

EXHIBIT 4

**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 August 31, 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 1-10658

Micron Technology, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

Address of principal executive offices, including zip code

Registrant's telephone number, including area code

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

75-1618004

(IRS Employer Identification No.)

8000 S. Federal Way, Boise, Idaho 83716-9632

(208) 368-4000

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, par value \$0.10 per share	MU	Nasdaq Global Select Market

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

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

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

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

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

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

Large Accelerated Filer	Accelerated Filer	Non-Accelerated Filer	Smaller Reporting Company	Emerging Growth Company
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

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 in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the voting and non-voting common equity held by non-affiliates was \$47.9 billion based on the closing price reported on the Nasdaq Global Select Market on March 2, 2023. Shares of common stock held by each executive officer and director and by each person who owns 5% or more of the outstanding common stock were excluded as they may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The number of outstanding shares of the registrant's common stock as of September 29, 2023 was 1,098,034,471.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the registrant's Fiscal 2023 Annual Meeting of Shareholders to be held on January 18, 2024 are incorporated by reference into Part II and Part III of this Annual Report on Form 10-K.

Definitions of Commonly Used Terms

As used herein, “we,” “our,” “us,” and similar terms include Micron Technology, Inc. and its consolidated subsidiaries, unless the context indicates otherwise. Abbreviations, terms, or acronyms are commonly used or found in multiple locations throughout this report and include the following:

Term	Definition	Term	Definition
2023 Notes	2.497% Senior Notes due April 2023, repaid November 2021	GDDR	Graphics double data rate
2024 Notes	4.640% Senior Notes due February 2024, repaid November 2021	HBM	High-bandwidth memory, a stacked DRAM technology optimized for memory-bandwidth intensive applications
2024 Term Loan A	Senior Term Loan A due October 2024	Inotera	Inotera Memories, Inc.
2025 Term Loan A	Senior Term Loan A due November 2025	LIBOR	London Interbank Offered Rate
2026 Term Loan A	Senior Term Loan A due November 2026	LPDDR	Low-power double data rate DRAM
2027 Term Loan A	Senior Term Loan A due November 2027	LPDRAM	Low-power DRAM
2026 Notes	4.975% Senior Notes due February 2026	MCP	Multichip packaged solutions with managed NAND and LPDRAM
2027 Notes	4.185% Senior Notes due February 2027	Micron	Micron Technology, Inc. (Parent Company)
2028 Notes	5.375% Senior Notes due April 2028	MTU	Micron Technology Utah, LLC
2029 A Notes	5.327% Senior Notes due February 2029	Multi-Tranche Term Loan Agreement	Borrowing agreement executed November 3, 2022 that governs the 2025 Term Loan A, 2026 Term Loan A, and 2027 Term Loan A
2029 B Notes	6.750% Senior Notes due November 2029	NRV	Net realizable value
2030 Notes	4.663% Senior Notes due February 2030	OEM	Original equipment manufacturer
2032 Green Bonds	2.703% Senior Notes due April 2032	PCIe	High-speed motherboard connection for peripheral devices such as storage drives
2032D Notes	3.125% Convertible Senior Notes due May 2032, settled August 2021	Qimonda	Qimonda AG
2033 A Notes	5.875% Senior Notes due February 2033	QLC	Quad-level cell (four bits per cell)
2033 B Notes	5.875% Senior Notes due September 2033	Revolving Credit Facility	\$2.5 billion Revolving Credit Facility due May 2026
2041 Notes	3.366% Senior Notes due November 2041	SATA	Hardware interface for connecting to storage devices such as hard disk drives and SSDs
2051 Notes	3.477% Senior Notes due November 2051	SLC	Single-level cell (one bit per cell)
AI	Artificial intelligence	SOFR	Secured Overnight Financing Rate
CAC	China’s Cyberspace Administration	SSD	Solid state drive
DDR	Double data rate DRAM	TI	Texas Instruments Incorporated
EBITDA	Earnings before interest, taxes, depreciation, and amortization	TLC	Triple-level cell (three bits per cell)
eMCP	Embedded multichip packaged solutions with embedded multimedia card storage and LPDDR	UFS	Universal flash storage
EUV	Extreme ultraviolet lithography	uMCP	UFS-based MCP
Extinguished 2024 Term Loan A	Senior Term Loan A due October 2024, repaid May 2021		

Micron, Crucial, any associated logos, and all other Micron trademarks are the property of Micron. 3D XPoint is a trademark of Intel Corporation or its subsidiaries. Other product names or trademarks that are not owned by Micron are for identification purposes only and may be the trademarks of their respective owners.

All period references are to our fiscal periods unless otherwise indicated. Our fiscal year is the 52 or 53-week period ending on the Thursday closest to August 31. Fiscal 2023, 2022, and 2021 each contained 52 weeks.

Forward-Looking Statements

This Form 10-K contains trend information and other forward-looking statements that involve a number of risks and uncertainties. Such forward-looking statements may be identified by words such as "anticipate," "expect," "intend," "pledge," "committed," "plan," "opportunities," "future," "believe," "target," "on track," "estimate," "continue," "likely," "may," "will," "would," "should," "could," and variations of such words and similar expressions. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. Specific forward-looking statements include, but are not limited to, statements such as those made regarding expected production ramp of certain products; plans to implement EUV lithography; restructure plans and expected related savings; potential increases in our effective tax rate; the timing for construction and ramping of production for new memory manufacturing fabs in the United States; intent to make investments at our backend facility in Xi'an, China and build a new assembly and test facility in Gujarat, India; the receipt of government grants and investment tax credits; estimates of tax expense for 2024; the payment of future cash dividends; market conditions and profitability in our industry; potential write-downs of inventories in future quarters; the impact of the Cyberspace Administration of China decision; capital spending in 2024; the sufficiency of our cash and investments; allocation and dispersal of the net proceeds of our 2032 Green Bonds; and results of tax return examinations. Our actual results could differ materially from our historical results and those discussed in the forward-looking statements. Factors that could cause actual results to differ materially include, but are not limited to, those identified in "Part I - Item 1A. Risk Factors."



PART I ITEM 1. BUSINESS

Overview

We are an industry leader in innovative memory and storage solutions transforming how the world uses information to enrich life *for all*. With a relentless focus on our customers, technology leadership, and manufacturing and operational excellence, Micron delivers a rich portfolio of high-performance DRAM, NAND, and NOR memory and storage products through our Micron® and Crucial® brands. Every day, the innovations that our people create fuel the data economy, enabling advances in artificial intelligence and 5G applications that unleash opportunities - from the data center to the intelligent edge and across the client and mobile user experience.

We manufacture our products at wholly-owned facilities and also utilize subcontractors for certain manufacturing processes. Our global network of manufacturing centers of excellence not only allows us to benefit from scale while streamlining processes and operations, but it also brings together some of the world's brightest talent to work on the most advanced memory technology. Centers of excellence bring expertise together in one location, providing an efficient support structure for end-to-end manufacturing, with quicker cycle times, in partnership with teams such as research and development ("R&D"), product engineering, human resources, procurement, and supply chain. For our locations in Singapore and Taiwan, this is also a combination of bringing fabrication and back-end manufacturing together. We make significant investments to develop proprietary product and process technology, which generally increases bit density per wafer and reduces per-bit manufacturing costs of each generation of product. We continue to introduce new generations of products that offer improved performance characteristics, including higher data transfer rates, advanced packaging solutions, lower power consumption, improved read/write reliability, and increased memory density.

We face intense competition in the semiconductor memory and storage markets and to remain competitive we must continuously develop and implement new products and technologies and decrease manufacturing costs in spite of ongoing inflationary cost pressures. Our success is largely dependent on obtaining returns on our R&D investments, efficient utilization of our manufacturing infrastructure, development and integration of advanced product and process technologies, market acceptance of our diversified portfolio of semiconductor-based memory and storage solutions, and efficient capital spending.

Sales, Markets, and Products

Product Technologies

Our product portfolio of memory and storage solutions, advanced solutions, and storage platforms is based on our high-performance semiconductor memory and storage technologies, including DRAM, NAND, and NOR. We sell our products into various markets through our business units in numerous forms, including components, modules, SSDs, managed NAND, MCPs, and wafers. Our system-level solutions, including SSDs and managed NAND, combine NAND, a controller, firmware, and in some cases DRAM.

DRAM: DRAM products are dynamic random access memory semiconductor devices with low latency that provide high-speed data retrieval with a variety of performance characteristics. DRAM products lose content when power is turned off ("volatile") and are most commonly used in client, cloud server, enterprise, networking, graphics, industrial, and automotive markets. LPDRAM products, which are engineered to meet standards for performance and power consumption, are sold into smartphone and other mobile-device markets (including client markets for Chromebooks and notebook PCs), as well as into the automotive, industrial, and consumer markets.

