at the beginning of fiscal year 2021 and are not indicative of the future operating results of the combined company. The pro forma results include adjustments related to purchase accounting, primarily amortization of acquisition-related intangible assets, fixed asset depreciation expense and expense from assumed stock-based compensation awards. The pro forma results also include amortization expense of acquired Xilinx inventory fair value step-up of $184 million in fiscal year 2021 and no Xilinx inventory fair value step-up expense in fiscal year 2022.

NOTE 6 – Acquisition-related Intangible Assets and Goodwill

Acquisition-related Intangible Assets

Acquisition-related intangibles as of December 30, 2023 and December 31, 2022 were as follows:

	December 30, 2023			December 31, 2022		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		(In millions)			(In millions)	
Developed technology	$ 13,390	$ (1,583)	$ 11,807	$ 12,360	$ (738)	$ 11,622
Customer relationships	12,324	(3,755)	8,569	12,324	(1,973)	10,351
Customer backlog	809	(809)	—	809	(712)	97
Corporate trade name	65	(65)	—	65	(57)	8
Product trademarks	914	(147)	767	914	(68)	846
Identified intangible assets subject to amortization	27,502	(6,359)	21,143	26,472	(3,548)	22,924
IPR&D not subject to amortization	220	—	220	1,194	—	1,194
Total acquisition-related intangible assets	$ 27,722	$ (6,359)	$ 21,363	$ 27,666	$ (3,548)	$ 24,118

Acquisition-related intangible amortization expense was $2.8 billion and $3.5 billion in fiscal year 2023 and 2022, respectively. In the fourth quarter of 2023, $970 million of IPR&D intangible assets acquired from Xilinx reached technological feasibility and were reclassified as developed technology, and began amortization over their estimated useful lives.

Based on the carrying value of acquisition-related intangibles recorded as of December 30, 2023, and assuming no subsequent impairment of the underlying assets, the estimated annual amortization expense for acquisition-related intangibles is expected to be as follows:

Fiscal Year	(In millions)
2024	$ 2,371
2025	2,145
2026	2,034
2027	1,922
2028	1,846
2029 and thereafter	10,825
Total	$ 21,143

Goodwill

The carrying amount of goodwill as of December 30, 2023 and December 31, 2022 was $24.3 billion and $24.2 billion, respectively, and was assigned to reporting units within the following reportable segments:

	December 25, 2021	Acquisitions	Adjustments and Reassignment due to segment change*	December 31, 2022	Acquisitions	December 30, 2023
		(In millions)			(In millions)	
Reportable segments before segment change:						
Enterprise, Embedded and Semi-Custom	$ 289	$ —	$ (289)	$ —	$ —	$ —
Xilinx	—	22,794	(22,794)	—	—	—
Reportable segments after segment change:						
Data Center	—	1,094	1,790	2,884	58	2,942
Client	—	—	—	—	18	18
Gaming	—	—	238	238	—	238
Embedded	—	—	21,055	21,055	9	21,064
Total	$ 289	$ 23,888	$ —	$ 24,177	$ 85	$ 24,262

*In the second quarter of fiscal year 2022, the Company reassigned goodwill balances among the updated reportable segments to reflect changes in its segment reporting structure.

During the fourth quarter of fiscal years 2023 and 2022, the Company conducted its annual qualitative impairment tests of goodwill and concluded that there was no goodwill impairment with respect to its reporting units.

NOTE 7 – Related Parties—Equity Joint Ventures

ATMP Joint Ventures

The Company holds a 15% equity interest in two joint ventures (collectively, the ATMP JV) with affiliates of Tongfu Microelectronics Co., Ltd, a Chinese joint stock company. The Company has no obligation to fund the ATMP JV. The Company accounts for its equity interests in the ATMP JV under the equity method of accounting due to its significant influence over the ATMP JV.

The ATMP JV provides assembly, test, mark and packaging (ATMP) services to the Company. The Company assists the ATMP JV in its management of certain raw material inventory. The purchases from and resales to the ATMP JV of inventory under the Company's inventory management program are reported within purchases and resales with the ATMP JV and do not impact the Company's consolidated statement of operations.

The Company's purchases from the ATMP JV during 2023 and 2022 both amounted to $1.7 billion. As of December 30, 2023 and December 31, 2022, the amounts payable to the ATMP JV were $363 million and $463 million, respectively, and are included in Payables to related parties on the Company's consolidated balance sheets. The Company's resales to the ATMP JV during 2023 and 2022 amounted to $14 million and $15 million, respectively. As of December 30, 2023 and December 31, 2022, the Company had receivables from ATMP JV of $9 million and $2 million, respectively, included in Receivables from related parties on the Company's consolidated balance sheets.

During 2023, 2022 and 2021, the Company recorded gains of $16 million, $14 million and $6 million in Equity income in investee on its consolidated statement of operations, respectively. As of December 30, 2023 and December 31, 2022, the carrying value of the Company's investment in the ATMP JV was approximately $99 million and $83 million, respectively.

THATIC Joint Ventures

The Company holds equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. As of December 30, 2023 and December 31, 2022, the carrying value of the investment was zero.

In February 2016, the Company licensed certain of its intellectual property (Licensed IP) to the THATIC JV, payable over several years upon achievement of certain milestones. The Company also receives a royalty based on the sales of the THATIC JV's products developed on the basis of such Licensed IP. The Company classifies Licensed IP and royalty income associated with the February 2016 agreement as Licensing gain within operating income. During 2023 and 2022, the Company recognized $34 million of licensing gain from royalty income and $102 million of licensing gain from a milestone achievement and royalty income under the agreement, respectively. As of December 30, 2023 and December 31, 2022, the Company had no receivables from the THATIC JV.

In June 2019, the Bureau of Industry and Security of the United States Department of Commerce added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. The Company is complying with U.S. law pertaining to the Entity List designation.

NOTE 8 – Debt and Revolving Credit Facility

Debt

The Company's total debt as of December 30, 2023 and December 31, 2022 consisted of:

	December 30, 2023	December 31, 2022
	(In millions)	
2.950% Senior Notes Due 2024 (2.950% Notes)	$ 750	$ 750
2.125% Convertible Senior Notes Due 2026 (2.125% Notes)	—	1
2.375% Senior Notes Due 2030 (2.375% Notes)	750	750
3.924% Senior Notes Due 2032 (3.924% Notes)	500	500
4.393% Senior Notes Due 2052 (4.393% Notes)	500	500
Total debt (principal amount)	2,500	2,501
Unamortized debt premium, discount and issuance costs, net	(32)	(34)
Total debt (net)	2,468	2,467
Less: current portion of long-term debt and related unamortized debt premium and issuance costs	751	—
Total long-term debt	$ 1,717	$ 2,467

Assumed Xilinx Notes

In connection with the acquisition of Xilinx, the Company assumed $1.5 billion in aggregate principal of Xilinx's 2.950% Notes and 2.375% Notes (together, the *Assumed Xilinx Notes*) which were recorded at fair value as of the Xilinx Acquisition Date. The Assumed Xilinx Notes are general unsecured senior obligations of the Company with semi-annual fixed interest payments due on June 1 and December 1.

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3.924% Senior Notes Due 2032 and 4.393% Senior Notes Due 2052

On June 9, 2022, the Company issued $1.0 billion in aggregate principal amount of 3.924% Notes and 4.393% Notes. The 3.924% Notes and 4.393% Notes are general unsecured senior obligations of the Company. The interest is payable semi-annually on June 1 and December 1 of each year, commencing on December 1, 2022. The 3.924% and 4.393% Notes are governed by the terms of an indenture dated June 9, 2022 between the Company and US Bank Trust Company, National Association as trustee.

