

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

(Mark one)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended October 31, 2021

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ **to** _____

Commission file number 000-06920

Applied Materials, Inc.

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

94-1655526

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

3050 Bowers Avenue

P.O. Box 58039

Santa Clara, California 95052-8039

(Address of principal executive offices)

(408) 727-5555

(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock, par value \$.01 per share	AMAT	The NASDAQ Stock Market LLC

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). 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 definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

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

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

Aggregate market value of the voting stock held by non-affiliates of the registrant as of May 2, 2021, based upon the closing sale price reported by the NASDAQ Global Select Market on that date: \$120,888,771,285

Number of shares outstanding of the registrant's Common Stock, \$.01 par value, as of December 10, 2021: 888,513,248

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of Part III will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

Caution Regarding Forward-Looking Statements

This Annual Report on Form 10-K of Applied Materials, Inc. and its subsidiaries, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7, contains forward-looking statements that involve a number of risks and uncertainties.

This report contains forward-looking statements that involve a number of risks and uncertainties. Examples of forward-looking statements include those regarding Applied’s future financial or operating results, customer demand and spending, end-user demand, Applied’s and market and industry trends and outlooks, the impact of the ongoing COVID-19 pandemic and responses thereto on Applied’s operations and financial results, cash flows and cash deployment strategies, declaration of dividends, share repurchases, business strategies and priorities, costs and cost controls, products, competitive positions, management’s plans and objectives for future operations, research and development, acquisitions, investments and divestitures, growth opportunities, restructuring and severance activities, backlog, working capital, liquidity, investment portfolio and policies, taxes, supply chain, manufacturing, properties, legal proceedings and claims, and other statements that are not historical facts, as well as their underlying assumptions. Forward-looking statements may contain words such as “may,” “will,” “should,” “could,” “would,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “intend,” “potential” and “continue,” the negative of these terms, or other comparable terminology. All forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in Part I, Item 1A, “Risk Factors,” below and elsewhere in this report. These and many other factors could affect Applied’s future financial condition and operating results and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Applied or on its behalf. Forward-looking statements are based on management’s estimates, projections and expectations as of the date hereof, and Applied undertakes no obligation to revise or update any such statements.

The following information should be read in conjunction with the Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included in this report.

APPLIED MATERIALS, INC.
FORM 10-K FOR THE FISCAL YEAR ENDED OCTOBER 31, 2021
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PART I

Item 1: *Business*

Incorporated in 1967, Applied Materials, Inc. (Applied) is a Delaware corporation. A global company with a broad set of capabilities in materials engineering, Applied provides manufacturing equipment, services and software to the semiconductor, display and related industries. With its diverse technology capabilities, Applied delivers products and services that improve device performance, yield and cost. Applied's customers include manufacturers of semiconductor chips, liquid crystal and organic light-emitting diode (OLED) displays, and other electronic devices. These customers may use what they manufacture in their own end products or sell the items to other companies for use in advanced electronic components. Applied's fiscal year ends on the last Sunday in October.

Applied operates in three reportable segments: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets. A summary of financial information for each reportable segment is found in Note 18 of Notes to Consolidated Financial Statements. A discussion of factors that could affect operations is set forth under "Risk Factors" in Item 1A, which is incorporated herein by reference.

Semiconductor Systems

Applied's Semiconductor Systems segment develops, manufactures and sells a wide range of manufacturing equipment used to fabricate semiconductor chips, also referred to as integrated circuits (ICs). The Semiconductor Systems segment includes semiconductor capital equipment used for many steps of the chip making process including the transfer of patterns into device structures, transistor and interconnect fabrication, metrology, inspection and review, and packaging technologies for connecting finished IC die. Applied's patterning systems and technologies address challenges resulting from shrinking pattern dimensions and the growing complexity in vertical stacking found in today's most advanced semiconductor devices. Applied's transistor and interconnect products and technologies enable continued power and performance improvements of 3D transistors. Applied's metrology, inspection and review systems' imaging capabilities and algorithms employ optical and e-beam technologies to meet the most advanced technical demands in areas including self-aligned double and quad patterning, extreme ultraviolet layers, measurement-intensive optimal proximity correction mask qualification, and new 3D architectures. Applied's packaging technologies address challenges resulting from the increasing heterogeneous integration of multiple IC dies in a single package. Applied delivers leading-edge capabilities that enable chipmakers to establish accurate statistical process control, ramp up production runs rapidly, and achieve consistently high production yields. Applied's new equipment is sold to integrated device manufacturers and foundries worldwide.

Technologies	Product(s)
<p>Epitaxy</p> <p>Epitaxy (or epi) is a technique for growing silicon (e.g. silicon with another element) as a uniform crystalline structure on a wafer to form high quality material for the device circuitry. Epi technology is used in device transistors to enhance chip speed.</p>	Centura RP Epi
<p>Ion Implant</p> <p>Ion implantation is a key technology for forming transistors and is used many times during chip fabrication. During ion implantation, wafers are bombarded by a beam of electrically-charged ions, called dopants, which can change the electrical properties of the exposed semiconductor material.</p>	VIISta Systems
<p>Oxidation/Nitridation</p> <p>Applied's systems provide critical oxidation steps - like memory gate oxide, shallow trench isolation and liner oxide - for advanced device scaling.</p>	Vantage, Radiance and Centura Systems
<p>Rapid Thermal Processing (RTP)</p> <p>RTP is used primarily for annealing, which modifies the properties of deposited films. Applied's single-wafer RTP systems are also used for growing high quality oxide and oxynitride films.</p>	Vantage Systems
<p>Physical Vapor Deposition (PVD)</p> <p>PVD is used to deposit high quality metal films. Applications include metal gate, silicides, contact liner/barrier, interconnect copper barrier seed and metal hard mask.</p>	Endura, Charger and Axcela Systems
<p>Chemical Vapor Deposition (CVD)</p> <p>CVD is used to deposit dielectric and metal films on a wafer. During the CVD process, gases that contain atoms of the material to be deposited react on the wafer surface, forming a thin film of solid material.</p>	Endura, Centura and Producer Systems
<p>Chemical Mechanical Planarization (CMP)</p> <p>CMP is used to planarize a wafer surface, a process that allows subsequent photolithography patterning and material deposition steps to occur with greater accuracy, resulting in more uniform film layers with minimal thickness variations.</p>	Reflexion and Mirra Systems
<p>Electrochemical Deposition (ECD)</p> <p>ECD is a process by which metal atoms from a chemical fluid (an electrolyte) are deposited on the surface of an immersed object.</p>	Raider and Nokota Platforms
<p>Atomic Layer Deposition (ALD)</p> <p>ALD technology enables ultra thin film growth of either a conducting or insulating material with uniform coverage in nanometer-sized structures.</p>	Olympia System
<p>Etch</p> <p>Etching is used many times throughout the IC manufacturing process to selectively remove material from the surface of a wafer. Applied offers systems for etching dielectric, metal, and silicon films to meet the requirements of advanced processing.</p>	Centris and Producer Systems
<p>Selective Processing (Deposition and Removal)</p> <p>Selective processing uses specially co-designed chemical and materials interactions to enable delicate and precise deposition and removal of target materials.</p>	Endura and Producer Systems
<p>Metrology and Inspection</p> <p>Metrology and inspection tools are used to locate, measure, and analyze defects and features on the wafer during various stages of the fabrication processes. Applied enables customers to characterize and control critical dimension (CD) and defect issues, especially at advanced generation technology nodes.</p>	SEMVision eBeam Review PROVision eBeam Metrology and Inspection Enlight Optical Inspection UVision Optical Inspection VeritySEM CD-SEM Metrology Aera Mask Inspection