Available Information

Our executive offices are located at 8000 South Federal Way, Boise, Idaho 83716-9632 and our telephone number is (208) 368-4000. Information about us is available on our website, www.micron.com. Also available on our website are our Corporate Governance Guidelines, Governance and Sustainability Committee Charter, Compensation Committee Charter, Audit Committee Charter, Finance Committee Charter, Security Committee Charter, and Code of Business Conduct and Ethics. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendments to, or waivers from, our Code of Business Conduct and Ethics by posting such information on our website within four business days of the amendment or waiver. Copies of these documents are available to shareholders upon request. Information contained or referenced on our website is not incorporated by reference and does not form a part of this Annual Report on Form 10-K.

Investors and others should note that we announce material financial information about our business and products through a variety of means, including our investor relations website (investors.micron.com), filings with the U.S. Securities and Exchange Commission ("SEC"), press releases, public conference calls, blog posts (micron.com/about/blog), and webcasts. We use these channels to achieve broad, non-exclusionary distribution of information to the public and for complying with our disclosure obligations under Regulation FD. Therefore, we encourage investors, the media, and others interested in our company to review the information we post on such channels.

Our filings are available free of charge on our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC, including our annual and quarterly reports on Forms 10-K and 10-Q and current reports on Form 8-K, our proxy statements, and any amendments to those reports or statements. The SEC's website, www.sec.gov, contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The content on any website referred to in this Form 10-K is not incorporated by reference in this Form 10-K unless expressly noted.

ITEM 1A. RISK FACTORS

In addition to the factors discussed elsewhere in this Form 10-K, this section discusses important factors which could cause actual results or events to differ materially from those contained in any forward-looking statements made by us. The order of presentation is not necessarily indicative of the level of risk that each factor poses to us. Any of these factors could have a material adverse effect on our business, results of operations, financial condition, or stock price. Our operations could also be affected by other factors that are presently unknown to us or not considered significant.

Risk Factor Summary

Risks Related to Our Business, Operations, and Industry

- volatility in average selling prices of our products;
- a range of factors that may adversely affect our gross margins;
- our international operations, including geopolitical risks;
- the highly competitive nature of our industry;
- our ability to develop and produce new and competitive memory and storage technologies and products;
- realizing expected returns from capacity expansions;
- achieving or maintaining certain performance or other obligations associated with incentives from various governments;
- availability and quality of materials, supplies, and capital equipment and dependency on third-party service providers;
- a downturn in regional or worldwide economies;
- disruptions to our manufacturing process from operational issues, natural disasters, or other events;
- dependency on a select number of key customers, including international customers;
- products that fail to meet specifications, are defective, or are incompatible with end uses;
- breaches of our security systems or products, or those of our customers, suppliers, or business partners;
- attracting, retaining, and motivating highly skilled employees;
- responsible sourcing requirements and related regulations;
- environmental, social, and governance considerations;
- acquisitions and/or alliances; and
- restructure plans may not realize expected savings or other benefits.

Risks Related to Intellectual Property and Litigation

- protecting our intellectual property and retaining key employees who are knowledgeable of and develop our intellectual property;
- legal proceedings and claims; and
- claims that our products or manufacturing processes infringe or otherwise violate the intellectual property rights of others or failure to obtain or renew license agreements covering such intellectual property.

Risks Related to Laws and Regulations

- impacts of government actions and compliance with tariffs, trade restrictions, and/or trade regulations;
- tax expense and tax laws in key jurisdictions; and
- compliance with laws, regulations, or industry standards, including environmental considerations.

Risks Related to Capitalization and Financial Markets

- our ability to generate sufficient cash flows or obtain access to external financing;
- our debt obligations;
- changes in foreign currency exchange rates;
- counterparty default risk;
- volatility in the trading price of our common stock; and
- fluctuations in the amount and frequency of our common stock repurchases and payment of cash dividends and resulting impacts.

Risks Related to Our Business, Operations, and Industry

Volatility in average selling prices for our semiconductor memory and storage products may adversely affect our business.

We have experienced significant volatility in our average selling prices and may continue to experience such volatility in the future. For example, average selling prices for DRAM declined in the high-40s percent range and NAND declined in the low-50s percent range for 2023 as compared to 2022. Since 2017, annual percentage changes in DRAM average selling prices have ranged from approximately plus 35% to a minus high-40s percent range. Since 2017, annual percentage changes in NAND average selling prices have ranged from nearly flat to a minus low-50s percent range. In current and recent periods, average selling prices for our products have been below our manufacturing costs and we may experience such circumstances in the future. Average selling prices for our products that decline faster than our costs have recently had an adverse effect on our business and results of operations, and in future periods could have a material adverse effect on our business, results of operations, or financial condition.

Our gross margins may be adversely affected by a range of factors.

Our gross margins are dependent, in part, upon continuing decreases in per gigabit manufacturing costs achieved through improvements in our manufacturing processes and product designs. Factors that may limit our ability to reduce our per gigabit manufacturing costs at sufficient levels to prevent deterioration of or improve gross margins include, but are not limited to:

- strategic product diversification decisions affecting product mix;
- increasing complexity of manufacturing processes;
- difficulties in transitioning to smaller line-width process technologies or additional 3D memory layers or NAND cell levels;
- process complexity including number of mask layers and fabrication steps;
- manufacturing yield;
- technological barriers;
- changes in process technologies;
- new products that may require relatively larger die sizes;
- start-up or other costs associated with capacity expansions;
- higher costs of goods and services due to inflationary pressures or market conditions; and
- higher manufacturing costs per gigabit due to fabrication facility underutilization, lower wafer output, and insufficient volume to run new technology nodes to achieve cost optimization.

Many factors may result in a reduction of our output or a delay in ramping production, which could lead to underutilization of our production assets. These factors may include, among others, a weak demand environment, industry oversupply, inventory surpluses, difficulties in ramping emerging technologies, supply chain disruptions, and delays from equipment suppliers. See "Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Overview - Industry Conditions" for information regarding our current underutilization. A significant portion of our manufacturing costs are fixed and do not vary proportionally with changes in production output. As a result, lower utilization, lower wafer output, and corresponding increases in our per gigabit manufacturing costs have resulted in higher inventory carrying costs, and have had, and may continue to have, an adverse effect on our gross margins, business, results of operations, or financial condition.

We have a broad portfolio of products to address our customers' needs, which span multiple market segments and are subject to rapid technological changes. Our manufacturing costs on a per gigabit basis vary across our portfolio as they are largely influenced by the technology node in which the solution was developed. We strive to balance our demand and supply for each technology node, but the dynamics of our markets and our customers can create periods of imbalance, which can lead us to carry elevated inventory levels. Consequently, we may incur charges in connection with obsolete or excess inventories, or we may not fully recover our costs, which would reduce our gross margins. For example, in 2023, we recorded aggregate charges of \$1.83 billion to write down the carrying value of our inventories to their estimated net realizable value. In addition, due to the customized nature of certain products we manufacture, we may be unable to sell certain finished goods inventories to alternative customers or manufacture in-process inventory to different specifications, which may result in excess and obsolescence charges in future periods.

In addition, if we are unable to supply products that meet customer design and performance specifications, we may be required to sell such products at lower average selling prices, which may reduce our gross margins. Our gross margins may also be impacted by shifts in product mix, driven by our strategy to optimize our portfolio to best respond to changing market dynamics.

Our inability to prevent deterioration of or improve gross margins could have a material adverse effect on our business, results of operations, or financial condition.

We face geopolitical and other risks associated with our international operations that could materially adversely affect our business, results of operations, or financial condition.

In addition to our U.S. operations, a substantial portion of our operations are conducted in Taiwan, Singapore, Japan, Malaysia, China, and India, and many of our customers, suppliers, and vendors also operate internationally. In 2023, nearly half of our revenue was from sales to customers who have headquarters located outside the United States, while over 80% of our revenue in 2023 was from products shipped to customer locations outside the United States.

Our international operations are subject to a number of risks, including:

- restrictions on sales of goods or services to one or more of our significant foreign customers;
- export and import duties, changes to import and export regulations, customs regulations and processes, and restrictions on the transfer of funds, including currency controls in China, which could negatively affect the amount and timing of payments from certain of our customers and, as a result, our cash flows;
- compliance with U.S. and international laws involving international operations, including the Foreign Corrupt Practices Act of 1977, as amended, sanctions and anti-corruption laws, export and import laws, and similar rules and regulations;
- theft of intellectual property;
- political and economic instability, including instability resulting from domestic and international conflicts;
- government actions or civil unrest preventing the flow of products and materials, including delays in shipping and obtaining products and materials, cancellation of orders, or loss or damage of products;
- problems with the transportation or delivery of products and materials;
- issues arising from cultural or language differences and labor unrest;
- longer payment cycles and greater difficulty in collecting accounts receivable;
- compliance with trade, technical standards, and other laws in a variety of jurisdictions;
- contractual and regulatory limitations on the ability to maintain flexibility with staffing levels;
- disruptions to manufacturing or R&D activities as a result of actions imposed by foreign governments;
- changes in economic policies of foreign governments;
- difficulties in staffing and managing international operations; and
- public health issues.