The Company may redeem some or all of the 3.924% Notes and 4.393% Notes prior to March 1, 2032 and December 1, 2051, respectively, at a price equal to the greater of the present value of the principal amount and future interest through the maturity of the 3.924% Notes or 4.393% Notes or 100% of the principal amount plus accrued and unpaid interest. Holders have the right to require the Company to repurchase all or a portion of the 3.924% Notes or 4.393% Notes in the event that the Company undergoes a change of control as defined in the indenture, at a repurchase price of 101% of the principal amount plus accrued and unpaid interest. Additionally, an event of default may result in the acceleration of the maturity of the 3.924% Notes and 4.393% Notes.

Future Payments on Total Debt

As of December 30, 2023, the Company's future debt payment obligations were as follows:

Year	Term Debt (Principal only)
	(In millions)
2024	$ 750
2025 - 2028	—
2029 and thereafter	1,750
Total	$ 2,500

Revolving Credit Facility

The Company has $3.0 billion available under a revolving credit agreement, as amended, that expires on April 29, 2027 (Revolving Credit Agreement). As of December 30, 2023 and December 31, 2022, the Company had no outstanding borrowings under the Revolving Credit Agreement. Revolving loans under the Revolving Credit Agreement can be either Secure Overnight Financing Rate (SOFR) Loans or Base Rate Loans (each as defined in the Revolving Credit Agreement) at the Company's option. Each SOFR Loan will bear interest at a rate per annum equal to the applicable SOFR plus a margin between 0.575% and 1.20%. Each Base Rate Loan will bear interest equal to the Base Rate plus a margin between 0.000% and 0.20%. The Revolving Credit Agreement also contains a sustainability-linked pricing component which provides for interest rate and facility fee reductions or increases based on the Company meeting or missing targets related to environmental sustainability, specifically greenhouse gas emissions. The Revolving Credit Agreement contains customary representations and warranties, affirmative and negative covenants, and events of default applicable to the Company and its subsidiaries. As of December 30, 2023, the Company was in compliance with these covenants.

Commercial Paper

On November 3, 2022, the Company established a commercial paper program, under which the Company may issue unsecured commercial paper notes up to a maximum principal amount outstanding at any time of $3 billion with a maturity of up to 397 days from the date of issue. The commercial paper will be sold at a discount from par or, alternatively, will be sold at par and bear interest at rates that will vary based on market conditions at the time of issuance. During 2023 and 2022, the Company did not issue any commercial paper under the program and as of December 30, 2023, the Company had no commercial paper outstanding.

NOTE 9 – Financial Instruments

Financial Instruments Recorded at Fair Value on a Recurring Basis

	December 30, 2023			December 31, 2022		
(In millions)	Level 1	Level 2	Total	Level 1	Level 2	Total
Cash equivalents						
Money market funds	$ 969	$ —	$ 969	$ 3,017	$ —	$ 3,017
Corporate debt securities	—	753	753	—	224	224
U.S. government and agency securities	1,252	—	1,252	—	—	—
Non-U.S. government and agency securities	—	135	135	—	—	—
Time deposits and certificates of deposits	—	205	205	—	158	158
Short-term investments						
Corporate debt securities	—	506	506	—	441	441
Time deposits and certificates of deposits	—	9	9	—	—	—
Asset-backed and mortgage-backed securities	—	34	34	—	39	39
U.S. government and agency securities	1,209	28	1,237	466	—	466
Non-U.S. government and agency securities	—	54	54	—	74	74
Other non-current assets						
Time deposits and certificates of deposits	—	1	1	—	9	9
Equity investments	—	—	—	8	—	8
Deferred compensation plan investments	133	—	133	90	—	90
Total assets measured at fair value	$ 3,563	$ 1,725	$ 5,288	$ 3,581	$ 945	$ 4,526

The Company did not have any financial instruments measured at fair value on a recurring basis within Level 3 fair value measurements as of December 30, 2023 or December 31, 2022.

Deferred compensation plan investments are primarily mutual fund investments held in a Rabbi trust established to maintain the Company's executive deferred compensation plan.

The following is a summary of cash equivalents and short-term investments:

	December 30, 2023				December 31, 2022			
	Cost/ Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Cost/ Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
	(in millions)				(in millions)			
Asset-backed and mortgage-backed securities	$ 35	$ —	$ (2)	$ 33	$ 42	$ —	$ (3)	$ 39
Corporate debt securities	1,259	—	—	1,259	669	—	(4)	665
Money market funds	969	—	—	969	3,017	—	—	3,017
Time deposits and certificates of deposits	214	—	—	214	159	—	—	159
U.S. government and agency securities	2,487	3	—	2,490	471	—	(5)	466
Non-U.S. government and agency securities	189	—	—	189	74	—	—	74
	$ 5,153	$ 3	$ (2)	$ 5,154	$ 4,432	$ —	$ (12)	$ 4,420

As of December 30, 2023 and December 31, 2022, the Company did not have material available-for-sale debt securities which had been in a continuous unrealized loss position of more than twelve months.

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The contractual maturities of investments classified as available-for-sale are as follows:

	December 30, 2023		December 31, 2022	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
	(In millions)		(In millions)	
Due within 1 year	$ 3,792	$ 3,792	$ 1,224	$ 1,218
Due in 1 year through 5 years	361	364	159	156
Due in 5 years and later	32	30	41	38
	$ 4,185	$ 4,186	$ 1,424	$ 1,412

Financial Instruments Measured at Fair Value on a Non-Recurring Basis

As of December 30, 2023 and December 31, 2022, the Company had non-marketable securities in privately-held companies of $155 million and $137 million, respectively.

Financial Instruments Not Recorded at Fair Value

The carrying amounts and estimated fair values of the Company's long-term debt are as follows:

	December 30, 2023		December 31, 2022	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
	(In millions)		(In millions)	
Current portion of long-term debt, net	$ 751	$ 741	$ —	$ —
Long-term debt, net of current portion	$ 1,717	$ 1,630	$ 2,467	$ 2,281

The estimated fair value of the Company's long-term debt is based on Level 2 inputs of quoted prices for the Company's debt and comparable instruments in inactive markets.

The fair value of the Company's accounts receivable, accounts payable and other short-term obligations approximate their carrying value based on existing terms.

Hedging Transactions and Derivative Financial Instruments

Foreign Currency Forward Contracts Designated as Accounting Hedges

The Company enters into foreign currency forward contracts to hedge its exposure to foreign currency exchange rate risk related to future forecasted transactions denominated in currencies other than the U.S. Dollar. These contracts generally mature within 24 months and are designated as accounting hedges. As of December 30, 2023 and December 31, 2022, the notional value of the Company's outstanding foreign currency forward contracts designated as cash flow hedges was $2.4 billion and $1.9 billion, respectively. The fair value of these contracts was recorded as an asset of $6 million as of December 30, 2023 and as a liability of $27 million as of December 31, 2022.

Foreign Currency Forward Contracts Not Designated as Accounting Hedges

The Company also enters into foreign currency forward contracts to reduce the short-term effects of foreign currency fluctuations on certain receivables or payables denominated in currencies other than the U.S. Dollar. These forward contracts generally mature within 3 months and are not designated as accounting hedges. As of December 30, 2023 and December 31, 2022, the notional value of these outstanding contracts was $568 million and $485 million, respectively. The fair value of these contracts was not material as of December 30, 2023 and December 31, 2022.

The cash flows associated with derivative instruments as cash flow hedging instruments are classified in the same category in the Consolidated Statement of Cash Flows as the cash flows of the related items.

NOTE 10 – Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of investments in time deposits, available-for-sale debt securities, equity investments and trade receivables.

The Company places its investments with high credit quality financial institutions. At the time an investment is made, investments in commercial paper of industrial firms and financial institutions are rated A1, P1, F1 or better. The Company invests in bonds that are rated A, A2 or better and repurchase agreements, each of which have securities of the type and quality listed above as collateral.

The Company believes that concentrations of credit risk with respect to trade receivables are limited because a large number of geographically diverse customers make up the Company's customer base, thus diluting the trade credit risk. One customer accounted for approximately 13% and 18% of the total consolidated accounts receivable balance as of December 30, 2023 and December 31, 2022, respectively. However, the Company does not believe the receivable balance from this customer represents a significant credit risk based on past collection experience and review of their current credit quality.