Applied Global Services

The Applied Global Services® (AGS) segment provides integrated solutions to optimize equipment and fab performance and productivity, including spares, upgrades, services, remanufactured earlier generation equipment and factory automation software for semiconductor, display and other products. Customer demand for products and services is fulfilled through a global distribution system in more than 170 locations and trained service engineers located in close proximity to customer sites to support over 45,900 installed Applied semiconductor, display and other manufacturing systems worldwide. Applied offers the following general types of services and products under the Applied Global Services segment.

AGS Solutions and Technology

Technology-Enabled Services®

A comprehensive service product portfolio that combines service technology and tool specific performance commitments in order to optimize customer factory productivity.

Fab Consulting

Experts using advanced analytical tools to solve production problems that have the greatest impact on customer fab productivity.

Supply Chain Assurance Programs

Spare parts product portfolio offers options to balance inventory, cost and risk to efficiently meet fab requirements.

Subfab Equipment

Applied SubFab solutions lower costs, save energy, reduce environmental impact, and meet Environmental Protection Agency reporting regulations for greenhouse gas emissions.

Legacy Equipment

Comprehensive 200mm equipment and upgrades portfolio to address a full spectrum of production needs and extend tool lifetime. Applied 200mm equipment supports market inflections and new technology for a broad variety of devices including analog, power, and MEMS.

Automation Software

Applied SmartFactory® automation software portfolio coordinates and streamlines every aspect of a factory-the processes, equipment and people-to provide competitive advantage to customers.

Display and Adjacent Markets

The Display and Adjacent Markets segment is comprised of products for manufacturing liquid crystal displays (LCDs), organic light-emitting diodes (OLEDs), and other display technologies for TVs, monitors, laptops, personal computers (PCs), electronic tablets, smart phones, and other consumer-oriented devices. While similarities exist between the technologies utilized in semiconductor and display fabrication, the most significant differences are in the size and composition of the substrate. Substrates used to manufacture display panels and other devices are typically glass, although newer flexible materials are entering the market. Display and Adjacent Markets industry growth depends primarily on consumer demand for increasingly larger and more advanced TVs and high-resolution displays for mobile devices as well as new form factors, including thin, light, curved and flexible displays, and new applications such as augmented and virtual reality. The Display and Adjacent Markets segment offers a variety of technologies and products, including:

Display and Adjacent Markets Technologies	Product(s)
Array Test LCD display substrates are inspected at many stages of production to maximize yield, minimize scrap, optimize equipment utilization, and monitor manufacturing processes. At the completion of the array stage, the performance of the millions of individual pixels on each display is tested.	Electron Beam Array Tester
Defect Review Defects are identified during inspection steps and reviewed by a scanning electron microscope and other analyses to determine defect root cause and composition.	Electron Beam Review (EBR)
Chemical Vapor Deposition (CVD) During CVD processing, gases containing atoms or molecules are introduced into the process chamber. The gases form reactive radicals or ions, which undergo chemical reactions to form thin films on the heated substrate.	AKT PECVD Systems
Physical Vapor Deposition (PVD) PVD is used to deposit high quality films of metals, alloys, transparent conductors and semiconductors. In Display, these films are used for contact, interconnect, transparent electrodes and transistor materials in TFT-LCD and OLED display backplanes, as well as for transparent electrodes in color filters and touch panels.	AKT Aristo and PiVot Systems

Backlog

Applied manufactures systems to meet demand represented by order backlog and customer commitments. Backlog consisted of: (1) orders for which written authorizations have been accepted, or shipment has occurred but revenue has not been recognized; and (2) contractual service revenue and maintenance fees.

Backlog by reportable segment as of October 31, 2021 and October 25, 2020 was as follows:

	2021		2020	
	(In millions, except percentages)			
Semiconductor Systems	\$ 6,679	57 %	\$ 2,880	43 %
Applied Global Services	4,335	37 %	2,607	39 %
Display and Adjacent Markets	735	6 %	1,115	17 %
Corporate and Other	9	— %	54	1 %
Total	\$ 11,758	100 %	\$ 6,656	100 %

Of the total backlog as of October 31, 2021, approximately 21% is not reasonably expected to be filled within the next 12 months.

Applied's backlog on any particular date is not necessarily indicative of actual sales for any future periods, due to the potential for customer changes in delivery schedules or order cancellations. Customers may delay delivery of products or cancel orders prior to shipment, subject to possible cancellation penalties. Delays in delivery schedules or a reduction of backlog during any particular period could have a material adverse effect on Applied's business and results of operations.

Manufacturing, Raw Materials and Supplies

Applied's worldwide manufacturing activities consist primarily of assembly, integration and test of various proprietary and commercial parts, components and subassemblies that are used to manufacture systems. Applied has implemented a distributed manufacturing model under which manufacturing and supply chain activities are conducted in various countries, including Germany, Israel, Singapore, Taiwan, the United States and other countries in Asia. Applied uses qualified vendors, including contract manufacturers, to supply parts, services and product support. Applied's supply chain strategy adheres to ethical labor practices, responsible minerals sourcing, Responsible Business Alliance and SEMI guidelines, and the Applied Materials Standards of Business Conduct as defined in Applied's Environmental, Social and Governance (ESG) commitment.

Although Applied makes reasonable efforts to assure that parts are available from multiple qualified suppliers, this is not always possible. Accordingly, some key parts may be obtained from only a qualified single supplier or a limited group of qualified suppliers. Applied seeks to reduce costs and to lower the risks of manufacturing and service interruptions by selecting and qualifying alternate suppliers for parts; monitoring the financial condition of key suppliers; maintaining appropriate inventories of parts; qualifying new parts on a timely basis; and ensuring quality and performance of parts.

Research, Development and Engineering

Applied's long-term growth strategy requires continued development of new materials engineering capabilities, including products and platforms that enable expansion into new and adjacent markets. Applied's significant investments in research, development and engineering (RD&E) must generally enable it to deliver new products and technologies before the emergence of strong demand, thus allowing customers to incorporate these products into their manufacturing plans during early-stage technology selection. Applied works closely with its global customers and ecosystem partners to design systems and processes that meet planned technical and production requirements.

Applied's product development and engineering organizations are located primarily in the United States, as well as in China, Europe, India, Israel, Singapore and Taiwan. In addition, certain outsourced RD&E activities, process support and customer demonstrations are performed in the United States, India, China, Singapore and Taiwan.