If we or our customers, suppliers, or vendors are impacted by any of these risks, it could have a material adverse effect on our business, results of operations, or financial condition.

Following the May 21, 2023 decision of its cybersecurity review of our products sold in China, the CAC determined that critical information infrastructure operators in China may not purchase Micron products, impacting our revenue with companies headquartered in mainland China and Hong Kong, including direct sales as well as indirect sales through distributors. Some revenue with customers headquartered outside of China has also been impacted. As we try to mitigate possible impacts due to the CAC decision, revenue may come at lower prices or gross margins due to product or customer mix changes, which may impact our business results. Further actions by the Chinese government could impact additional revenue inside or outside China, or our operations in China, or our ability to ship products to our customers, any of which could have a material adverse effect on our business, results of operations, or financial condition.

Political, economic, or other actions may adversely affect our operations in Taiwan. A majority of our DRAM production output in 2023 was from our fabrication facilities in Taiwan and any loss of output could have a material adverse effect on us. Any political, economic, or other actions may also adversely affect our customers and the technology industry supply chain, for which Taiwan is a central hub, and as a result, could have a material adverse impact on us.

In addition, the U.S. government has in the past restricted American firms from selling products and software to certain of our customers and may in the future impose similar restrictions on one or more of our significant customers. These restrictions may not prohibit our competitors from selling similar products to our customers, which may result in our loss of sales and market share. Even as such restrictions are lifted, financial or other penalties or continuing export restrictions imposed with respect to our customers could have a continuing negative impact on our future revenue and results of operations, and we may not be able to recover any customers or market share we lose, or make such recoveries at acceptable average selling prices, while complying with such restrictions.

The semiconductor memory and storage markets are highly competitive.

We face intense competition in the semiconductor memory and storage markets from a number of companies, including Kioxia Holdings Corporation; Samsung Electronics Co., Ltd.; SK hynix Inc.; and Western Digital Corporation. Our competitors may use aggressive pricing to obtain market share. Some of our competitors are large corporations or conglomerates that may have a larger market share and greater resources to invest in technology, capitalize on growth opportunities, and withstand downturns in the semiconductor markets in which we compete. Consolidation of industry competitors could put us at a competitive disadvantage as our competitors may benefit from increased manufacturing scale and a stronger product portfolio. We operate in different jurisdictions than our competitors and may be impacted by unfavorable changes in currency exchange rates.

In addition, some governments may provide, or have provided and may continue to provide, significant assistance, financial or otherwise, to some of our competitors or to new entrants and may intervene in support of national industries and/or competitors. In particular, we face the threat of increasing competition as a result of significant investment in the semiconductor industry by the Chinese government and various state-owned or affiliated entities, in companies such as Yangtze Memory Technologies Co., Ltd. ("YMTC") and ChangXin Memory Technologies, Inc. ("CXMT"). In addition, the CAC's decision that critical information infrastructure operators in China may not purchase Micron products had an impact on our ability to compete effectively in China and elsewhere.

We and our competitors generally seek to increase wafer output, improve yields, and reduce die size, which could result in significant increases in worldwide supply and downward pressure on prices. Increases in worldwide supply of semiconductor memory and storage also result from fabrication capacity expansions, either by way of new facilities, increased capacity utilization, or reallocation of other semiconductor production to semiconductor memory and storage production. Our competitors may increase capital expenditures resulting in future increases in worldwide supply. We, and some of our competitors, have plans to ramp, or are constructing or ramping, production at new fabrication facilities. Increases in worldwide supply of semiconductor memory and storage, if not accompanied by commensurate increases in demand, could lead to declines in average selling prices for our products and could materially adversely affect our business, results of operations, or financial condition. If competitors are more successful at developing or implementing new product or process technology, their products could have cost or performance advantages.

The competitive nature of our industry could have a material adverse effect on our business, results of operations, or financial condition.

Our future success depends on our ability to develop and produce new and competitive memory and storage technologies and products.

Our key semiconductor memory and storage technologies face technological barriers to continue to meet long-term customer needs. These barriers include potential limitations on stacking additional 3D memory layers, increasing bits per cell (i.e., cell levels), meeting higher density requirements, improving power consumption and reliability, and delivering advanced features and higher performance. We may face technological barriers to continue to shrink our products at our current or historical rate, which has generally reduced per gigabit cost. We have invested and expect to continue to invest in R&D for new and existing products and process technologies, such as EUV lithography, to continue to deliver advanced product requirements. Such new technologies can add complexity and risk to our schedule and may affect our costs and production output. We may be unable to recover our investment in R&D or otherwise realize the economic benefits of reducing die size or increasing memory and storage densities. Our competitors are working to develop new memory and storage technologies that may offer performance and/or cost advantages to existing technologies and render existing technologies obsolete. Accordingly, our future success may depend on our ability to develop and produce viable and competitive new memory and storage technologies.

We are developing new products, including system-level memory and storage products and solutions, which complement our traditional products or leverage their underlying design or process technology. We have invested and expect to continue to invest in new semiconductor product and system-level solution development. We are increasingly differentiating our products and solutions to meet the specific demands of our customers, which increases our reliance on our customers' ability to accurately forecast the needs and preferences of their customers. As a result, our product demand forecasts may be impacted significantly by the strategic actions of our customers. In addition, our ability to successfully introduce new products often requires us to make product specification decisions multiple years in advance of when new products enter the market.

It is important that we deliver products in a timely manner with increasingly advanced performance characteristics at the time our customers are designing and evaluating samples for their products. If we do not meet their product design schedules, our customers may exclude us from further consideration as a supplier for those products. The process to develop new products requires us to demonstrate advanced functionality, performance, and reliability, often well in advance of a planned ramp of production, in order to secure design wins with our customers. Many factors may negatively impact our ability to meet anticipated timelines and/or expected or required quality standards with respect to the development of certain of our products. In addition, some of our components have long lead-times, requiring us to place orders up to a year in advance of anticipated demand. Such long lead-times increase the risk of excess inventory or loss of sales in the event our forecasts vary substantially from actual demand.

There can be no assurance of the following:

- we will be successful in developing competitive new semiconductor memory and storage technologies and products;
- we will be able to cost-effectively manufacture new products;
- we will be able to successfully market these technologies;
- margins generated from sales of these products will allow us to recover costs of development efforts;
- we will be able to establish or maintain key relationships with customers, or that we will not be prohibited from working with certain customers, for specific chip set or design requirements;
- we will accurately predict and design products that meet our customers' specifications; or
- we will be able to introduce new products into the market and qualify them with our customers on a timely basis.

Unsuccessful efforts to develop new memory and storage technologies and products could have a material adverse effect on our business, results of operations, or financial condition.

We may not be able to achieve expected returns from capacity expansions.

We have announced our intent to expand our production capacity and/or make capital investments in the United States and in other regions where we operate.

These expansions involve several risks including the following:

- capital expenditure requirements for capacity expansions during periods of relatively low free cash flow generation, resulting from challenging memory and storage industry conditions;
- availability of necessary funding, which may include external sources;
- ability to realize expected grants, investment tax credits, and other government incentives, including through the U.S. CHIPS and Science Act of 2022 (“CHIPS Act”) and other national, international, state, and local grants;
- potential changes in laws or provisions of grants, investment tax credits, and other government incentives;
- potential restrictions on expanding in certain geographies;
- availability of equipment and construction materials;
- ability to complete construction as scheduled and within budget;
- availability of the necessary workforce;
- ability to timely ramp production in a cost-effective manner;
- increases to our cost structure until new production is ramped to adequate scale; and
- sufficient customer demand to utilize our increased capacity.

We invest our capital in areas that we believe best align with our business strategy and optimize future returns. Investments in capital expenditures may not generate expected returns or cash flows. Significant judgment is required to determine which capital investments will result in optimal returns, and we could invest in projects that are ultimately less profitable than those projects we do not select. Delays in completion and ramping of new production facilities, or failure to optimize our investment choices, could significantly impact our ability to realize expected returns on our capital expenditures.

Any of the above factors could have a material adverse effect on our business, results of operations, or financial condition.