The Company is exposed to credit losses from nonperformance by counterparties on foreign currency hedge contracts. These counterparties are large global institutions, and to date, no such counterparty has failed to meet its financial obligations to the Company.

NOTE 11 – Earnings Per Share

Basic earnings per share is computed based on the weighted-average number of shares outstanding.

Diluted earnings per share is computed based on the weighted-average number of shares outstanding plus potentially dilutive shares outstanding during the period. Potentially dilutive shares are determined by applying the treasury stock method to the Company's stock options, RSUs (including PRSUs), common stock to be issued under the ESPP and warrants.

The following table sets forth the components of basic and diluted earnings per share:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions, except per share amounts)		
Numerator			
Net income for basic earnings per share	$ 854	$ 1,320	$ 3,162
Denominator			
Basic weighted-average shares	1,614	1,561	1,213
Effect of potentially dilutive shares from employee equity plans and warrants	11	10	16
Diluted weighted-average shares	1,625	1,571	1,229
Earnings per share:			
Basic	$ 0.53	$ 0.85	$ 2.61
Diluted	$ 0.53	$ 0.84	$ 2.57

Potential shares from employee equity plans totaling 6 million, 16 million and 2 million weighted-average shares for 2023, 2022 and 2021, respectively, were not included in the earnings per share calculation because their inclusion would have been anti-dilutive.

NOTE 12 – Common Stock and Stock-Based Compensation

Common Stock

Shares of common stock outstanding were as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Balance, beginning of period	1,612	1,207	1,211
Common stock issued in the acquisition of Xilinx	—	429	—
Common stock issued under employee equity plans	17	17	12
Repurchases of common stock	(10)	(36)	(17)
Common stock repurchases for tax withholding on equity awards	(4)	(5)	(2)
Issuance of common stock upon warrant exercise	1	—	—
Issuance of common stock to settle convertible debt	—	—	3
Balance, end of period	1,616	1,612	1,207

Stock Repurchase Program

The Company has an approved stock repurchase program authorizing repurchases of up to $12 billion of the Company's common stock (Repurchase Program). During the year ended December 30, 2023, the Company repurchased 9.7 million shares of its common stock under the Repurchase Program for $985 million. As of December 30, 2023, $5.6 billion remained available for future stock repurchases under this program. This Repurchase Program does not obligate the Company to acquire any common stock, has no termination date and may be suspended or discontinued at any time.

Stock-Based Compensation

The Company's employee equity programs are intended to attract, retain and motivate highly qualified employees. On May 18, 2023, the Company's stockholders approved the AMD 2023 Equity Incentive Plan (the 2023 Plan), which supersedes the AMD 2004 Equity Incentive Plan and the Xilinx, Inc. 2007 Equity Incentive Plan (the Prior Plans). Outstanding awards granted under the Prior Plans will continue to be governed by the terms of the Prior Plans but no awards may be made under the Prior Plans on or after May 18, 2023. Under the 2023 Plan, 87,645,874 shares of the Company's common stock are reserved and available for delivery pursuant to awards granted under the 2023 Plan. Generally, stock options granted under the 2023 Plan vest and become exercisable over a four-year period from the date of grant and expire within seven years after the grant date. Unvested shares from the 2023 Plan that are reacquired by the Company from forfeited outstanding equity awards become available for grant and may be reissued as new awards. Under the 2023 Plan, the Company can grant (i) stock options, and (ii) RSUs, including time-based RSUs and PRSUs.

Stock Options. Under the 2023 Plan, nonstatutory and incentive stock options may be granted. The exercise price of the shares subject to each nonstatutory stock option and incentive stock option cannot be less than 100% of the fair market value of the Company's common stock on the date of the grant. The exercise price of each option granted under the 2023 Plan must be paid in full at the time of the exercise.

Time-based RSUs. Time-based RSUs are awards that can be granted to any employee, director or consultant and that obligate the Company to issue a specific number of shares of the Company's common stock in the future if the vesting terms and conditions are satisfied.

PRSUs. PRSUs can be granted to certain of the Company's senior executives. The performance metrics can be financial performance, non-financial performance and/or market conditions. Each PRSU award reflects a target number of shares (Target Shares) that may be issued to an award recipient before adjusting based on the Company's financial performance, non-financial performance and/or market conditions. The actual number of shares that a grant recipient receives at the end of the period may range from 0% to 250% of the Target Shares granted, depending upon the degree of achievement of the performance target designated by each individual award.

ESPP. Under the 2017 Plan, eligible employees who participate in an offering period may have up to 15% of their eligible earnings withheld, up to certain limitations, to purchase shares of common stock at 85% of the lower of the fair market value on the first or the last business day of the six-month offering period. The offering periods commence in May and November each year.

As of December 30, 2023, the Company had 74 million shares of common stock that were available for future grants and 37 million shares reserved for issuance upon the exercise of outstanding stock options or the vesting of unvested RSUs, including PRSUs, under the 2023 Plan and the Prior Plans.

Valuation and Expense

Stock-based compensation expense was allocated in the consolidated statements of operations as follows:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Cost of sales	$ 30	$ 29	$ 5
Research and development	1,002	697	246
Marketing, general, and administrative	352	355	128
Total stock-based compensation expense before income taxes	1,384	1,081	379
Income tax benefit	(249)	(179)	(58)
Total stock-based compensation expense, net of income taxes	$ 1,135	$ 902	$ 321

Stock Options. The weighted-average estimated fair value of employee stock options granted during 2023, 2022 and 2021 was $53.72, $44.35 and $46.07 per share, respectively, using the following assumptions:

	December 30, 2023	December 31, 2022	December 25, 2021
Expected volatility	52.36% - 52.42%	51.28 %	51.77 %
Risk-free interest rate	3.93% - 4.11%	3.00 %	0.69 %
Expected dividends	— %	— %	— %
Expected life (in years)	4.96 - 5.04	4.75	4.55

The Company uses a combination of the historical volatility of its common stock and the implied volatility for publicly traded options on the Company's common stock as the expected volatility assumption. The risk-free interest rate is based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the option grant at the date closest to the option grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of employee stock options represents the weighted-average period the stock options are expected to remain outstanding.

The following table summarizes stock option activity and related information:

	Outstanding Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Life (in years)
	(In millions, except share price)			
Balance as of December 31, 2022	4	$ 42.35		
Granted	1	$ 108.19		
Canceled	—	$ 98.54		
Exercised	(2)	$ 18.22		
Balance as of December 30, 2023	3	$ 68.33	$ 205	3.87
Exercisable December 30, 2023	2	$ 49.54	$ 164	2.73

The total intrinsic value of stock options exercised for 2023, 2022 and 2021 was $173 million, $139 million and $277 million, respectively. As of December 30, 2023, the Company had $38 million of total unrecognized compensation expense related to stock options, which will be recognized over the weighted-average period of 2.87 years.

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Time-based RSUs. The weighted-average grant date fair values of time-based RSUs granted during 2023, 2022 and 2021 were $106.28, $92.92 and $78.59 per share, respectively.

The following table summarizes time-based RSU activity and related information:

	Number of Shares	Weighted- Average Grant Date Fair Value
	(In millions)	
Unvested shares as of December 31, 2022	28	$ 95.49
Granted	16	$ 106.28
Forfeited	(2)	$ 99.48
Vested	(10)	$ 99.83
Unvested shares as of December 30, 2023	32	$ 100.65

The total fair value of time-based RSUs vested during 2023, 2022 and 2021 was $1.1 billion, $889 million and $678 million, respectively. As of December 30, 2023, the Company had $2.3 billion of total unrecognized compensation expense related to time-based RSUs, which will be recognized over the weighted-average period of 2.59 years.