Marketing and Sales

Because of the highly technical nature of its products, Applied markets and sells products worldwide almost entirely through a direct sales force.

Applied has operations in many countries, with some of its business activities concentrated in certain geographic areas, and global and regional economic conditions can impact the company's business and financial results. Applied's business is based on capital equipment investments by major semiconductor, display and other manufacturers, and is subject to significant variability in customer demand for Applied's products. Customers' expenditures depend on many factors, including: general economic conditions; anticipated market demand and pricing for semiconductors, display technologies and other electronic devices; the development of new technologies; customers' factory utilization; capital resources and financing; and government policies and incentives. In addition, a significant driver in the semiconductor and display industries has been end-demand for mobile consumer products, which has been characterized by seasonality that impacts the timing of customer investments in manufacturing equipment and, in turn, Applied's business.

Information on net sales to unaffiliated customers and long-lived assets attributable to Applied's geographic regions is included in Note 18 of Notes to Consolidated Financial Statements. The following companies accounted for at least 10 percent of Applied's net sales in each fiscal year, which were for products and services in multiple reportable segments.

	2021	2020	2019
Samsung Electronics Co., Ltd.	20%	18%	*
Taiwan Semiconductor Manufacturing Company Limited	15%	18%	14%
Intel Corporation	*	*	12%

* Less than 10%

Competition

The industries in which Applied operates are highly competitive and characterized by rapid technological change. Applied's ability to compete generally depends on its ability to commercialize its technology in a timely manner, continually improve its products, and develop new products that meet constantly evolving customer requirements. Significant competitive factors include technical capability and differentiation, productivity, cost-effectiveness and the ability to support a global customer base. The importance of these factors varies according to customers' needs, including product mix and respective product requirements, applications, and the timing and circumstances of purchasing decisions. Substantial competition exists in all areas of Applied's business. Competitors range from small companies that compete in a single region, which may benefit from policies and regulations that favor domestic companies, to global, diversified companies. Applied's ability to compete requires a high level of investment in RD&E, marketing and sales, and global customer support activities. Management believes that many of Applied's products have strong competitive positions.

The competitive environment for each segment is described below.

The semiconductor industry is driven by demand for advanced electronic products, including smartphones and other mobile devices, servers, personal computers, automotive electronics, storage, and other products. The growth of data and emerging end-market drivers such as artificial intelligence, the Internet of Things, 5G networks, smart vehicles and augmented and virtual reality are also creating the next wave of growth for the industry. As a result, products within the Semiconductor Systems segment are subject to significant changes in customer requirements, including transitions to smaller dimensions, increasingly complex chip architectures, new materials and an increasing number of applications. While certain existing technologies may be adapted to new requirements, some applications create the need for an entirely different technological approach. The rapid pace of technological change can quickly diminish the value of current technologies and products and create opportunities for existing and new competitors. Applied offers a variety of differentiated products that must continuously evolve to satisfy customers' requirements to compete effectively in the marketplace. Applied allocates resources among its numerous product offerings and therefore may decide not to invest in an individual product depending on market requirements. There are a number of competitors serving the semiconductor manufacturing equipment industry, which has experienced increasing consolidation. Some of these competitors offer a single product line and others offer multiple product lines, and range from serving a single region to global, diversified companies.

Products and services within the Applied Global Services segment complement Semiconductor Systems and Display and Adjacent Markets segments' products in markets that are characterized by demanding worldwide service requirements and a diverse group of numerous competitors. To compete effectively, Applied offers products and services to improve tool performance, lower overall cost of ownership, and increase yields and productivity of customers' fab operations. Significant competitive factors include productivity, cost-effectiveness, and the level of technical service and support. The importance of these factors varies according to customers' needs and the type of products or services offered.

Products in the Display and Adjacent Markets segment are generally subject to strong competition from a number of major competitors primarily in Asia. Applied holds established market positions with its technically-differentiated LCD and OLED manufacturing solutions for PECVD, color filter PVD, PVD array, PVD touch panel, and TFT array testing, although its market position could change quickly due to customers' evolving requirements. Important factors affecting the competitive position of Applied's Display and Adjacent Markets products include: industry trends, Applied's ability to innovate and develop new products, and the extent to which Applied's products are technically-differentiated, as well as which customers within a highly concentrated customer base are making capital equipment investments and Applied's existing position at these customers.

Patents and Licenses

Applied's competitive position significantly depends upon its research, development, engineering, manufacturing and marketing capabilities, as well as its patent position. Protection of Applied's technology assets through enforcement of its intellectual property rights, including patents, is important. Applied's practice is to file patent applications in the United States and other countries for inventions that it considers significant. Applied has approximately 15,700 patents in the United States and other countries, and additional applications are pending for new inventions. Although Applied does not consider its business materially dependent upon any one patent, the rights of Applied and the products made and sold under its patents, taken as a whole, are a significant element of its business. In addition to its patents, Applied possesses other intellectual property, including trademarks, know-how, trade secrets, and copyrights.

Applied enters into patent and technology licensing agreements with other companies when it is determined to be in its best interest. Applied pays royalties under existing patent license agreements for the use, in several of its products, of certain patented technologies. Applied also receives royalties from licenses granted to third parties. Royalties received from or paid to third parties have not been material to Applied's consolidated results of operations.

In the normal course of business, Applied periodically receives and makes inquiries regarding possible patent infringement. In responding to such inquiries, it may become necessary or useful for Applied to obtain or grant licenses or other rights. However, there can be no assurance that such licenses or rights will be available to Applied on commercially reasonable terms, or at all. If Applied is not able to resolve or settle claims, obtain necessary licenses on commercially reasonable terms, or successfully prosecute or defend its position, Applied's business, financial condition and results of operations could be materially and adversely affected.

Governmental Regulation

As a public company with global operations, Applied is subject to the laws and regulations of the United States and multiple foreign jurisdictions. These regulations, which differ among jurisdictions, include those related to financial and other disclosures, accounting standards, corporate governance, intellectual property, tax, trade, including import, export and customs, antitrust, environment, employment, immigration and travel regulations, privacy, data protection and localization, and anti-corruption. See *"Risk Factors – Risks Related to Legal and Compliance – Applied is exposed to various risks related to the global regulatory environment"* for further details.

With respect to environmental, health and safety regulations, Applied maintains a number of programs that are primarily preventative in nature and regularly monitors ongoing compliance with applicable laws and regulations. In addition, Applied has trained personnel to conduct investigations of any environmental, health, or safety incidents, including, but not limited to, spills, releases, or possible contamination. See also *"Risk Factors – Risks Related to Legal and Compliance - Applied is subject to risks associated with environmental, health and safety regulations and sustainability requirements"* for further details.