Our incentives from various governments are conditional upon achieving or maintaining certain performance or other obligations and are subject to reduction, termination, clawback, or could impose certain limitations on our business.

We have received, and may in the future continue to receive, benefits and incentives from national, state, and local governments in various regions of the world designed to encourage us to establish, maintain, or increase investment, workforce, or production in those regions. These incentives may take various forms, including grants, loan subsidies, and tax arrangements, and typically require us to achieve or maintain certain levels of investment, capital spending, employment, technology deployment, or research and development activities to qualify for such incentives or could restrict us from undertaking certain activities. We may be unable to obtain significant future incentives to continue to fund a portion of our capital expenditures and operating costs, without which our cost structure would be adversely impacted. We also cannot guarantee that we will successfully achieve performance or other obligations required to qualify for these incentives or that the granting agencies will provide such funding. These incentive arrangements typically provide the granting agencies with rights to audit our compliance with their terms and obligations. Such audits could result in modifications to, or termination of, the applicable incentive program. The incentives we receive could be subject to reduction, termination, or clawback, and any decrease or clawback of government incentives could have a material adverse effect on our business, results of operations, or financial condition.

Our business, results of operations, or financial condition could be adversely affected by the availability and quality of materials, supplies, and capital equipment, or dependency on third-party service providers.

Our supply chain and operations are dependent on the availability of materials that meet exacting standards and the use of third parties to provide us with components and services. We generally have multiple sources of supply for our materials and services. However, only a limited number of suppliers are capable of delivering certain materials, components, and services that meet our standards and, in some cases, materials, components, or services are provided by a single or sole source, and we may be unable to qualify new suppliers on a timely basis. The availability of materials or components such as chemicals, silicon wafers, gases, photoresist, controllers, substrates, lead frames, printed circuit boards, targets, and reticle glass blanks is impacted by various factors. These factors could include a shortage of raw materials or a disruption in the processing or purification of those raw materials into finished goods. Shortages or increases in lead times have occurred in the past, are currently occurring with respect to some materials and components, and may occur from time to time in the future. Constraints within our supply chain for certain materials and integrated circuit components could limit our shipments, which could have a material adverse effect on our business, results of operations, or financial condition.

Our manufacturing processes are also dependent on our relationships with third-party manufacturers of controllers, analog integrated circuits, and other components used in some of our products and with outsourced semiconductor foundries, assembly and test providers, contract manufacturers, logistics carriers, and other service providers, including providers of electricity and other utilities. Although we have certain long-term contracts with some of our suppliers, many of these contracts do not provide for long-term capacity or pricing commitments. To the extent we do not have firm commitments from our third-party suppliers over a specific time period or for any specific capacity, quantity, and/or pricing, our suppliers may allocate capacity to their other customers and capacity and/or materials may not be available when needed or at reasonable prices. Inflationary pressures have increased, and may continue to increase costs for materials, supplies, and services. Regardless of contract structure, large swings in demand may exceed our contracted supply and/or our suppliers' capacity to meet those demand changes resulting in a shortage of parts, materials, or capacity needed to manufacture our products. In addition, if any of our suppliers was to cease operations or become insolvent, this could impact their ability to provide us with necessary supplies, and we may not be able to obtain the needed supply in a timely way or at all from other providers.

Certain materials are primarily available in a limited number of countries, including rare earth elements, minerals, and metals. Trade disputes, geopolitical tensions, economic circumstances, political conditions, or public health issues may limit our ability to obtain such materials. Although these rare earth and other materials are generally available from multiple suppliers, China is the predominant producer of certain of these materials. If China were to restrict or stop exporting these materials, our suppliers' ability to obtain such supply may be constrained and we may be unable to obtain sufficient quantities, or obtain supply in a timely manner, or at a commercially reasonable cost. Constrained supply of rare earth elements, minerals, and metals may restrict our ability to manufacture certain of our products and make it difficult or impossible to compete with other semiconductor memory and storage manufacturers who are able to obtain sufficient quantities of these materials from China.

We and/or our suppliers and service providers could be affected by regional conflicts, civil unrest, labor disruptions, sanctions, tariffs, embargoes, or other trade restrictions, as well as laws and regulations enacted in response to concerns regarding climate change, conflict minerals, responsible sourcing practices, public health crises, or other matters, which could limit the supply of our materials and/or increase the cost. Environmental regulations could limit our ability to procure or use certain chemicals or materials in our operations or products. In addition, disruptions in transportation lines could delay our receipt of materials. Our ability to procure components to repair equipment essential for our manufacturing processes could also be negatively impacted by various restrictions or disruptions in supply chains, among other items. The disruption of our supply of materials, components, or services, or the extension of our lead times could have a material adverse effect on our business, results of operations, or financial condition.

Our operations are dependent on our ability to procure advanced semiconductor manufacturing equipment that enables the transition to lower cost manufacturing processes. For certain key types of equipment, including photolithography tools, we are sometimes dependent on a single supplier. From time to time, we have experienced difficulties in obtaining some equipment on a timely basis due to suppliers' limited capacity. Our inability to obtain equipment on a timely basis could adversely affect our ability to transition to next generation manufacturing processes and reduce our costs. Delays in obtaining equipment could also impede our ability to ramp production and could increase our overall costs of a ramp. Our inability to obtain advanced semiconductor manufacturing equipment in a timely manner could have a material adverse effect on our business, results of operations, or financial condition.

Our construction projects to expand production and R&D capacity are highly dependent on available sources of labor, materials, equipment, and services. Increasing demand, supply constraints, inflation, and other market conditions could result in increasing shortages and higher costs for these items. Difficulties in obtaining these resources could result in significant delays in completion of our construction projects and cost increases, which could have a material adverse effect on our business, results of operations, or financial condition.

Our inability to source materials, supplies, capital equipment, or third-party services could affect our overall production output and our ability to fulfill customer demand. Significant or prolonged shortages of our products could halt customer manufacturing and damage our relationships with these customers. Any damage to our customer relationships as a result of a shortage of our products could have a material adverse effect on our business, results of operations, or financial condition.

Similarly, if our customers experience disruptions to their supplies, materials, components, or services, or the extension of their lead times, they may reduce, cancel, or alter the timing of their purchases with us, which could have a material adverse effect on our business, results of operations, or financial condition.

Downturns in regional or worldwide economies may harm our business.

Downturns in regional or worldwide economies, due to inflation, geopolitics, major central bank policy actions including interest rate increases, public health crises, or other factors, have harmed our business in the past and current and future downturns could also adversely affect our business. Adverse economic conditions affect demand for devices that incorporate our products, such as personal computers, smartphones, automobiles, and servers. Reduced demand for these or other products could result in significant decreases in our average selling prices and product sales. In addition, to the extent our customers or distributors have elevated inventory levels or are impacted by a deterioration in credit markets, we may experience a decrease in short-term and/or long-term demand resulting in industry oversupply and declines in pricing for our products.

A deterioration of conditions in regional or worldwide credit markets could limit our ability to obtain external financing to fund our operations and capital expenditures. In addition, we may experience losses on our holdings of cash and investments due to failures of financial institutions and other parties. Difficult economic conditions may also result in a higher rate of losses on our accounts receivable due to credit defaults. As a result, downturns in regional or worldwide economies could have a material adverse effect on our business, results of operations, or financial condition.

If our manufacturing process is disrupted by operational issues, natural disasters, or other events, our business, results of operations, or financial condition could be materially adversely affected.

We and our subcontractors manufacture products using highly complex processes that require technologically advanced equipment and continuous modification to improve yields and performance. Difficulties in the manufacturing process or the effects from a shift in product mix can reduce yields or disrupt production and may increase our per gigabit manufacturing costs. We and our subcontractors maintain operations and continuously implement new product and process technology at manufacturing facilities, which are widely dispersed in multiple locations in several countries including the United States, Singapore, Taiwan, Japan, Malaysia, and China. As a result of the necessary interdependence within our network of manufacturing facilities, an operational disruption at one of our or a subcontractor's facilities may have a disproportionate impact on our ability to produce many of our products.

From time to time, there have been disruptions in our manufacturing operations as a result of power outages, improperly functioning equipment, disruptions in supply of raw materials or components, or equipment failures. We have manufacturing and other operations in locations subject to natural occurrences and possible climate changes, such as severe and variable weather and geological events resulting in increased costs, or disruptions to our manufacturing operations or those of our suppliers or customers. In addition, climate change may pose physical risks to our manufacturing facilities or our suppliers' facilities, including increased extreme weather events that could result in supply delays or disruptions. Other events, including political or public health crises, such as an outbreak of contagious diseases, may also affect our production capabilities or that of our suppliers, including as a result of quarantines, closures of production facilities, lack of supplies, or delays caused by restrictions on travel or shipping. Events of the types noted above have occurred from time to time and may occur in the future. As a result, in addition to disruptions to operations, our insurance premiums may increase or we may not be able to fully recover any sustained losses through insurance.