PRSUs. The weighted-average grant date fair values of PRSUs granted during 2023, 2022 and 2021 were $134.87, $121.12 and $153.89, respectively, using the following assumptions:

	December 30, 2023	December 31, 2022	December 25, 2021
Expected volatility	51.12% - 56.22%	50.65% - 53.51%	57.75 %
Risk-free interest rate	4.30% - 4.36%	1.14% - 3.17%	0.43 %
Expected dividends	— %	— %	— %
Expected term (in years)	2.17 - 3.00	2.07 - 3.07	3.00

The Company uses the historical volatility of its common stock and risk-free interest rate based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the PRSUs grant at the date closest to the grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of PRSUs represents the requisite service periods of these PRSUs.

The following table summarizes PRSU activity and related information:

	Number of Shares	Weighted-Average Grant Date Fair Value
	(In millions)	
Unvested shares as of December 31, 2022	2	$ 110.31
Granted	1	$ 134.87
Forfeited	—	$ 134.53
Vested	(1)	$ 129.78
Unvested shares as of December 30, 2023	2	$ 117.65

The total fair value of PRSUs vested during 2023, 2022 and 2021 was $100 million, $254 million and $98 million, respectively. As of December 30, 2023, the Company had $162 million of total unrecognized compensation expense related to PRSUs, which will be recognized over the weighted-average period of 1.64 years.

ESPP. The weighted-average grant date fair value for the ESPP during 2023, 2022 and 2021 was $31.11, $24.71 and $27.27 per share, respectively, using the following assumptions:

	December 30, 2023	December 31, 2022	December 25, 2021
Expected volatility	45.74% - 49.40%	58.15% - 63.76%	36.90% - 39.39%
Risk-free interest rate	5.13% - 5.46%	1.43% - 4.52%	0.04% - 0.07%
Expected dividends	— %	— %	— %
Expected term (in years)	0.50	0.50	0.50

The Company uses the historical volatility of its common stock and the risk-free interest rate based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the ESPP grant at the date closest to the ESPP grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of the ESPP represents the six-month offering period.

During 2023, 4 million shares of common stock were purchased under the ESPP at a purchase price of $67.13 resulting in aggregate cash proceeds of $240 million. As of December 30, 2023, the Company had $36 million of total unrecognized compensation expense related to the ESPP, which will be recognized over the weighted-average period of 0.36 years.

Xilinx Replacement Awards

In connection with the acquisition of Xilinx, the Company issued equity awards as replacement for assumed equity awards to Xilinx employees. The replacement awards include restricted stock units of approximately 12 million shares with a weighted average fair value of $103.35 per share and have terms that are substantially the same as the assumed Xilinx awards. The fair value of replacement awards related to services rendered up to the Xilinx Acquisition Date was recognized as a component of the total purchase consideration while the remaining fair value of replacement awards attributable to post-combination services is being recognized as stock-based compensation expense over the remaining post-acquisition vesting period.

NOTE 13 – Retirement Benefit Plans

The Company provides retirement benefit plans in the United States and certain foreign countries. The Company has a 401(k) retirement plan that allows participating employees in the United States to contribute as defined by the plan and subject to Internal Revenue Service limitations. The Company matches 75% of employees' contributions up to 6% of their eligible compensation. The Company's contributions to the 401(k) plan for 2023, 2022 and 2021 were approximately $70 million, $47 million and $35 million, respectively.

NOTE 14 – Income Taxes

Income before income taxes consists of the following:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
U.S.	$ 454	$ 2,093	$ 3,528
Non-U.S.	54	(895)	147
Total pre-tax income including equity income in investee	$ 508	$ 1,198	$ 3,675

The income tax provision (benefit) consists of:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Current:			
U.S. federal	$ 496	$ 1,191	$ 112
U.S. state and local	27	31	11
Non-U.S.	150	161	82
Total	673	1,383	205
Deferred:			
U.S. federal	(860)	(1,365)	320
U.S. state and local	(29)	(26)	(7)
Non-U.S.	(130)	(114)	(5)
Total	(1,019)	(1,505)	308
Income tax provision (benefit)	$ (346)	$ (122)	$ 513

The table below displays the reconciliation between statutory federal income taxes and the total income tax provision (benefit).

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Statutory federal income tax expense at 21%	$ 107	$ 252	$ 772
GILTI and other foreign inclusion	(138)	(96)	—
Foreign-Derived Intangible Income (FDII) deduction	(185)	(261)	(147)
Research credits	(169)	(241)	(78)
Interest and penalty	53	33	35
Foreign rate detriment (benefit)	(11)	195	71
Stock-based and non-deductible compensation	1	10	(125)
Other	(4)	(14)	(15)
Income tax provision (benefit)	$ (346)	$ (122)	$ 513

The Company recorded an income tax benefit of $346 million and $122 million in 2023 and 2022, respectively, representing effective tax rates of (68%) and (10%), respectively. The increase in income tax benefit in 2023 was primarily due to the lower pre-tax income coupled with a $185 million FDII tax benefit and $169 million of research and development (R&D) tax credits.

Beginning in 2022, provisions in the U.S. Tax Cuts and Jobs Act of 2017 require the Company to capitalize and amortize R&D expenditures rather than deducting the costs as incurred. The capitalization resulted in an increase in 2023 and 2022 taxable income which also increased the income eligible for the FDII tax benefit.

As a part of the Xilinx acquisition and as a result of certain employment and operational commitments the Company has made in Singapore, the Company has been granted a Development and Expansion Incentive (DEI) that is effective through 2031. The DEI reduces the local tax on Singapore income from a statutory rate of 17% to 5% through 2031. Due to the current year pre-tax loss in Singapore, the Company did not receive any income tax or earnings per share benefit.

Deferred income taxes reflect the net tax effects of tax carryovers and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the balances for income tax purposes. Significant components of the Company's deferred tax assets and liabilities as of December 30, 2023 and December 31, 2022 were as follows:

	December 30, 2023	December 31, 2022
	(In millions)	
Deferred tax assets:		
Net operating loss carryovers	$ 992	$ 1,031
Accruals and reserves not currently deductible	574	835
Employee benefits not currently deductible	302	214
Federal and state tax credit carryovers	660	631
Foreign R&D and investment tax credits	597	578
Foreign tax credits	71	46
Lease liability	181	161
Capitalized R&D	1,753	943
Other	96	104
Total deferred tax assets	5,226	4,543
Less: valuation allowance	(2,124)	(2,078)
Total deferred tax assets, net of valuation allowance	3,102	2,465
Deferred tax liabilities:		
Acquired intangibles	(3,104)	(3,430)
Right-of-use assets	(175)	(151)
GILTI	(524)	(633)
Other	(135)	(127)
Total deferred tax liabilities	(3,938)	(4,341)
Net deferred tax assets (liabilities)	$ (836)	$ (1,876)

As a result of the R&D capitalization tax law that became effective in 2022, the capitalization of R&D expense amounts resulted in increased taxable income in 2023 and 2022. The capitalized R&D will be amortized and become deductible in future periods. Therefore, the Company has recorded a deferred tax asset for the capitalized R&D expenditures.

As a result of the acquisition of Xilinx in 2022, the Company recorded $4.3 billion of net deferred tax liabilities primarily on the excess of book basis over the tax basis of the acquired intangible assets, including $857 million of GILTI net deferred tax liability.

The movement in the deferred tax valuation allowance was as follows:

	December 30, 2023	December 31, 2022	December 25, 2021
		(In millions)	
Balance at beginning of year	$ 2,078	$ 1,735	$ 1,576
Charges to income tax expense and other accounts	41	112	3
Acquisition-related	5	231	—
Net recoveries[+]	—	—	156
Balance at end of year	$ 2,124	$ 2,078	$ 1,735

+ The net recoveries in 2021 were primarily related to net originating deferred tax assets and newly generated tax credits.

Through the end of fiscal year 2023, the Company continued to maintain a valuation allowance of approximately $2.1 billion for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. Certain state and foreign valuation allowance maintained is due to lack of sufficient sources of future taxable income.