Applied is subject to income taxes in the United States and foreign jurisdictions. Applied's provision for income taxes and effective tax rate could be affected by numerous factors, including changes in applicable tax laws, interpretations of applicable tax laws, amount and composition of pre-tax income in jurisdictions with differing tax rates, and valuation of deferred tax assets. There have been a number of proposed changes in the tax laws that could increase Applied's tax liability. See *"Risk Factors – Risks Related to Applied's Business, Finance and Operations – Applied is exposed to risks associated with operating in jurisdictions with complex and changing tax laws"* for further details. For additional discussions regarding the impact of compliance with income tax laws and regulations on Applied's business and operations, see also *"Management's Discussion and Analysis of Financial Condition and Results of Operations– Results of Operations – Income Taxes"* and *"Note 16 of the Notes to the Consolidated Financial Statements"*.

Additionally, Applied is regulated under various international laws regarding the purchase and sale of goods and related items, including but not limited to those related to imposition of tariffs and other taxes, requirements for import/export licenses and limitations on transfer of intellectual property. See *"Risk Factors – Risks Associated with Operating a Global Business – International trade disputes could result in increase in tariffs and other trade restrictions and protectionist measures that could adversely impact our operations and reduce the competitiveness of our products relative to local and global competitors"* for further details.

Applied's People

Applied's commitment to innovation begins with the commitment to creating an environment in which Applied's employees can do their best work. Applied's ability to create differentiated value in the marketplace is driven by the capability of the Company's people to anticipate technology inflections and integrate customer requirements. To achieve this level of value creation, Applied believes it must attract, hire, develop and retain a world-class global workforce. The Company invests in its employees by providing quality training and learning opportunities; promoting inclusion, equity and diversity; and upholding a high standard of ethics and respect for human rights.

As of October 31, 2021, Applied employed approximately 27,000 regular full-time employees, of whom approximately 46%, 42% and 12% resided in the Asia-Pacific region, North America, and Europe, Middle East and Africa, respectively. Applied's team spans 19 countries, reflecting various cultures, backgrounds, race, color, national origin, religion, sex, sexual orientation, gender identity, ages, and disability, veteran and military status.

Diversity, Equity and Inclusion

Applied values great talent and different perspectives, knowing that diversity is one of its greatest strengths. The Company therefore strives to provide fair and equal opportunity for career development and advancement to all its employees and incorporates respect for diverse backgrounds and perspectives into the Company's culture at every level – from strategy and policy down to everyday interactions.

Applied expects that its commitment to strengthening the Company's culture of inclusion will broaden the diversity of its workplace and help Applied build a culture that benefits everyone. In recent years, Applied continued to make progress in its culture of inclusion journey, including, among other things, expanding gender diversity on the Company's Board to 40% female membership, increasing female representation in the U.S. and global workforce, and increasing U.S. underrepresented minority representation. As of October 31, 2021, Applied's global workforce was 81.9% male and 18.1% female, and 16.4% of Applied's workforce in the United States was composed of underrepresented minorities.

Additionally, Applied is investing in inclusion learning experiences. For example, the Company is implementing programs to further develop its leaders to lead even more inclusively and further deepen engagement with employees.

Talent Acquisition and Retention

Applied believes that its future success is highly dependent upon the Company's continued ability to attract, develop, retain and engage employees. As part of the Company's effort to attract and retain employees, Applied offers competitive rewards, compensation and benefits, including an Employee Stock Purchase Plan, healthcare and retirement benefits, parental and family leave, adoption credits, holiday and paid time off, and tuition assistance.

Employee Learning & Development

Applied believes continuous learning by its people feeds the Company's pipeline of innovation and pays off in employee retention. Applied's business units maintain an independent strategy for skill-building, using content that is owned, supervised, developed, and managed by each unit's learning team. At the same time, these skill-building programs are aligned around a common set of objectives and framework focused on compliance, technical, professional and management development. For example, the Company's Environmental, Health & Safety (EHS) and Sustainability organization leads employee training and awareness on EHS management issues and the certification processes for safety and skills related to technical manufacturing and engineering work. In addition, all employees have opportunities for training on a wide range of general professional skills that are designed to help them to be more effective in their current and future roles. There is an expectation that every employee has a development goal as a part of individual performance objectives. Historically more than 85% of employees have had development objectives.

Employee Engagement, Organizational Health and Pandemic Response

Applied has historically managed and measured organizational health with a view to gaining insight into employees' experiences, levels of workplace satisfaction, and feelings of engagement and inclusion. The Company has used McKinsey & Company's Organizational Health Index (OHI) and employee engagement pulse surveys to measure its organizational health and employee experiences. Insights from the Company's surveys are used to develop both company-wide and business unit level organizational and talent development plans.

Since the onset of the COVID-19 pandemic, Applied's top priority remains protecting the health and safety of its employees and their families, customers, suppliers and community. This includes an understanding of its employees' engagement and experiences during the pandemic and developing a return to work and future of work strategy. In fiscal 2020 and fiscal 2021, Applied conducted surveys focused on employee engagement and productivity and on the future of work. Applied continues to support workplace flexibility such as remote working where possible, and follow enhanced safety and health protocols—including screenings, social distancing, and use of personal protective equipment.

Additional information regarding Applied's activities related to its people and sustainability, as well as its workforce diversity data, can be found in Applied's latest Sustainability Report and Annex thereto, which are located on its website at <https://www.appliedmaterials.com/company/corporate-responsibility>. The Sustainability Report and the Annex thereto are updated annually. This website address is intended to be an inactive textual reference only. None of the information on, or accessible through, Applied's website is part of this Form 10-K or is incorporated by reference herein.

Information about our Executive Officers

The following table and notes set forth information about Applied's executive officers:

<u>Name of Individual</u>	<u>Position</u>
Gary E. Dickerson(1)	President, Chief Executive Officer
Ginetto Addiego(2)	Senior Vice President, Semiconductor Global Operations and Corporate Quality
Robert J. Halliday(3)	Senior Vice President, Chief Financial Officer
Teri Little(4)	Senior Vice President, Chief Legal Officer and Corporate Secretary
Omkaram Nalamasu(5)	Senior Vice President, Chief Technology Officer
Prabu Raja(6)	Senior Vice President, Semiconductor Products Group
Ali Salehpour(7)	Senior Vice President, Services, Display and Flexible Technology
Charles Read(8)	Corporate Vice President, Corporate Controller and Chief Accounting Officer