If production is disrupted for any reason, manufacturing yields may be adversely affected, or we may be unable to meet our customers' requirements and they may purchase products from other suppliers. This could result in a significant increase in manufacturing costs, loss of revenue, or damage to customer relationships, any of which could have a material adverse effect on our business, results of operations, or financial condition.

A significant portion of our revenue is concentrated with a select number of customers.

In each of the last three years, approximately one-half of our total revenue was from our top ten customers. A disruption in our relationship with any of these customers could adversely affect our business. We could experience fluctuations in our customer base or the mix of revenue by customer as markets and strategies evolve. Our customers' demand for our products may fluctuate due to factors beyond our control. In addition, any consolidation of our customers could reduce the number of customers to whom our products may be sold. Our inability to meet our customers' requirements or to qualify our products with them could adversely impact our revenue. A meaningful change in the inventory strategy of our customers could impact our industry bit demand growth outlook. The loss of, or restrictions on our ability to sell to, one or more of our major customers, or any significant reduction in orders from, or a shift in product mix by, customers could have a material adverse effect on our business, results of operations, or financial condition.

Increases in sales of system solutions may increase our dependency upon specific customers and our costs to develop, qualify, and manufacture our system solutions.

Our development of system-level memory and storage products is dependent, in part, upon successfully identifying and meeting our customers' specifications for those products. Developing and manufacturing system-level products with specifications unique to a customer increases our reliance upon that customer for purchasing our products at sufficient volumes and prices in a timely manner. Even if our products meet customer specifications, our sales of system-level solutions are dependent upon our customers choosing our products over those of our competitors and purchasing our products at sufficient volumes and prices. Our competitors' products may be less costly, provide better performance, or include additional features when compared to our products. Our long-term ability to sell system-level memory and storage products is reliant upon our customers' ability to create, market, and sell their products containing our system-level solutions at sufficient volumes and prices in a timely manner. If we fail to successfully develop and market system-level products, our business, results of operations, or financial condition may be materially adversely affected.

Manufacturing system-level solutions, such as SSDs, managed NAND, and HBM, typically results in higher per-unit manufacturing costs as compared to other products. Even if we are successful in selling system-level solutions to our customers in sufficient volume, we may be unable to generate sufficient profit if our per-unit manufacturing costs are not offset by higher per-unit selling prices. Manufacturing system-level solutions to customer specifications requires a longer development cycle, as compared to discrete products, to design, test, and qualify, which may increase our costs. Some of our system solutions are increasingly dependent on sophisticated firmware that may require significant customization to meet customer specifications, which increases our costs and time to market. Additionally, we may need to update our controller and hardware design as well as our firmware or develop new firmware as a result of new product introductions or changes in customer specifications and/or industry standards, which increases our costs. System complexities and extended warranties for system-level products could also increase our warranty costs. Our failure to cost-effectively manufacture system-level solutions and/or controller, hardware design, and firmware in a timely manner may result in reduced demand for our system-level products and could have a material adverse effect on our business, results of operations, or financial condition.

Products that fail to meet specifications, are defective, or are otherwise incompatible with end uses could impose significant costs on us.

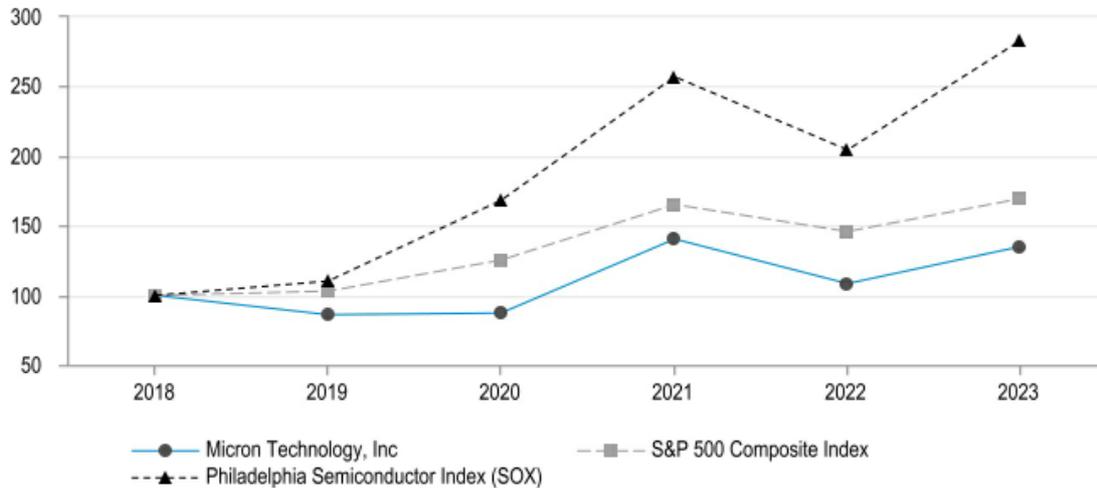
Products that do not meet specifications or that contain, or are perceived by our customers to contain, defects or that are otherwise incompatible with end uses could impose significant costs on us or otherwise materially adversely affect our business, results of operations, or financial condition. From time to time, we experience problems with nonconforming, defective, or incompatible products after we have shipped such products. In recent periods, we have further diversified and expanded our product offerings, which could potentially increase the chance that one or more of our products could fail to meet specifications in a particular application. Our products and solutions may be deemed fully or partially responsible for functionality in our customers' products and may result in sharing or shifting of product or financial liability from our customers to us for costs incurred by the end user as a result of our customers' products failing to perform as specified. In addition, if our products and solutions perform critical functions in our customers' products or are used in high-risk consumer end products, such as autonomous driver assistance programs, home and enterprise security, smoke and noxious gas detectors, medical monitoring equipment, or wearables for child and elderly safety, our potential liability may increase. We could be adversely affected in several ways, including the following:

- we may be required or agree to compensate customers for costs incurred or damages caused by defective or incompatible products and to replace products;
- we could incur a decrease in revenue or adjustment to pricing commensurate with the reimbursement of such costs or alleged damages; and
- we may encounter adverse publicity, which could cause a decrease in sales of our products or harm our reputation or relationships with existing or potential customers.

Any of the foregoing items could have a material adverse effect on our business, results of operations, or financial condition.

Performance Graph

The following graph illustrates a five-year comparison of cumulative total returns for our common stock, the S&P 500 Composite Index, and the Philadelphia Semiconductor Index (SOX) from August 31, 2018, through August 31, 2023. We operate on a 52 or 53-week fiscal year which ends on the Thursday closest to August 31. Accordingly, the last day of our fiscal year varies. For consistent presentation and comparison to the industry indices shown herein, we have calculated our stock performance graph assuming an August 31 year end.



Note: Management cautions that the stock price performance information shown in the graph above may not be indicative of current stock price levels or future stock price performance.

The performance graph above assumes \$100 was invested on August 31, 2018 in common stock of Micron Technology, Inc., the S&P 500 Composite Index, and the Philadelphia Semiconductor Index (SOX). Any dividends paid during the period presented were assumed to be reinvested. The performance was plotted using the following data:

	2018	2019	2020	2021	2022	2023
Micron Technology, Inc.	\$ 100	\$ 86	\$ 87	\$ 140	\$ 108	\$ 135
S&P 500 Composite Index	100	103	125	165	146	169
Philadelphia Semiconductor Index (SOX)	100	110	168	257	204	283

ITEM 6. [RESERVED]

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

This discussion should be read in conjunction with the consolidated financial statements and accompanying notes for the year ended August 31, 2023. All period references are to our fiscal periods unless otherwise indicated. Our fiscal year is the 52 or 53-week period ending on the Thursday closest to August 31. Fiscal 2023, 2022, and 2021 each contained 52 weeks. All tabular dollar amounts are in millions, except per share amounts.

Overview

For an overview of our business, see "Part I - Item 1. Business - Overview."

Industry Conditions

The memory and storage industry environment deteriorated sharply in the fourth quarter of 2022 and throughout 2023 due to weak demand in many end markets combined with global and macroeconomic challenges and lower demand resulting from customer actions to reduce inventory levels. This led to significant reductions in average selling prices for both DRAM and NAND and bit shipments for DRAM, resulting in declines in revenue across all our business segments and nearly all our end markets. Due to the challenging pricing environment, we recognized charges of \$1.83 billion in 2023 to write down inventories to their estimated net realizable value. Ongoing demand growth, customer inventory normalization, and industry-wide supply discipline have set the stage for increased revenue, and improved pricing and profitability throughout fiscal 2024. As a result, pricing trends have started to improve and there were no write downs of inventories to net realizable value in the fourth quarter of 2023. However, further write-downs of inventories in future quarters could occur if pricing expectations deteriorate. Given the challenging pricing environment, elevated levels of inventories for suppliers and customers, and significant supply-demand mismatch, we expect industry profitability will remain challenged into 2024.