The Company's U.S. federal and state net operating losses (NOLs) carryforwards as of December 30, 2023, were $295 million and $343 million, respectively. NOLs may be subject to limitations by the Internal Revenue Code and similar provisions. $46 million of U.S. federal NOLs will expire between 2024 and 2037, and $249 million of federal NOLs have no expiration date. State NOLs will expire at various dates through 2042. The difference between the amount of federal NOLs which are recorded on the Company's balance sheet as deferred tax assets and their related valuation allowance, and the amounts reported on the Company's tax returns are the result of uncertain tax positions the Company has taken during the current year and for which an income tax reserve has been recorded. The federal tax credits of $12 million will expire at various dates between 2037 and 2042. The state tax return credits of $757 million will expire at various dates between 2024 and 2039, except for the California R&D credit, which does not expire. The Company also has $624 million of credit carryforward in Canada that will expire between 2027 and 2042.

In 2022, the Company also recorded $142 million of current tax payable as of the Xilinx acquisition date. Additionally, the Company assumed $203 million of long-term liabilities for uncertain tax positions, including $12 million of interest, as well as $321 million of long-term liabilities for transition tax payable over three years. Included in the assumed liabilities for uncertain tax positions is a tax position with respect to whether stock-based compensation from Xilinx's cost sharing arrangement should be shared among cost share participants. The Company has concluded that the law was unsettled and believes the current uncertain tax position liability is sufficient and will continue to monitor developments in relevant tax court cases.

A reconciliation of the Company's gross unrecognized tax benefits was as follows:

	December 30, 2023	December 31, 2022	December 25, 2021
		(In millions)	
Balance at beginning of year	$ 1,361	$ 275	$ 119
Increases for tax positions taken in the current year	53	748	156
Increases for tax positions taken in prior years	57	104	14
Decreases for tax positions taken in prior years	(8)	(12)	(9)
Increases to tax positions taken in prior years through acquisitions	—	252	—
Decreases for settlements with taxing authorities and statute of limitation lapses	—	(6)	(5)
Balance at end of year	$ 1,463	$ 1,361	$ 275

The amount of unrecognized tax benefits that would impact the effective tax rate if recognized was $1.3 billion, $1.2 billion and $215 million as of December 30, 2023, December 31, 2022 and December 25, 2021, respectively. The Company had $142 million, $81 million and $35 million of accrued penalties and interest related to unrecognized tax benefits as of December 30, 2023, December 31, 2022 and December 25, 2021, respectively. As of December 30, 2023 and December 31, 2022, the Company had long-term income tax liabilities related to unrecognized tax benefits of $1.4 billion and $1.3 billion, respectively, recorded under Other long-term liabilities in the Consolidated Balance Sheets.

The Company is subject to taxation in the U.S. and foreign jurisdictions. Earnings from non-U.S. activities are subject to local country income tax. The material jurisdiction in which the Company is subject to potential examination by the taxing authority is the United States, where tax years from 2008 are open for audit. Pre-acquisition Xilinx U.S. tax returns for fiscal years 2018 and 2019 are currently under audit by the IRS. It is possible the Company may have tax audits close in the next 12 months that could materially change the balance of the uncertain tax benefits; however, the timing of tax audit closures and settlements are highly uncertain.

Under current U.S. tax law, the impact of future distributions of undistributed earnings that are indefinitely reinvested are anticipated to be subject to withholding taxes from local jurisdictions and non-conforming U.S. state jurisdictions. There were no cumulative undistributed earnings that are indefinitely reinvested that could be subject to withholding taxes as of December 30, 2023.

NOTE 15 – Other Income (Expense), Net

The following table summarizes the components of Other income (expense), net:

	Year Ended		
	December 30, 2023	December 31, 2022	December 25, 2021
	(In millions)		
Interest income	$ 206	$ 65	$ 8
Loss on debt redemption, repurchase and conversion	—	—	(7)
Gains (losses) on equity investments, net	(1)	(62)	56
Other income (expense)	(8)	5	(2)
Other income (expense), net	$ 197	$ 8	$ 55

NOTE 16 – Commitments and Guarantees

Operating Leases

The Company has entered into operating and finance leases for its corporate offices, data centers, research and development facilities and certain equipment. The leases expire at various dates through 2038, some of which include options to extend the lease for up to ten years.

For 2023, 2022 and 2021, the Company recorded $127 million, $118 million and $71 million, respectively, of operating lease expense, including short-term lease expense. For 2023 and 2022, the Company recorded $46 million and $40 million, respectively, of variable lease expense, which primarily included operating expenses and property taxes associated with the usage of facilities under the operating leases. For 2023 and 2022, cash paid for operating leases included in operating cash flows was $147 million and $108 million, respectively. The Company's finance and short-term leases are immaterial to the Company's consolidated financial statements.

Supplemental information related to leases is as follows:

	December 30, 2023
Weighted-average remaining lease term in years – operating leases	8.08
Weighted-average discount rate – operating leases	4.57 %

Future minimum lease payments under non-cancellable operating lease liabilities as of December 30, 2023 are as follows:

Year	(In millions)
2024	$ 132
2025	107
2026	108
2027	87
2028	61
2029 and thereafter	283
Total minimum lease payments	778
Less: interest	(137)
Present value of net minimum lease payments	641
Less: current portion	(106)
Total long-term operating lease liabilities	$ 535

Certain other operating leases contain provisions for escalating lease payments subject to changes in the consumer price index.

Commitments

The Company's purchase commitments primarily include the Company's obligations to purchase wafers and substrates from third parties and future payments related to certain software and technology licenses and IP licenses. Purchase commitments include obligations made under noncancellable purchase orders and contractual obligations requiring minimum purchases or for which cancellation would lead to significant penalties.

Total future unconditional purchase commitments as of December 30, 2023 were as follows:

Year	(In millions)
2024	$ 3,858
2025	351
2026	186
2027	51
2028	49
2029 and thereafter	99
Total unconditional purchase commitments	$ 4,594

On an ongoing basis, the Company works with suppliers on the timing of payments and deliveries of purchase commitments, taking into account business conditions.

Warranties and Indemnities

The Company generally warrants that its products sold to its customers will conform to its approved specifications and be free from defects in material and workmanship under normal use and conditions for one year. The Company may also offer one to three-year limited warranties based on product type and negotiated warranty terms with certain customers. The Company accrues warranty costs to Cost of sales at the time of sale of warranted products.

Changes in the Company's estimated liability for product warranty during 2023 and 2022 are as follows:

	December 30, 2023	December 31, 2022
	(In millions)	
Beginning balance	$ 65	$ 51
Provisions during the period	126	115
Settlements during the period	(106)	(101)
Ending balance	$ 85	$ 65

In addition to product warranties, the Company from time to time in its normal course of business indemnifies other parties with whom it enters into contractual relationships, including customers, lessors and parties to other transactions with the Company, with respect to certain matters. In these limited matters, the Company has agreed to hold certain third parties harmless against specific types of claims or losses such as those arising from a breach of representations or covenants, third-party claims that the Company's products when used for their intended purpose(s) and under specific conditions infringe the intellectual property rights of a third party, or other specified claims made against the indemnified party. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the unique facts and circumstances that are likely to be involved in each particular claim and indemnification provision. Historically, payments made by the Company under these obligations have not been material. In addition, the impact from changes in estimates for pre-existing warranties has been immaterial.

NOTE 17 – Contingencies

Litigation and Other Legal Matters

As of December 30, 2023, there were no material legal proceedings.

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The Company is a defendant or plaintiff in various actions that arose in the normal course of business. With respect to these matters, based on management's current knowledge, the Company believes that the amount or range of reasonably possible loss, if any, will not, either individually or in the aggregate, have a material adverse effect on the Company's financial condition, results of operations, or cash flows.