- (1) Mr. Dickerson, age 64, was named President of Applied in June 2012 and appointed Chief Executive Officer and a member of the Board of Directors in September 2013. Before joining Applied, he served as Chief Executive Officer and a director of Varian Semiconductor Equipment Associates, Inc. (Varian) from 2004 until its acquisition by Applied in November 2011. Prior to Varian, Mr. Dickerson served 18 years with KLA-Tencor Corporation (KLA-Tencor), a supplier of process control and yield management solutions for the semiconductor and related industries, where he held a variety of operations and product development roles, including President and Chief Operating Officer. Mr. Dickerson started his semiconductor career in manufacturing and engineering management at General Motors' Delco Electronics Division and then AT&T Technologies.
- (2) Dr. Addiego, age 62, has been Senior Vice President, Semiconductor Global Operations and Corporate Quality since June 2015. He served as Senior Vice President, Engineering from March 2014 to June 2019. He previously worked at Applied from 1996 to 2005, leading various product groups as well as global organizations, including Global Operations, Facilities and Real Estate, Foundation Engineering, and Information Technology. From March 2011 to March 2014, Dr. Addiego was President and Chief Operating Officer of Ultra Clean Technology Corp., a public company listed on Nasdaq and a supplier of critical subsystems for the semiconductor capital equipment, medical device, energy, research, and flat panel industries. From February 2005 to March 2011, Dr. Addiego worked at Novellus Systems, Inc., a provider of advanced process equipment for the semiconductor industry, where he served as Executive Vice President of Corporate Global Operations responsible for Central Engineering, Facilities, Real Estate, Human Resources and Information Technology, and as Chief Administrative Officer.
- (3) Mr. Halliday, age 67, has been Senior Vice President and Chief Financial Officer since September 2021. Mr. Halliday previously served as Corporate Vice President and advisor to Applied in areas such as business development and government affairs since September 2017, and prior to that was Applied's Chief Financial Officer from February 2013 to August 2017. Prior to that he served as Group Vice President and General Manager of the Silicon Systems segment following the completion of Applied's acquisition of Varian in November 2011. Mr. Halliday had served as Chief Financial Officer of Varian since 2001 and as an Executive Vice President of Varian since 2004. He was Varian's Treasurer from November 2002 to October 2006 and from February 2009 to February 2010.
- (4) Ms. Little, age 57, joined Applied as Senior Vice President, Chief Legal Officer and Corporate Secretary in June 2020. Prior to joining Applied, Ms. Little served as Executive Vice President, Chief Legal Officer and Corporate Secretary at KLA Corporation from August 2017 to June 2020. Prior to that she was Senior Vice President, General Counsel and Corporate Secretary of KLA Corporation from October 2015 until August 2017, and prior to that she held various other positions at KLA Corporation since 2002. Prior to joining KLA Corporation, she was a Senior Corporate Associate at Wilson Sonsini Goodrich & Rosati, and a Litigation Associate at Heller Ehrman White & McAuliffe.
- (5) Dr. Nalamasu, age 63, has been Senior Vice President, Chief Technology Officer since June 2013, and President of Applied Ventures, LLC, Applied's venture capital arm, since November 2013. He had served as Group Vice President, Chief Technology Officer from January 2012 to June 2013, and as Corporate Vice President, Chief Technology Officer from January 2011 to January 2012. Upon joining Applied in June 2006 until January 2011, Dr. Nalamasu was an Appointed Vice President of Research and served as Deputy Chief Technology Officer and General Manager for the Advanced Technologies Group. From 2002 to 2006, Dr. Nalamasu was a NYSTAR distinguished professor of Materials Science and Engineering at Rensselaer Polytechnic Institute, where he also served as Vice President of Research from 2005 to 2006. Prior to Rensselaer, Dr. Nalamasu served in several leadership roles at Bell Laboratories.
- (6) Dr. Raja, age 59, has been Senior Vice President, Semiconductor Products Group of Applied since November 2017. He previously served in various senior management, product development and operational roles since joining Applied in 1995, including Group Vice President and General Manager of the Patterning and Packaging Group.

- (7) Mr. Salehpour, age 60, has been Senior Vice President, Services, Display and Flexible Technology since September 2013. He previously served as Group Vice President, General Manager Energy and Environmental Solutions and Display Business Groups, since joining Applied in November 2012. Prior to Applied, Mr. Salehpour worked at KLA-Tencor for 16 years, where he served as a Senior Vice President and General Manager, and worked for 10 years in senior management positions at Schlumberger Test Systems.
- (8) Mr. Read, age 55, has been Corporate Vice President, Corporate Controller and Chief Accounting Officer of Applied since joining the Company in September 2013. Prior to Applied, Mr. Read worked at Brocade Communications Systems, Inc., a provider of semiconductor and software-based network solutions, since October 2002, where he most recently served as Vice President, Corporate Controller. Prior to Brocade, Mr. Read worked at KPMG LLP, an audit, tax and advisory firm, from 1996 to 2002.

Available Information

Applied's website is <http://www.appliedmaterials.com>. Applied makes available free of charge, on or through its website, its annual, quarterly and current reports, and any amendments to those reports, as soon as reasonably practicable after electronically filing such reports with, or furnishing them to, the SEC. The SEC's website, www.sec.gov, contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. These website addresses are intended to be an inactive textual references only. None of the information on, or accessible through, these websites is part of this Form 10-K or is incorporated by reference herein.

Item 1A: Risk Factors

The following risk factors could materially and adversely affect Applied's business, financial condition or results of operations and cause reputational harm, and should be carefully considered in evaluating the Company and its business, in addition to other information presented elsewhere in this report.

Risks Related to the COVID-19 Pandemic

The ongoing COVID-19 pandemic and global measures taken in response thereto have adversely impacted, and may continue to adversely impact, Applied's operations and financial results.

The ongoing COVID-19 pandemic and measures taken in response by governments and businesses worldwide to contain its spread have adversely impacted and are expected to continue to adversely impact Applied's supply chain, manufacturing, logistics, workforce and operations, as well as the operations of Applied's customers, suppliers and partners globally. There is considerable uncertainty regarding the duration, scope and severity of the pandemic and the impacts on our business and the global economy from the effects of the ongoing pandemic and response measures. Travel and logistics restrictions, shelter-in-place orders and other measures, including working remotely, social distancing and other policies implemented in foreign and domestic sites, have resulted in, and are expected to continue to result in, transportation disruptions (such as reduced availability of air transport, port closures, and increased border controls or closures), production delays and capacity limitations at Applied and some of its customers, suppliers and partners, as well as reduced workforce availability or productivity at Applied and customer sites, and additional data, information and cyber security risks associated with an extensive workforce now working remotely full-time.

While economic activity and business operations in certain regions continue to recover, there may be periods of significant or sudden increases in demand for Applied's products, as well as worldwide demand for electronic products. Significant or sudden demand increases may result in a shortage of parts, materials or services needed to manufacture Applied's products or may cause shipment delays due to transportation interruptions or capacity constraints. Such shortages or delays could adversely impact our suppliers' ability to meet our demand requirements and our ability to meet our customer demand. There can be no assurance that Applied or its suppliers will be able to maintain manufacturing operations at current levels or at increased levels that may be necessary to address demand for Applied products. In addition, the pandemic and global measures taken in response thereto have had, and may continue to have a significant adverse impact on the global economic activity and could also result in a reduced demand for our products, delayed deliveries or installation, cancelled orders or increase in logistics and operating costs, and materially and adversely affect Applied's business, financial condition and results of operations.