As a result of these conditions and increases in our inventory levels, we have reduced capital expenditures and also significantly reduced wafer starts in 2023 for both DRAM and NAND. We expect wafer starts will remain significantly below peak capacity levels for the foreseeable future as we remain focused on managing down our inventories and controlling our supply. We recognized period costs from fabrication facility underutilization of \$382 million in 2023 due to wafer start reductions. We estimate that we will recognize approximately \$200 million of period costs from underutilization due to wafer start reductions in the first quarter of 2024. We have also taken significant steps to reduce our costs and operating expenses. These actions include the 2023 Restructure Plan discussed below and additional reductions in external spending, including implementing productivity programs across the business, suspension of our 2023 bonus company-wide, reductions in select product programs, lower discretionary spending, and cuts to 2023 executive salaries across the company.

Impact of China Cyberspace Administration Decision

On March 31, 2023, China's Cyberspace Administration (the "CAC") notified us that it was conducting a cybersecurity review of our products sold in China. On May 21, 2023, we received notice that the CAC had concluded its review and decided that our products presented a cybersecurity risk. As such, the CAC determined that critical information infrastructure operators in China may not purchase Micron products. There is no list of the companies that have been designated as critical information infrastructure operators published by the Chinese government or otherwise available to us. Therefore, the full impact of the CAC decision on our business remains uncertain.

The CAC decision has impacted our business, particularly in the domestic data center and networking markets in China. In addition, although demand for DRAM and NAND is improving as customer inventory levels continue to normalize and secular growth drivers remain intact, the CAC decision continues to impact our revenue opportunity in China. This significant headwind is impacting our outlook and slowing our recovery. We are working to mitigate this impact over time and expect quarter-to-quarter revenue variability. Our revenue with companies headquartered in mainland China and Hong Kong, including direct sales as well as indirect sales through distributors, is approximately a quarter of our worldwide revenue and remains our principal exposure to the CAC decision. Although the impact of the CAC decision remains uncertain, we believe that approximately half of that China-headquartered customer revenue, which equates to a low-double-digit percentage of our worldwide revenue, is at risk of being impacted. Despite the near-term impact to our demand as a result of the CAC decision, our long-term goal is to retain our worldwide DRAM and NAND market share.

2023 Restructure Plan

We initiated a restructure plan in response to challenging industry conditions (the “2023 Restructure Plan”). Under the plan, we expect our headcount reduction to approach 15% by the end of calendar 2023, through a combination of voluntary attrition and personnel reductions. In connection with the plan, we incurred restructure charges of \$171 million in 2023 primarily related to employee severance costs. The 2023 Restructure Plan was substantially completed in 2023. As a result of the 2023 Restructure Plan, we expect to realize cost savings of approximately \$130 million per quarter (approximately 60% in cost of goods sold, 30% in R&D, and 10% in SG&A) subsequent to 2023. Further information on restructure activities can be found in “Item 8. Financial Statements and Supplementary Data - Notes to Consolidated Financial Statements - Restructure and Asset Impairments.”

Lehi, Utah Fab and 3D XPoint

In 2021, we updated our portfolio strategy to further strengthen our focus on memory and storage innovations for the data center market. In connection therewith, we determined that there was insufficient market validation to justify the ongoing investments required to commercialize 3D XPoint at scale. Accordingly, we ceased development of 3D XPoint technology and engaged in discussions for the sale of our facility located in Lehi, Utah that was dedicated to 3D XPoint production. As a result, we classified the property, plant, and equipment as held for sale in 2021, ceased depreciating the assets, and recognized a \$435 million restructure and asset impairment charge and a \$104 million tax benefit.

We closed the sale of our Lehi facility to TI in 2022 for \$893 million and disposed of \$918 million of net assets, consisting primarily of property, plant, and equipment, resulting in a \$23 million loss, net of selling expenses and other adjustments.

For 2022, net cash used for financing activities included \$2.43 billion for the acquisition of 35.4 million shares of our common stock under our share repurchase authorization, \$2.03 billion of repayments of debt primarily to redeem the 2023 Notes and 2024 Notes, \$461 million of cash payments of dividends to shareholders, and \$141 million of payments on equipment purchase contracts. Cash used for financing activities was partially offset by aggregate proceeds of \$2.00 billion from the issuance of the unsecured 2032 Green Bonds, 2041 Notes, and 2051 Notes.

For 2021, net cash used for financing activities consisted primarily of \$1.20 billion for the acquisition of 15.6 million shares of our common stock under our share repurchase authorization, \$295 million of payments on equipment purchase contracts, \$185 million of cash payments to settle conversions of our 2032D Notes, and \$147 million of repayments of finance leases and other debt. In addition, we received proceeds of \$1.19 billion under an unsecured 2024 Term Loan A and used the proceeds to repay the \$1.19 billion Extinguished 2024 Term Loan A.

See "Item 8. Financial Statements and Supplementary Data - Notes to Consolidated Financial Statements - Debt."

Critical Accounting Estimates

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, expenses, and related disclosures. Estimates and judgments are based on historical experience, forecasted events, and various other assumptions that we believe to be reasonable under the circumstances. Estimates and judgments may vary under different assumptions or conditions and involve a significant level of uncertainty. We evaluate our estimates and judgments on an ongoing basis. Our management believes the accounting policies below are critical in the portrayal of our financial condition and results of operations and require management's most difficult, subjective, or complex judgments.

Contingencies: We are subject to the possibility of losses from various contingencies. Significant judgment is necessary to estimate the probability and amount of a loss, if any, from such contingencies. An accrual is made when it is probable that a liability has been incurred or an asset has been impaired, and the amount of loss can be reasonably estimated. In accounting for the resolution of contingencies, significant judgment may be necessary to estimate amounts pertaining to periods prior to the resolution that are charged to operations in the period of resolution and amounts related to future periods.

Goodwill: We test goodwill for impairment in our fourth quarter each year, or more frequently if indicators of an impairment exist, to determine whether it is more likely than not that the fair value of the reporting unit with goodwill is less than its carrying value. For reporting units for which this assessment concludes that it is more likely than not that the fair value is more than its carrying value, goodwill is considered not impaired, and we are not required to perform the goodwill impairment test. Qualitative factors considered in this assessment include industry and market considerations, overall financial performance, and other relevant events and factors affecting the fair value of the reporting unit. For reporting units for which this assessment concludes that it is more likely than not that the fair value is below the carrying value, goodwill is tested for impairment by determining the fair value of each reporting unit and comparing it to the carrying value of the net assets assigned to the reporting unit. If the fair value of the reporting unit exceeds its carrying value, goodwill is considered not impaired. If the carrying value of the reporting unit exceeds its fair value, we recognize an impairment loss up to the difference between the carrying value and implied fair value. We recognized a charge of \$101 million in 2023 to impair all of the goodwill assigned to our SBU reporting unit based on our quantitative assessment for impairment in the current year. The quantitative assessment indicated that the fair value for all of our other reporting units substantially exceeded their carrying value.

Determining when to test for impairment, the reporting units, the assets and liabilities of the reporting unit, and the fair value of the reporting unit requires significant judgment and involves the use of significant estimates and assumptions. These estimates and assumptions include revenue growth rates, forecasted manufacturing costs, and other expenses and are developed as part of our long-range planning process. The same estimates are used in business planning, forecasting, and capital budgeting as part of our long-term manufacturing capacity analysis. These estimates and assumptions are used to calculate projected future cash flows for the reporting unit, which are discounted using a risk-adjusted rate to estimate a fair value. The discount rate requires determination of appropriate market comparables. We base fair value estimates on assumptions we believe to be reasonable but that are unpredictable and inherently uncertain. Actual future results may differ from those estimates. We assess the reasonableness of our methodology, forecasts, and assumptions by comparing the aggregate calculated fair value for our reporting units to our market capitalization.

Income taxes: We are required to estimate our provision for income taxes and amounts ultimately payable or recoverable in numerous tax jurisdictions around the world. These estimates involve significant judgment and interpretations of regulations and are inherently complex. Resolution of income tax treatments in individual jurisdictions may not be known for many years after completion of the applicable year. We are also required to evaluate the realizability of our deferred tax assets on an ongoing basis in accordance with U.S. GAAP, which requires the assessment of our performance and other relevant factors. Realization of deferred tax assets is dependent on our ability to generate future taxable income. Our income tax provision or benefit is dependent, in part, on our ability to forecast future taxable income in Japan, Malaysia, the United States, Taiwan, and other jurisdictions. Such forecasts are inherently difficult and involve significant judgments including, among others, projecting future average selling prices and sales volumes, manufacturing and overhead costs, levels of capital spending, and other factors that significantly impact our analyses of the amount of net deferred tax assets that are more likely than not to be realized.