Environmental Matters

The Company is named as a responsible party on Superfund clean-up orders for three sites in Sunnyvale, California that are on the National Priorities List. Since 1981, the Company has discovered hazardous material releases to the groundwater from former underground tanks and proceeded to investigate and conduct remediation at these three sites. The chemicals released into the groundwater were commonly used in the semiconductor industry in the United States in the wafer fabrication process prior to 1979.

In 1991, the Company received Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites. The Company has entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. The Company remains responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements.

To address anticipated future remediation costs under the orders, the Company has computed and recorded an estimated environmental liability of approximately $4.8 million and has not recorded any potential insurance recoveries in determining the estimated costs of the cleanup. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. The Company believes that any amount in addition to what has already been accrued would not be material.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Advanced Micro Devices, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Advanced Micro Devices, Inc. (the Company) as of December 30, 2023 and December 31, 2022, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 30, 2023, 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 30, 2023 and December 31, 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 30, 2023, 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 30, 2023, 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 31, 2024 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	At December 30, 2023, the Company's net inventory balance was $4,351 million. As discussed in Note 2 to the consolidated financial statements, the Company adjusts the inventory carrying value to the lower of actual cost or the estimated net realizable value after completing ongoing reviews of on-hand inventory quantities exceeding forecasted demand, and by considering recent historical activity as well as anticipated demand. Auditing management's inventory excess and obsolescence reserves involved significant judgment because the estimates are based on several factors that are affected by market, industry, and competitive conditions outside the Company's control. In estimating excess and obsolescence reserves, management developed certain assumptions, including forecasted demand which are sensitive to the competitiveness of product offerings, customer requirements, and product life cycles. These significant assumptions are forward-looking and could be affected by future economic and market conditions.
How We Addressed the Matter in Our Audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company's inventory excess and obsolescence reserves estimation process, including the basis for developing the above-described assumptions and management's judgments. Our audit procedures included, among others, testing the reasonableness of management's key assumptions and judgments and testing the accuracy and completeness of the underlying data used to determine the amount of excess and obsolescence reserves. We compared the quantities and carrying value of on-hand inventories to related unit sales, both historical and forecasted, and evaluated the appropriateness and adequacy of management's adjustments to such sales forecasts by analyzing potential technological changes in line with product life cycles. We also assessed the accuracy of forecasts underlying management's estimates by comparing management's historical forecasts to actual results, evaluated industry and market factors and performed sensitivity analyses over the forecasted demand used by management to determine necessary changes in the inventory excess and obsolescence reserves.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1970.

San Jose, California

January 31, 2024

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Advanced Micro Devices, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited Advanced Micro Devices, Inc.'s internal control over financial reporting as of December 30, 2023, 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, Advanced Micro Devices, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 30, 2023, 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 consolidated balance sheets of the Company as of December 30, 2023 and December 31, 2022, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 30, 2023, and the related notes and our report dated January 31, 2024 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's 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 31, 2024

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed with the objective of providing reasonable assurance that information required to be disclosed in our reports filed under the Exchange Act, such as this Annual Report on Form 10-K is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of December 30, 2023, the end of the period covered by this report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Exchange Act Rules 13a-15(e) and 15d-15(e). This type of evaluation is performed on a quarterly basis so that conclusions of management, including our Chief Executive Officer and Chief Financial Officer, concerning the effectiveness of the disclosure controls can be reported in our periodic reports on Form 10-Q and Form 10-K. The overall goals of these evaluation activities are to monitor our disclosure controls and to modify them as necessary. We intend to maintain the disclosure controls as dynamic systems that we adjust as circumstances merit. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of the end of the period covered by this report.

Management's Report on Internal Control over Financial Reporting

Internal control over financial reporting refers to the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles, and 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 U.S. 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. Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations.

Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk. Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company.

Management has used the 2013 framework set forth in the report entitled “Internal Control—Integrated Framework” published by the Committee of Sponsoring Organizations of the Treadway Commission to evaluate the effectiveness of the Company’s internal control over financial reporting. Management has concluded that the Company’s internal control over financial reporting was effective as of December 30, 2023 at the reasonable assurance level. Our independent registered public accounting firm, Ernst & Young LLP, has issued an attestation report on the Company’s internal control over financial reporting as of December 30, 2023, which is included in Part II, Item 8, above.

Changes in Internal Control over Financial Reporting

During the year ended December 30, 2023, we completed the implementation of our new enterprise resource planning (ERP) system to help us manage our operations and financial reporting. In connection with this implementation, we modified the design and documentation of our internal control processes and procedures relating to the new system. Following the implementation, the changes to our control environment were validated according to our established processes and our internal controls over financial reporting continued to operate as designed. There were no other changes in our internal controls over financial reporting during our most recently completed fiscal year that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

ITEM 9B. OTHER INFORMATION

During the quarterly period ended December 30, 2023, the following directors and officers adopted, modified or terminated 10b5-1 plans:

Name	Title of Director or Officer	Action	Date	Trading Arrangement		Total Shares to be Sold	Expiration Date
				Rule 10b5-1*	Non-Rule 10b5-1**		
Lisa Su	Chair, President and Chief Executive Officer	Adopt	November 20, 2023	X		834,226	December 5, 2024
Mark Papermaster	Executive Vice President, Chief Technology Officer	Adopt	November 15, 2023	X		97,756	November 15, 2024

* Intended to satisfy the affirmative defense of Rule 10b5-1(c)
** Not intended to satisfy the affirmative defense of Rule 10b5-1(c)

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information under the captions “Item 1—Election of Directors” (including “Consideration of Stockholder Nominees for Director”), “Corporate Governance,” “Meetings and Committees of the Board of Directors,” “Executive Officers” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our proxy statement for our 2024 annual meeting of stockholders (our 2024 Proxy Statement) is incorporated herein by reference. There were no material changes to the procedures by which stockholders may recommend nominees to our board of directors. See also, “Part 1, Item 1-Website Access to our SEC Filings and Corporate Governance Documents,” above.

ITEM 11. EXECUTIVE COMPENSATION

The information under the captions “Directors’ Compensation and Benefits” (including “2023 Non-Employee Director Compensation”), “Compensation Discussion and Analysis,” “Executive Compensation” (including “2023 Summary Compensation Table,” “2023 Nonqualified Deferred Compensation,” “Outstanding Equity Awards at 2023 Fiscal Year-End,” “Grants of Plan-Based Awards in 2023” and “Option Exercises and Stock Vested in 2023,” “Severance and Change in Control Arrangements” and “Chief Executive Officer Pay Ratio”), and “Compensation and Leadership Resources Committee Report” in our 2024 Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information under the captions “Principal Stockholders,” “Security Ownership of Directors and Executive Officers” and “Equity Compensation Plan Information” in our 2024 Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information under the captions “Corporate Governance—Independence of Directors” and “Certain Relationships and Related Transactions” in our 2024 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information under the captions “Item 2—Ratification of Appointment of Independent Registered Public Accounting Firm—Independent Registered Public Accounting Firm’s Fees” in our 2024 Proxy Statement is incorporated herein by reference.

With the exception of the information specifically incorporated by reference in Part III of this Annual Report on Form 10-K from our 2024 Proxy Statement, our 2024 Proxy Statement will not be deemed to be filed as part of this report. Without limiting the foregoing, the information under the captions “Compensation and Leadership Resources Committee Report” and “Audit and Finance Committee Report” in our 2024 Proxy Statement is not incorporated by reference in this Annual Report on Form 10-K.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

1. Financial Statements

The financial statements of AMD are set forth in Item 8 of this Annual Report on Form 10-K, as indexed below.

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All schedules have been omitted because the information is not required, is not applicable, or is included in the Notes to the Consolidated Financial Statements.