The degree to which the ongoing pandemic ultimately impacts Applied's business, financial condition and results of operations and the global economy will depend on future developments beyond our control, which are highly uncertain and difficult to predict, including the severity, duration and any resurgence of the pandemic, the extent and effectiveness of containment actions, the availability, public adoption and efficacy of COVID vaccines, effectiveness of government stimulus programs, how quickly and to what extent normal economic and operating activity can resume, and the severity and duration of the global economic volatility that results from the ongoing pandemic. Additionally, Applied has a multi-phase plan to return to working on-site, which gradually allows additional workers to return onsite while practicing social distancing and other safety measures. However, there is no assurance that such plan and safety measures will be effective in preventing the inadvertent transmission of COVID-19 within the workplace. Further, implementation of such plan could adversely impact Applied's operations.

Risks Associated with Operating a Global Business

Applied is exposed to the risks of operating a global business.

Applied has product development, engineering, manufacturing, sales and other operations distributed throughout many countries, and some of its business activities are concentrated in certain geographic areas. Moreover, in fiscal 2021, approximately 91% of Applied's net sales were to customers in regions outside the United States. As a result of the global nature of its operations, Applied's business performance and results of operations may be adversely affected by a number of factors, including:

- uncertain global economic and political business conditions and demands;
- political and social attitudes, laws, rules, regulations and policies within countries that favor domestic companies over non-domestic companies, including customer- or government-supported efforts to promote the development and growth of local competitors;

- direct and indirect global trade issues and changes in and uncertainties with respect to trade policies, trade sanctions, tariffs, and international trade disputes, including the rules and interpretations promulgated by the U.S. Department of Commerce expanding export license requirements for certain products sold to certain entities in China;
- customer- or government-supported efforts to influence Applied to conduct more of its operations and sourcing in a particular country, such as Korea and China;
- variations among, and changes in, local, regional, national or international laws and regulations, including contract, intellectual property, cybersecurity, data privacy, labor, tax, and import/export laws, and the interpretation and application of such laws and regulations;
- ineffective or inadequate legal protection of intellectual property rights in certain countries;
- positions taken by governmental agencies regarding possible national commercial and/or security issues posed by international business operations;
- fluctuating raw material, commodity, energy and shipping costs;
- delays or restrictions in shipping materials or finished products between and within countries;
- geographically diverse operations and projects, and our ability to maintain appropriate business processes, procedures and internal controls, and comply with environmental, health and safety, anti-corruption and other regulatory requirements;
- supply chain interruptions, and service interruptions from utilities, transportation, data hosting or telecommunications providers, or other events beyond our control;
- failure to effectively manage a diverse workforce with different experience levels, languages, cultures, customs, business practices and worker expectations, and differing employment practices and labor issues;
- variations in the ability to develop relationships with local customers, suppliers and governments;
- fluctuations in interest rates and currency exchange rates, including the relative strength or weakness of the U.S. dollar against the Japanese yen, Israeli shekel, euro, Taiwanese dollar, Singapore dollar, Chinese yuan or Korean won;
- the need to provide sufficient levels of technical support in different locations around the world;
- performance of third-party providers of outsourced functions, including certain engineering, software development, manufacturing, information technology and other activities;
- political instability, natural disasters, regional or global health epidemics, social unrest, terrorism or acts of war in locations where Applied has operations, suppliers or sales, or that may influence the value chain of the industries that Applied serves;
- impacts of climate change on the operations of Applied, its customers and suppliers;
- challenges in hiring and integration of an increasing number of workers in new countries;
- the increasing need for a mobile workforce to work in or travel to different regions; and
- uncertainties with respect to economic growth rates in various countries, including for the manufacture and sale of semiconductors and displays in the developing economies of certain countries.

As more fully discussed in the risk factor “The ongoing COVID-19 pandemic and global measures taken in response thereto have adversely impacted, and may continue to adversely impact, Applied’s operations and financial results” above, the ongoing COVID-19 pandemic and measures taken in response by governments and businesses worldwide to contain its spread have adversely impacted and are expected to continue to adversely impact Applied’s supply chain, manufacturing, logistics, workforce and operations, as well as the operations of Applied’s customers, suppliers and partners globally.

International trade disputes could result in increases in tariffs and other trade restrictions and protectionist measures that could adversely impact our operations and reduce the competitiveness of our products relative to local and global competitors.

We sell a significant majority of our products into countries outside of the United States including China, Taiwan, Japan and Korea. We also purchase a significant portion of equipment and supplies from suppliers outside of the United States. There is inherent risk, based on the complex relationships among the United States and the countries in which we conduct our business, that political, diplomatic and national security influences might lead to trade disputes, impacts and/or disruptions, in particular, with respect to those affecting the semiconductor industry. The United States and other countries have imposed and may continue to impose trade restrictions, and have also levied tariffs and taxes on certain goods. Increases in tariffs, additional taxes or other trade restrictions and retaliatory measures may increasingly impact end-user demand and customer investment in manufacturing equipment, increase our manufacturing costs, decrease margins, reduce the competitiveness of our products, or inhibit our ability to sell products or purchase necessary equipment and supplies, which could have a material adverse effect on our business, results of operations, or financial condition.

For example, certain international sales depend on our ability to obtain export licenses, and our inability to obtain such licenses has limited and could further limit our markets and impact our business. The U.S. Department of Commerce has promulgated several rules and interpretations expanding export license requirements for U.S. companies that sell certain products to entities in China whose actions or functions are intended to support military end uses, eliminated certain export license exceptions that applied to exports of certain items to China, and added certain Chinese companies, including one of the Company's customers, to its "entity list". These rules and interpretations require us to obtain additional export licenses to supply certain of our products to such customer in China. Obtaining export licenses may be difficult, costly and time-consuming, and our inability to obtain such licenses could limit our markets in China and adversely affect our results of operations. The implementation and interpretation of these rules are ongoing and their impact on our business is uncertain, and these rules and other regulatory changes that have occurred and may occur in the future could materially and adversely affect our results of operations. The U.S. and other governmental agencies may in the future promulgate new or additional export licensing or other requirements that have the effect of further limiting the Company's ability to provide certain of its products to customers outside the U.S., including China.

In addition, government authorities may impose conditions that require the use of local suppliers or partnerships with local companies, require the license or other transfer of intellectual property, or engage in other efforts to promote local businesses and local competitors, which could have a significant adverse impact on Applied's business. Many of these challenges are present in China and Korea, markets that represent a significant portion of Applied's current business as well as long-term growth opportunities.

Applied is exposed to risks associated with an uncertain global economy.

Uncertain or adverse economic and business conditions, including uncertainties and volatility in the financial markets, national debt, fiscal or monetary concerns, inflation and rising interest rates in various regions, could materially adversely impact Applied's operating results. Markets for semiconductors and displays depend largely on business and consumer spending and demand for electronic products. Uncertain or adverse economic and business conditions that result in decreases in consumer spending and demand or cause us to pass on increased costs to our customers may cause certain of our customers to push out, cancel or refrain from purchasing our equipment or services, which could materially adversely impact demand for our products and our operating results. In addition, the COVID-19 pandemic, and transportation interruptions and other measures taken in response thereto, have had, and may continue to have, a significant adverse impact on the global and regional economic activity, as well as our ability to meet our customer demand.