Inventories: Inventories are stated at the lower of cost or net realizable value, with cost being determined on a first-in, first-out ("FIFO") basis. Cost includes depreciation, labor, material, and overhead costs, including product and process technology costs. Determining net realizable value of finished goods and work in process inventories involves significant judgments, including projecting future average selling prices, future sales volumes, and future cost per part. To project average selling prices and sales volumes, we review recent sales volumes, existing customer orders, current contract prices, industry analyses of supply and demand, and general economic trends. To project cost per part, we review trends with historical results and consider known changes in our cost structure as applicable. Actual selling prices may vary significantly from projected prices due to the volatile nature of the semiconductor memory and storage markets. When these analyses reflect estimated net realizable values below our manufacturing costs, we record a charge to cost of goods sold in advance of when inventories are actually sold. As a result, the timing of when product costs are charged to costs of goods sold can vary significantly. Differences in future average selling prices used in calculating lower of cost or net realizable value adjustments can result in significant changes in the estimated net realizable value of finished goods and work in process inventories and accordingly the amount of write-down recorded. For example, a 5% decrease in future average selling prices would have changed the estimated net realizable value of our finished goods and work in process inventories by approximately \$600 million as of August 31, 2023.

U.S. GAAP provides for products to be grouped into categories in order to compare costs to net realizable values. The amount of any inventory write-down can vary significantly depending on the determination of inventory categories. We review the major characteristics of product type and markets in determining the unit of account for which we perform the lower of cost or net realizable value analysis and categorize all inventories (including DRAM, NAND, and other memory) as a single group.

Property, plant, and equipment: We periodically assess the estimated useful lives of our property, plant, and equipment based on technology node transitions, capital spending, and equipment re-use rates. We also review the carrying value of property, plant, and equipment for impairment when events and circumstances indicate that the carrying value of an asset or group of assets may not be recoverable from the estimated future cash flows expected to result from its use and/or disposition. In cases where undiscounted expected future cash flows are less than the carrying value, an impairment loss is recognized equal to the amount by which the carrying value exceeds the estimated fair value of the assets. The estimate of future cash flows involves numerous assumptions which require significant judgment by us, including, but not limited to, future use of the assets for our operations versus sale or disposal of the assets, future selling prices for our products, and future production and sales volumes.

Revenue recognition: Revenue is primarily recognized at a point in time when control of the promised goods is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. Contracts with our customers are generally short-term in duration at fixed, negotiated prices with payment generally due shortly after delivery. We estimate a liability for returns using the expected value method based on historical returns. In addition, we generally offer price protection to our distributors, which is a form of variable consideration that decreases the transaction price. We use the expected value method, based on historical price adjustments and current pricing trends, to estimate the amount of revenue recognized from sales to distributors. Differences between the estimated and actual amounts are recognized as adjustments to revenue.

Recently Adopted Accounting Standards

No material items.

Recently Issued Accounting Standards

No material items.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

We are exposed to interest rate risk related to our indebtedness and our investment portfolio. As of August 31, 2023 and September 1, 2022, we had fixed-rate debt with an aggregate carrying value of \$7.52 billion and \$4.03 billion, respectively, and as a result, the fair value of our debt fluctuates with changes in market interest rates. We estimate that, as of August 31, 2023 and September 1, 2022, a hypothetical 1% decrease in market interest rates would increase the fair value of our fixed-rate debt by approximately \$475 million and \$275 million, respectively.

Interest rate risk related to our investment portfolio is managed by primarily investing in shorter term securities. We estimate that, as of August 31, 2023 and September 1, 2022, a hypothetical 1% increase in interest rates would decrease the fair value of our portfolio by approximately \$20 million and \$30 million, respectively. Such impact would only be realized if investments were sold prior to maturity.

As of August 31, 2023 and September 1, 2022, we had floating-rate debt, including fixed-rate debt that is swapped to floating-rate debt, with an aggregate principal amount of \$4.63 billion and \$2.09 billion, respectively. A hypothetical 1% increase in the interest rates of this floating-rate debt would result in an increase in annual interest expense of \$46 million and \$21 million as of August 31, 2023 and September 1, 2022, respectively.

Foreign Currency Exchange Rate Risk

The information in this section should be read in conjunction with the information related to changes in the currency exchange rates in "Part I - Item 1A. Risk Factors." Changes in foreign currency exchange rates could materially adversely affect our business, results of operations, or financial condition.

Cash and Investments

All of our short-term investments and long-term marketable investments were classified as available-for-sale as of the dates noted below. Cash and equivalents and the fair values of our available-for-sale investments, which approximated amortized costs, were as follows:

	As of August 31, 2023				As of September 1, 2022			
	Cash and Equivalents	Short-term Investments	Long-term Marketable Investments ⁽¹⁾	Total Fair Value	Cash and Equivalents	Short-term Investments	Long-term Marketable Investments ⁽¹⁾	Total Fair Value
Cash	\$ 5,771	\$ -	\$ -	\$ 5,771	\$ 6,055	\$ -	\$ -	\$ 6,055
Level 1 ⁽²⁾								
Money market funds	1,629	-	-	1,629	1,196	-	-	1,196
Level 2 ⁽³⁾								
Certificates of deposit	1,172	25	-	1,197	976	50	-	1,026
Corporate bonds	-	737	437	1,174	-	759	995	1,754
Asset-backed securities	-	15	387	402	-	20	608	628
Government securities	5	131	20	156	2	155	44	201
Commercial paper	-	109	-	109	33	85	-	118
	8,577	\$ 1,017	\$ 844	\$ 10,438	8,262	\$ 1,069	\$ 1,647	\$ 10,978
Restricted cash ⁽⁴⁾	79				77			
Cash, cash equivalents, and restricted cash	\$ 8,656				\$ 8,339			

⁽¹⁾ The maturities of long-term marketable investments primarily range from one to five years, except for asset-backed securities which are not due at a single maturity date.

⁽²⁾ The fair value of Level 1 securities is measured based on quoted prices in active markets for identical assets.

⁽³⁾ The fair value of Level 2 securities is measured using information obtained from pricing services, which obtain quoted market prices for similar instruments, non-binding market consensus prices that are corroborated by observable market data, or various other methodologies, to determine the appropriate value at the measurement date. We perform supplemental analysis to validate information obtained from these pricing services. No adjustments were made to the fair values indicated by such pricing information as of August 31, 2023 or September 1, 2022.

⁽⁴⁾ Restricted cash is included in other current assets and other noncurrent assets and primarily relates to certain government incentives received prior to being earned and for which restrictions lapse upon achieving certain performance conditions or which will be returned if performance conditions are not met.

Gross realized gains and losses from sales of available-for-sale securities were not significant for any period presented.

Non-marketable Equity Investments

In addition to the amounts included in the table above, we had \$218 million and \$222 million of non-marketable equity investments without a readily determinable fair value that were included in other noncurrent assets as of August 31, 2023 and September 1, 2022, respectively. For non-marketable investments, we recognized in other non-operating income (expense) a net loss of \$7 million for 2023 and net gains of \$36 million for 2022 and \$70 million for 2021. Our non-marketable equity investments are recorded at fair value on a non-recurring basis and classified as Level 3.

Receivables

As of	August 31, 2023	September 1, 2022
Trade receivables	\$ 2,048	\$ 4,765
Income and other taxes	194	251
Other	201	114
	<u>\$ 2,443</u>	<u>\$ 5,130</u>

Inventories

As of	August 31, 2023	September 1, 2022
Finished goods	\$ 1,616	\$ 1,028
Work in process	6,111	4,830
Raw materials and supplies	660	805
	<u>\$ 8,387</u>	<u>\$ 6,663</u>

In 2023, we recorded charges of \$1.83 billion to cost of goods sold to write down the carrying value of work in process and finished goods inventories to their estimated net realizable value.

Effective as of the beginning of the second quarter of 2021, we changed our method of inventory costing from average cost to FIFO. This change in accounting principle is preferable because in an environment with continuously changing production costs FIFO more closely matches the actual cost of goods sold with the revenues from sales of those specific units, better represents the actual cost of inventories remaining on hand at any period-end, and improves comparability with our semiconductor industry peers. The change to FIFO was not material to any prior periods, nor was the cumulative effect of \$133 million material to the second quarter of 2021. As such, prior periods were not retrospectively adjusted, and the cumulative effect was reported as an increase to cost of goods sold for the second quarter of 2021 of \$133 million, with an offsetting reduction to beginning inventories. This charge resulted in a corresponding reduction to operating income (loss), a \$128 million reduction to net income (loss), and an \$0.11 reduction to diluted earnings per share for both the second quarter and the year ended 2021.