2. Exhibits

The exhibits listed in the accompanying Index to Exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K. The following is a list of such Exhibits:

Exhibit	Description of Exhibits
2.1	Agreement and Plan of Merger by and among Advanced Micro Devices, Inc., Thrones Merger Sub, Inc., and Xilinx, Inc. dated October 26, 2020, filed as exhibit 2.1 to AMD's Current Report on Form 8-K dated October 26, 2020, is hereby incorporated by reference.
3.1	Amended and Restated Certificate of Incorporation of Advanced Micro Devices, Inc., dated May 2, 2018, filed as Exhibit 3.1 to AMD's Quarterly Report on Form 10-Q for the period ended June 30, 2018, is hereby incorporated by reference.
3.2	Advanced Micro Devices, Inc. Amended and Restated Bylaws, as amended on January 29, 2021 filed as Exhibit 3.2 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2020, is hereby incorporated by reference.
4.1	Description of Advanced Micro Devices, Inc. Common Stock, filed as Exhibit 4.1 to AMD's Quarterly Report on Form 10-Q for the period ended June 25, 2022, is hereby incorporated by reference.
4.2	Indenture by and among Advanced Micro Devices, Inc. and Wells Fargo Bank N.A., dated September 14, 2016, filed as Exhibit 4.1 to AMD's Current Report on Form 8-K dated September 14, 2016, is hereby incorporated by reference.
4.3	First Supplemental Indenture governing 2.125% Convertible Senior Notes due 2026, including Form of 2.125% Note, between Advanced Micro Devices, Inc. and Wells Fargo Bank, N.A. dated September 14, 2016, filed as Exhibit 4.2 to AMD's Current Report on Form 8-K dated September 14, 2016, is hereby incorporated by reference.
4.4	First Supplemental Indenture by and among Advanced Micro Devices, Inc. and Wells Fargo Bank N.A., dated September 23, 2016, filed as Exhibit 4.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 24, 2016, is hereby incorporated by reference.

4.5	Fourth Supplemental Indenture governing the Xilinx 2.950% Senior Notes Due 2024, by and among Xilinx, Inc., Advanced Micro Devices, Inc. and U.S. Bank Trust Company, National Association, dated February 14, 2022, filed as Exhibit 4.1 to AMD's Current Report on Form 8-K dated February 14, 2022, is hereby incorporated by reference.
4.6	Second Supplemental Indenture governing the Xilinx 2.2375% Senior Notes due 2030, by and among Xilinx, Inc., Advanced Micro Devices, Inc. and U.S. Bank Trust Company, National Association, dated February 14, 2022, filed as Exhibit 4.2 to AMD's Current Report on Form 8-K dated February 14, 2022, is hereby incorporated by reference.
4.7	Indenture, dated as of June 9, 2022, by and between Advanced Micro Devices, Inc. and U.S. Bank Trust Company, National Association, as trustee, filed as exhibit 4.1 to AMD's Current Report on Form 8-K dated June 9, 2022, is hereby incorporated by reference.
4.8	First Supplemental Indenture, dated as of June 9, 2022, by and between the Company and U.S. Bank Trust Company, National Association, as trustee, including the Form of 2032 Note and Form of 2052 Note, filed as exhibit 4.2 to AMD's Current Report on Form 8-K dated June 9, 2022, is hereby incorporated by reference.
*10.1	2011 Executive Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the period ended April 2, 2011, is hereby incorporated by reference.
*10.2	AMD Executive Severance Plan and Summary Plan Description for Senior Vice Presidents, effective June 1, 2013, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated June 7, 2013, is hereby incorporated by reference.
*10.3	AMD Deferred Income Account Plan, as amended and restated, effective January 1, 2008, filed as Exhibit 10.18 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2007, is hereby incorporated by reference.
*10.4	Amendment No. 1 to the AMD Deferred Income Account Plan, as amended and restated, effective July 1, 2012, filed as Exhibit 10.16(a) to AMD's Annual Report on Form 10-K for the period ended December 29, 2012, is hereby incorporated by reference.
*10.5	Form of Indemnity Agreement, between Advanced Micro Devices, Inc. and its officers and directors, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated October 6, 2008, is hereby incorporated by reference.
*10.6	Form of Management Continuity Agreement, as amended and restated, filed as Exhibit 10.13(b) to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2007, is hereby incorporated by reference.
*10.7	Form of Change in Control Agreement, filed as Exhibit 10.11 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2009, is hereby incorporated by reference.
*10.8	Amended and Restated Management Continuity Agreement, between Advanced Micro Devices, Inc. and Devinder Kumar, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the period ended September 29, 2012, is hereby incorporated by reference.
*10.9	Offer Letter, between Advanced Micro Devices, Inc. and Mark D. Papermaster, dated October 7, 2011, filed as Exhibit 10.63 to AMD's Annual Report on Form 10-K for the period ended December 31, 2011, is hereby incorporated by reference.
10.10	Settlement Agreement, between Advanced Micro Devices, Inc. and Intel Corporation, dated November 11, 2009, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated November 11, 2009, is hereby incorporated by reference.
**10.11	Patent Cross License Agreement, between Advanced Micro Devices, Inc. and Intel Corporation filed, dated November 11, 2009, as Exhibit 10.2 to AMD's Current Report on Form 8-K dated November 17, 2009, is hereby incorporated by reference.
10.12	Sublease Agreement, between Lantana HP, LTD and Advanced Micro Devices, Inc., dated March 26, 2013, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.

10.13	Master Landlord's Consent to Sublease, between 7171 Southwest Parkway Holdings, L.P., Lantana HP, Ltd. and Advanced Micro Devices, Inc., dated March 26, 2013, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.
10.14	Lease Agreement, between 7171 Southwest Parkway Holdings, L.P. and Lantana HP, Ltd., dated March 26, 2013, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.
*10.15	Employment Agreement by and between Lisa T. Su and Advanced Micro Devices, Inc. effective October 8, 2014, filed as Exhibit 10.2 to AMD's Current Report on Form 8-K/A dated October 14, 2014, is hereby incorporated by reference.
*10.16	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 27, 2014, is hereby incorporated by reference.
*10.17	Offer Letter, between Advanced Micro Devices, Inc. and Forrest E. Norrod, dated October 20, 2014, filed as Exhibit 10.66 to AMD's Annual Report on Form 10-K for the fiscal year ended December 27, 2014, is hereby incorporated by reference.
*10.18	Advanced Micro Devices, Inc. Executive Severance Plan and Summary Plan Description for Senior Vice Presidents effective December 31, 2014, filed as Exhibit 10.68 to AMD's Annual Report on Form 10-K for the fiscal year ended December 27, 2014, is hereby incorporated by reference.
*10.19	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2015, is hereby incorporated by reference.
10.20	Equity Interest Purchase Agreement by and between Advanced Micro Devices, Inc. and Nantong Fujitsu Microelectronics Co., Ltd. dated as of October 15, 2015, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated October 15, 2015, is hereby incorporated by reference.
*10.21	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.78 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.
*10.22	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.79 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.
*10.23	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.80 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.
*10.24	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.88 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.
*10.25	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Plan, filed as Exhibit 10.89 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.
*10.26	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.90 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.
*10.27	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2017, is hereby incorporated by reference.
*10.28	Amended and Restated 2017 Employee Stock Purchase Plan dated August 23, 2018, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 29, 2018, is hereby incorporated by reference.

*10.29	2017 Employee Stock Purchase Plan, as amended and restated October 12, 2017, filed as Exhibit 10.98 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.
*10.30	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.99 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.
*10.31	Form of Restricted Stock Unit Award Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.100 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.
*10.32	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan filed as Exhibit 10.101 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.
*10.33	Amendment to Advanced Micro Devices, Inc. Executive Incentive Plan dated as of February 8, 2018, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018, is hereby incorporated by reference.
*10.34	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive plan, filed as Exhibit 10.103 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.
*10.35	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.104 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.
*10.36	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.105 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.
*10.37	Offer Letter between Advanced Micro Devices, Inc. and Rick Bergman dated August 1, 2019, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.38	Sign-On Bonus Letter between Advanced Micro Devices, Inc. and Rick Bergman dated August 1, 2019, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.39	Value Creation Performance-Based Restricted Stock Unit Grant Notice between Advanced Micro Devices, Inc. and Lisa T. Su, dated August 9, 2019, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.40	Value Creation Performance-Based Restricted Stock Unit Grant Notice between Advanced Micro Devices, Inc. and Mark Papermaster, dated August 9, 2019, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.41	Amendment to Advanced Micro Devices, Inc. Executive Incentive Plan dated as of August 21, 2019, filed as Exhibit 10.6 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.42	2004 Equity Incentive Plan, as amended and restated, dated August 21, 2019, filed as Exhibit 10.7 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.
*10.43	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020, is hereby incorporated by reference.