Similarly, changes that result in sudden increases in consumer demand for electronic products (for example, as a result of the reopening of the economy with the easing of COVID-19 related restrictions) have resulted in, and may continue to result in, a shortage of parts and materials needed to manufacture our products. Such shortages, as well as shipment delays due to transportation interruptions, have adversely impacted, and may continue to adversely impact, our suppliers' ability to meet our demand requirements. In addition, Lunar New Year and other holidays in the countries in which we or our suppliers operate may reduce the level of business activities during such times, and thus adversely impact our and our suppliers' ability to manufacture and deliver products, supplies and services. Accelerated digital transformation may further increase consumer demand and exacerbate such shortages and also strain our manufacturing capacity, which may adversely impact our ability to meet customer demands and thus have an adverse impact on our revenues, results of operations and financial condition.

Uncertain market conditions, difficulties in obtaining capital, or reduced profitability may also cause some customers to scale back operations, exit businesses, merge with other manufacturers, or file for bankruptcy protection and potentially cease operations, which can also result in lower sales, additional inventory or bad debt expense for Applied. Economic and industry uncertainty may similarly affect suppliers, which could impair their ability to deliver parts and negatively affect Applied's ability to manage operations and deliver its products. These conditions may also lead to consolidation or strategic alliances among other equipment manufacturers, which could adversely affect Applied's ability to compete effectively.

Uncertain economic and industry conditions also make it more challenging for Applied to forecast its operating results, make business decisions, and identify and prioritize the risks that may affect its businesses, sources and uses of cash, financial condition and results of operations. If Applied does not appropriately manage its business operations in response to changing economic and industry conditions, it could have a significant negative impact on its business performance and financial condition. Applied may be required to implement additional cost reduction efforts, including restructuring activities, which may adversely affect Applied's ability to capitalize on opportunities. Even during periods of economic uncertainty or lower revenues, Applied must continue to invest in research and development and maintain a global business infrastructure to compete effectively and support its customers, which can have a negative impact on its operating margins and earnings.

Applied maintains an investment portfolio that is subject to general credit, liquidity, market and interest rate risks. The risks to Applied's investment portfolio may be exacerbated if financial market conditions deteriorate (including from impacts of the ongoing COVID-19 pandemic) and, as a result, the value and liquidity of the investment portfolio, as well as returns on pension assets, could be negatively impacted and lead to impairment charges. Applied also maintains cash balances in various bank accounts globally in order to fund normal operations. If any of these financial institutions becomes insolvent, it could limit Applied's ability to access cash in the affected accounts, which could affect its ability to manage its operations.

Risks Associated with Applied's Industry

The industries that Applied serves can be volatile and difficult to predict.

As a supplier to the global semiconductor and display and related industries, Applied is subject to variable industry conditions, since demand for manufacturing equipment and services can change depending on several factors, including the nature and timing of technology inflections and advances in fabrication processes, the timing and requirements of new and emerging technologies and market drivers, production capacity relative to demand for chips and display technologies, end-user demand, customers' capacity utilization, production volumes, access to affordable capital, consumer buying patterns and general economic conditions. Applied's industries historically have been cyclical, and are subject to volatility and sudden changes in customer requirements for new manufacturing capacity and advanced technology. These changes can affect the timing and amounts of customer investments in technology and manufacturing equipment and can have a significant impact on Applied's net sales, operating expenses, gross margins and net income. The amount and mix of capital equipment spending between different products and technologies can have a significant impact on Applied's results of operations.

To meet rapidly changing demand in the industries it serves, Applied must accurately forecast demand and effectively manage its resources and production capacity across its businesses, and may incur unexpected or additional costs to align its business operations. During periods of increasing demand for its products, Applied must have sufficient manufacturing capacity and inventory to meet customer demand; effectively manage its supply chain; attract, retain and motivate a sufficient number of qualified employees; and continue to control costs. During periods of decreasing demand, Applied must reduce costs and align its cost structure with prevailing market conditions; effectively manage its supply chain; and motivate and retain key employees. If Applied does not effectively manage these challenges during periods of changing demand, including as a result of the ongoing COVID-19 pandemic and its effects, its business performance and results of operations may be adversely impacted. Even with effective allocation of resources and management of costs, during periods of decreasing demand, Applied's gross margins and earnings may be adversely impacted.

Applied is exposed to risks associated with a highly concentrated customer base.

Applied's customer base is highly concentrated and has become increasingly so as a result of continued consolidation. Applied's customer base is also geographically concentrated, particularly in China, Taiwan and Korea. A relatively limited number of manufacturers account for a substantial portion of Applied's business. As a result, the actions of even a single customer can expose Applied's business and results of operations to greater volatility. The geographic concentration of Applied's customer base could shift over time as a result of government policy and incentives to develop regional semiconductor industries. The mix and type of customers, and sales to any single customer, including as a result of changes in government policy, have varied and may vary significantly from quarter to quarter and from year to year, and have had, and may continue to have, a significant impact on Applied's net sales, gross margins and net income. Applied's products are configured to customer specifications, and changing, rescheduling or canceling orders may result in significant, non-recoverable costs. If customers do not place orders, or they substantially reduce, delay or cancel orders (including as a result of the ongoing COVID-19 pandemic or our inability to fulfill orders due to a shortage of parts, transportation interruptions or any other reason), Applied may not be able to replace the business, which may have a significant adverse impact on its results of operations and financial condition. The concentration of Applied's customer base increases its risks related to the financial condition of its customers, and the deterioration in financial condition of a single customer or the failure of a single customer to perform its obligations could have a material adverse effect on Applied's results of operations and cash flow. To the extent its customers experience liquidity constraints, Applied may incur bad debt expense, which may have a significant impact on its results of operations. Major customers may also seek pricing, payment, intellectual property-related, or other commercial terms that are less favorable to Applied, which may have a negative impact on Applied's business, cash flow, revenue and gross margins.

Applied is exposed to risks as a result of ongoing changes in the various industries in which it operates.