Property, Plant, and Equipment

As of	August 31, 2023	September 1, 2022
Land	\$ 283	\$ 280
Buildings	17,967	16,676
Equipment ⁽¹⁾	65,555	61,354
Construction in progress ⁽²⁾	2,464	1,897
Software	1,316	1,124
	<u>87,585</u>	<u>81,331</u>
Accumulated depreciation	<u>(49,657)</u>	<u>(42,782)</u>
	<u>\$ 37,928</u>	<u>\$ 38,549</u>

⁽¹⁾ Includes costs related to equipment not placed into service of \$2.91 billion as of August 31, 2023 and \$3.35 billion as of September 1, 2022.

⁽²⁾ Includes building-related construction, tool installation, and software costs for assets not placed into service.

Depreciation expense was \$7.67 billion, \$7.03 billion, and \$6.13 billion for 2023, 2022, and 2021, respectively. Interest capitalized as part of the cost of property, plant, and equipment was \$208 million, \$77 million, and \$66 million for 2023, 2022, and 2021, respectively.

Intangible Assets

	As of August 31, 2023			As of September 1, 2022		
	Gross Amount	Accumulated Amortization	Net Carrying Amount	Gross Amount	Accumulated Amortization	Net Carrying Amount
Product and process technology \$	613 \$	(209) \$	404 \$	742 \$	(321) \$	421 \$

In 2023, 2022, and 2021, we capitalized \$87 million, \$158 million, and \$106 million, respectively, for product and process technology with weighted-average useful lives of 9 years. Amortization expense was \$86 million, \$85 million, and \$82 million for 2023, 2022, and 2021, respectively. Expected amortization expense is \$75 million for 2024, \$51 million for 2025, \$47 million for 2026, \$43 million for 2027, and \$42 million for 2028.

Goodwill

As of	August 31, 2023	September 1, 2022
Goodwill	\$ 1,150	\$ 1,228

In the fourth quarter of 2023, we recognized a charge of \$101 million included in other operating income (loss) to impair all of the goodwill assigned to our SBU reporting unit based on a quantitative assessment for impairment. We evaluated the fair value of our reporting units for the assessment based on an income approach, which uses a discounted cash flow methodology. The impairment of SBU goodwill reflects lower forecasted cash flows for SBU as a result of adverse conditions in the storage industry environment due to weak demand in many end markets combined with global and macroeconomic challenges and lower demand resulting from customer actions to reduce elevated inventory levels. These conditions led to significant reductions in SBU's average selling prices and bit shipments, driving declines in revenue and cash flows. The quantitative assessment for impairment indicated that the fair value for all of our other reporting units substantially exceeded their carrying value.

As of August 31, 2023, CNBU, MBU, and EBU had goodwill of \$855 million, \$198 million, and \$97 million, respectively. As of September 1, 2022, CNBU, MBU, SBU, and EBU had goodwill of \$832 million, \$198 million, \$101 million, and \$97 million, respectively. The Company added \$23 million of goodwill to CNBU from an acquisition in the third quarter of 2023.

Leases

We have finance and operating leases through which we obtain the right to use facilities, land, and equipment that support our business operations. Our finance leases consist primarily of (i) gas and other supply agreements that are deemed to contain embedded leases and (ii) equipment leases. Our operating leases consist primarily of offices, laboratories, other facilities, and land. Certain of our operating leases include one or more options to extend the lease term for periods from one year to 10 years for real estate and one year to 99 years for land.

Certain supply or service agreements require us to exercise significant judgment to determine whether the agreement contains a lease. Our assessment includes determining whether we or the supplier control the assets used to fulfill the agreements by identifying whether we or the supplier have the right to change the type, quantity, timing, or location of the output of the assets. Our gas supply arrangements generally are deemed to contain a lease because we have the right to substantially all of the output of the assets used to produce the supply and we have the right to change the quantity and timing of the output of those assets. In determining the lease term, we assess whether we are reasonably certain to exercise any options to renew or terminate a lease or to purchase the right-of-use asset. Measuring the present value of the initial lease liability requires judgment to determine the discount rate, which we base on interest rates for borrowings with similar terms and collateral issued by entities with credit ratings similar to ours.

Government incentives related to capital expenditures have reduced property, plant and equipment by \$1.57 billion as of August 31, 2023, of which \$584 million pertained to 2023 expenditures.

In 2023, operating income (loss) benefited by \$318 million (approximately 93% in COGS and 7% in R&D) from government incentives recognized as a reduction of expense, primarily in the form of reduced depreciation expense.

Revenue

Revenue is primarily recognized at a point in time when control of the promised goods is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. Substantially all contracts with our customers are short-term in duration at fixed, negotiated prices with payment generally due shortly after delivery. From time to time, we have contracts with initial terms that include performance obligations that extend beyond one year. As of August 31, 2023, our future performance obligations beyond one year were not significant.

As of August 31, 2023 and September 1, 2022, other current liabilities included \$453 million and \$1.26 billion, respectively, for estimates of consideration payable to customers including estimates for pricing adjustments and returns.

In 2023, we received an aggregate of \$228 million from settlements of insurance claims involving a power disruption in 2022 and an operational disruption in 2017, of which \$186 million was for business interruption and recognized in revenue.

Revenue by Technology

For the year ended	2023	2022	2021
DRAM	\$ 10,978	\$ 22,386	\$ 20,039
NAND	4,206	7,811	7,007
Other (primarily NOR)	356	561	659
	<u>\$ 15,540</u>	<u>\$ 30,758</u>	<u>\$ 27,705</u>

See "Segment and Other Information" for disclosure of disaggregated revenue by market segment.

Restructure and Asset Impairments

For the year ended	2023	2022	2021
Employee severance	\$ 163	\$ -	\$ 3
Asset impairments and other asset-related costs	14	63	478
Other	(6)	(15)	7
	<u>\$ 171</u>	<u>\$ 48</u>	<u>\$ 488</u>

In 2023, we initiated the 2023 Restructure Plan in response to challenging industry conditions. Under the 2023 Restructure Plan, we expect our headcount reduction to approach 15% by the end of calendar 2023 through a combination of voluntary attrition and personnel reductions. In connection with the plan, we incurred restructure charges of \$171 million in 2023, primarily related to employee severance costs. The plan was substantially completed in the third quarter of 2023. As of August 31, 2023, we had paid \$167 million in 2023 in connection with the 2023 Restructure Plan and the remaining liability was \$4 million.

Restructure and asset impairments for 2022 and 2021 are primarily related to the sale of our Lehi, Utah facility. See "Lehi, Utah Fab and 3D XPoint."

Other Operating (Income) Expense, Net

For the year ended	2023	2022	2021
Goodwill impairment	\$ 101	\$ -	\$ -
Litigation settlement	68	-	-
Patent license charges	-	-	128
(Gain) loss on disposition of property, plant, and equipment	(54)	(41)	(24)
Other	9	7	(9)
	<u>\$ 124</u>	<u>\$ (34)</u>	<u>\$ 95</u>

Other Non-Operating Income (Expense), Net

For the year ended	2023	2022	2021
Gain (loss) on investments	\$ (8)	\$ 26	\$ 82
Loss on debt repurchases and conversions	-	(83)	(1)
Other	15	19	-
	<u>\$ 7</u>	<u>\$ (38)</u>	<u>\$ 81</u>

Income Taxes

Our income tax (provision) benefit consisted of the following:

For the year ended	2023	2022	2021
Income (loss) before income taxes and equity in net income (loss) of equity method investees			
U.S.	\$ 235	\$ 112	\$ (211)
Foreign	(5,893)	9,459	6,429
	<u>\$ (5,658)</u>	<u>\$ 9,571</u>	<u>\$ 6,218</u>
Income tax (provision) benefit			
Current			
U.S. federal	\$ (5)	\$ (65)	\$ (42)
State	(1)	(1)	(1)
Foreign	(178)	(528)	(370)
	<u>(184)</u>	<u>(594)</u>	<u>(413)</u>
Deferred			
U.S. federal	(84)	(166)	(9)
State	-	(225)	28
Foreign	91	97	-
	<u>7</u>	<u>(294)</u>	<u>19</u>
Income tax (provision) benefit	<u>\$ (177)</u>	<u>\$ (888)</u>	<u>\$ (394)</u>