*10.44	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020, is hereby incorporated by reference.
*10.45	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020, is hereby incorporated by reference.
**10.46	Wafer Supply Agreement, among Advanced Micro Devices, Inc., The Foundry Company and AMD Fab Technologies US, Inc., dated March 2, 2009, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.47	Wafer Supply Agreement Amendment No. 1, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc., GLOBALFOUNDRIES U.S. Inc. and GLOBALFOUNDRIES Singapore. Pte. Ltd., dated March 29, 2011, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.48	Wafer Supply Agreement Amendment No. 2, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc., GLOBALFOUNDRIES U.S. Inc., Advanced Technology Investment Company LLC and ATIC International Investment Company LLC, dated March 4, 2012, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.49	Wafer Supply Agreement Amendment No. 3, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated December 6, 2012, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.50	Wafer Supply Agreement Amendment No. 4, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated March 30, 2014, filed as Exhibit 10.5 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.51	Wafer Supply Agreement Amendment No. 5, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated as of April 16, 2015, filed as Exhibit 10.6 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.52	Wafer Supply Agreement Amendment No. 6, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES, Inc. and GLOBALFOUNDRIES U.S., Inc., dated August 30, 2016, filed as Exhibit 10.7 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.
**10.53	Wafer Supply Agreement Amendment No. 7, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated January 28, 2019, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019, is hereby incorporated by reference.
10.54	Company-Provided Business Aircraft Usage and Commercial Travel by Personal Guests Policy revised as of January 25, 2021, filed as Exhibit 10.58 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2020, is hereby incorporated by reference.
*10.55	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 26, 2021, is hereby incorporated by reference.
*10.56	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 26, 2021, is hereby incorporated by reference.
*10.57	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive plan, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 26, 2021, is hereby incorporated by reference.

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**10.58	Amended and Restated Wafer Supply Agreement Amendment No. 7, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES, Inc. and GLOBALFOUNDRIES U.S. Inc., dated as of May 12, 2021, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 26, 2021, is hereby incorporated by reference.
**10.59	First Amendment to Amended and Restated Wafer Supply Agreement No. 7, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES, Inc. and GLOBALFOUNDRIES U.S. Inc., dated December 23, 2021, filed as Exhibit 10.63 to AMD's Annual Report on Form 10-K for the year ended December 25, 2021, is hereby incorporated by reference.
10.60	Credit Agreement dated as of April 29, 2022 by and among Advanced Micro Devices, Inc. as borrower, the lenders referred to therein, as lenders, and Wells Fargo Bank, National Association, as administrative agent, swingline lender and an issuing lender, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated April 29, 2022, is hereby incorporated by reference.
*10.61	Xilinx, Inc. 2007 Equity Incentive Plan, effective as of January 1, 2007, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 26, 2022, is hereby incorporated by reference.
*10.62	2004 Equity Incentive Plan, as amended and restated, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 26, 2022, is hereby incorporated by reference.
*10.63	Offer Letter between Advanced Micro Devices, Inc. and Victor Peng dated March 8, 2022, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 26, 2022, is hereby incorporated by reference.
*10.64	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the Xilinx, Inc. 2007 Equity Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 25, 2022, is hereby incorporated by reference.
*10.65	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the Xilinx, Inc. 2007 Equity Incentive Plan, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 25, 2022, is hereby incorporated by reference.
*10.66	Outside Director Equity Compensation Policy, as amended and restated, dated as of August 10, 2022, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 24, 2022, is hereby incorporated by reference.
*10.67	Offer Letter between Advanced Micro Devices, Inc. and Jean Hu, dated as of January 6, 2023, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated January 8, 2023, is hereby incorporated by reference.
*10.68	Sign-On Bonus Agreement between Advanced Micro Devices, Inc. and Jean Hu, dated as of January 8, 2023, filed as Exhibit 10.2 to AMD's Current Report on Form 8-K dated January 8, 2023, is hereby incorporated by reference.
*10.69	Retirement Transition Agreement and General Release between Advanced Micro Devices, Inc. and Devinder Kumar, dated as of February 15, 2023, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K/A dated January 1, 2023, is hereby incorporated by reference.
*10.70	Advanced Micro Devices, Inc. 2023 Equity Incentive Plan, filed as Exhibit A to AMD's Definitive Proxy Statement on Schedule 14A dated March 31, 2023, is hereby incorporated by reference.
*10.71	Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2023 Equity Incentive plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended July 1, 2023, is hereby incorporated by reference.
*10.72	Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2023 Equity Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended July 1, 2023, is hereby incorporated by reference.

*10.73	Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2023 Equity Incentive Plan, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended July 1, 2023, is hereby incorporated by reference.
10.74	First Amendment to Credit Agreement, dated as of September 22, 2023, among Advanced Micro Devices, Inc. as borrower, the lenders referred to therein, as lenders, Wells Fargo Securities, LLC, as sustainability structuring agent, and Wells Fargo Bank, National Association, as administrative agent, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2023, is hereby incorporated by reference.
10.75	Seventh Amendment to Lease between Summit Lantana Owner, LP and Advanced Micro Devices, Inc., dated as of October 27, 2023, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2023, is hereby incorporated by reference.
*10.76	Amendment to Advanced Micro Devices, Inc. Executive Incentive Plan dated as of February 23, 2022.
*10.77	Form of Change of Control Agreement,
**10.78	Intellectual Property Cross-License Agreement between Advanced Micro Devices, Inc. and Broadcom Corporation, effective as of August 25, 2008.
**10.79	IP Core License Agreement between Advanced Micro Devices, Inc. and Broadcom Corporation, effective as of August 25, 2008.
21	List of AMD subsidiaries.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney.
31.1	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
97	Compensation Recovery Policy adopted by the Board of Directors of Advanced Micro Devices, Inc., effective as of November 17, 2023.
101.INS	XBRL Instance Document -the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File -the Cover Page Interactive Data File does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

* Management contracts and compensatory plans or arrangements.

** Portions of this exhibit have been omitted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed.

AMD will furnish a copy of any exhibit on request and payment of AMD's reasonable expenses of furnishing such exhibit.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

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.

January 31, 2024 ADVANCED MICRO DEVICES, INC.

By: */s/ Jean Hu*
Jean Hu
Executive Vice President, Chief Financial Officer and Treasurer

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.

Signature	Title	Date
/s/Lisa T. Su **Lisa T. Su**	President and Chief Executive Officer (Principal Executive Officer), Director	January 31, 2024
/s/Jean Hu **Jean Hu**	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)	January 31, 2024
/s/Darla Smith **Darla Smith**	Corporate Vice President, Chief Accounting Officer (Principal Accounting Officer)	January 31, 2024
* **Nora M. Denzel**	Lead Independent Director	January 31, 2024
* **Mark Durcan**	Director	January 31, 2024
* **Mike P. Gregoire**	Director	January 31, 2024
* **Joe A. Householder**	Director	January 31, 2024
* **John W. Marren**	Director	January 31, 2024
* **Jon A. Olson**	Director	January 31, 2024
* **Abhi Y. Talwalkar**	Director	January 31, 2024
* **Beth W. Vanderslice**	Director	January 31, 2024

*By: /s/Jean Hu
Jean Hu, Attorney-in-Fact

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