The global semiconductor, display and related industries in which Applied operates are characterized by ongoing changes affecting some or all of these industries that impact demand for and the profitability of Applied's products and its consolidated results of operations, including:

- the nature, timing and degree of visibility of changes in end demand for electronic products, including those related to fluctuations in consumer buying patterns tied to general economic conditions, seasonality or the introduction of new products, and the effects of these changes on customers' businesses and on demand for Applied's products;
- increasing capital requirements for building and operating new fabrication plants and customers' ability to raise the necessary capital;
- trade, regulatory, tax or government incentive policies impacting the timing of customers' investment in new or expanded fabrication plants;
- differences in growth rates among the semiconductor, display and other industries in which Applied operates;
- the increasing importance of establishing, improving and maintaining strong relationships with customers;
- the increasing cost and complexity for customers to move from product design to volume manufacturing, which may slow the adoption rate of new manufacturing technology;
- the need for customers to continually reduce the total cost of manufacturing system ownership;
- the heightened importance to customers of system reliability and productivity and the effect on demand for fabrication systems as a result of their increasing productivity, device yield and reliability;
- manufacturers' ability to reconfigure and re-use fabrication systems which can reduce demand for new equipment;
- the increasing importance of, and difficulties in, developing products with sufficient differentiation to influence customers' purchasing decisions;
- requirements for shorter cycle times for the development, manufacture and installation of manufacturing equipment;
- price and performance trends for semiconductor devices and displays, and the corresponding effect on demand for such products;
- the increasing importance of the availability of spare parts to maximize the time that customers' systems are available for production;
- increasing government incentives for local suppliers;
- the increasing role for and complexity of software in Applied products; and
- the increasing focus on reducing energy usage and improving the environmental impact and sustainability associated with manufacturing operations.

Applied is exposed to risks as a result of ongoing changes specific to the semiconductor industry.

The largest proportion of Applied's consolidated net sales and profitability is derived from sales of manufacturing equipment in the Semiconductor Systems segment to the global semiconductor industry. In addition, a majority of the revenues of Applied Global Services is from sales to semiconductor manufacturers. The semiconductor industry is characterized by ongoing changes particular to this industry that impact demand for and the profitability of Applied's semiconductor manufacturing equipment and service products, including:

- the increasing frequency and complexity of technology transitions and inflections, and Applied's ability to timely and effectively anticipate and adapt to these changes;
- the increasing cost of research and development due to many factors, including shrinking geometries, the use of new materials, new and more complex device structures, more applications and process steps, increasing chip design costs, and the increasing cost and complexity of integrated manufacturing processes;
- the need to reduce product development time, despite the increasing difficulty of technical challenges;
- the growing number of types and varieties of semiconductors and number of applications across multiple substrate sizes;
- the increasing cost and complexity for semiconductor manufacturers to move more technically advanced capability and smaller geometries to volume manufacturing, and the resulting impact on the rates of technology transition and investment in capital equipment;
- challenges in generating organic growth given semiconductor manufacturers' levels of capital expenditures and the allocation of capital investment to market segments that Applied does not serve, such as lithography, or segments where Applied's products have lower relative market presence;
- the importance of increasing market positions in segments with growing demand;
- semiconductor manufacturer's ability to reconfigure and re-use equipment, resulting in diminished need to purchase new equipment and services from us, and challenges in providing parts for reused equipment;
- shorter cycle times between order placements by customers and product shipment require greater reliance on forecasting of customer investment, which may lead to inventory write-offs and manufacturing inefficiencies that decrease gross margin;
- competitive factors that make it difficult to enhance position, including challenges in securing development-tool-of-record (DTOR) and production-tool-of-record (PTOR) positions with customers;
- consolidation in the semiconductor industry, including among semiconductor manufacturers and among manufacturing equipment suppliers;
- shifts in sourcing strategies by computer and electronics companies, and manufacturing processes for advanced circuit technologies, that impact the equipment requirements of Applied's foundry customers;
- the concentration of new wafer starts in Korea and Taiwan, where Applied's service penetration and service-revenue-per-wafer-start have been lower than in other regions;
- investment in semiconductor manufacturing capabilities in China, which may be affected by changes in economic conditions and governmental regulations and policies in China and the United States;
- the increasing fragmentation of semiconductor markets, leading certain markets to become too small to support the cost of a new fabrication plant, while others require less technologically advanced products; and
- the growing importance of specialty markets (such as Internet of Things, communications, automotive, power and sensors) that use mature process technologies and have a low barrier to entry.

If Applied does not accurately forecast and allocate appropriate resources and investment towards addressing key technology changes and inflections, successfully develop and commercialize products to meet demand for new technologies, and effectively address industry trends, its business and results of operations may be adversely impacted.

Applied is exposed to risks as a result of ongoing changes specific to the display industry.

The global display industry historically has experienced considerable volatility in capital equipment investment levels, due in part to the limited number of display manufacturers, the concentrated nature of end-use applications, production capacity relative to end-use demand, and panel manufacturer profitability. Industry growth depends primarily on consumer demand for increasingly larger and more advanced TVs, and on demand for advanced smartphones and mobile device displays, which demand is highly sensitive to cost and improvements in technologies and features. The display industry is characterized by ongoing changes particular to this industry that impact demand for and the profitability of Applied's display products and services, including:

- the importance of new types of display technologies, such as organic light-emitting diode (OLED), low temperature polysilicon (LTPS) and metal oxide transistor backplanes, flexible displays, and new touch panel films;
- the increasing cost of research and development, and complexity of technology transitions and inflections, and Applied's ability to timely and effectively anticipate and adapt to these changes;
- the timing and extent of an expansion of manufacturing facilities in China, which may be affected by changes in local economic conditions and governmental policies in China, Korea, Japan and the United States;
- the importance of increasing market positions in products and technologies with growing demand;
- the rate of transition to larger substrate sizes for TVs and to new display technologies for TVs, IT products and mobile applications, and the resulting effect on capital intensity in the industry and on Applied's product differentiation, gross margin and return on investment; and
- fluctuations in customer spending quarter over quarter and year over year for display manufacturing equipment, concentration of display manufacturer customers and their ability to successfully commercialize new products and technologies, and uncertainty with respect to future display technology end-use applications and growth drivers.

If Applied does not successfully develop and commercialize products to meet demand for new and emerging display technologies, or if industry demand for display manufacturing equipment and technologies slows, Applied's business and its results of operations may be adversely impacted.

The industries in which Applied operates are highly competitive and subject to rapid technological and market changes.

Applied operates in a highly competitive environment in which innovation is critical, and its future success depends on many factors, including the development of new technologies and effective commercialization and customer acceptance of its equipment, services and related products, and its ability to increase its position in its current markets, expand into adjacent and new markets, and optimize operational performance. The development, introduction and support of a broadening set of products in a geographically diverse and competitive environment, and that may require greater collaboration with customers and other industry participants, have grown more complex and expensive over time. Furthermore, new or improved products may entail higher costs, longer development cycles, lower profits and may have unforeseen product design or manufacturing defects. To compete successfully, Applied must:

- identify and address technology inflections, market changes, competitor innovations, new applications, customer requirements and end-use demand in a timely and effective manner;
- develop new products and disruptive technologies, improve and develop new applications for existing products, and adapt products for use by customers in different applications and markets with varying technical requirements;
- differentiate its products from those of competitors, meet customers' performance specifications (including those related to energy consumption and environmental impact more broadly), appropriately price products, and achieve market acceptance;
- maintain operating flexibility to enable responses to changing markets, applications, customers and customer requirements;
- enhance its worldwide operations across its businesses to reduce cycle time, enable continuous quality improvement, reduce costs, and enhance design for manufacturability and serviceability;
- focus on product development and sales and marketing strategies that address customers' high value problems and strengthen customer relationships;
- effectively allocate resources between its existing products and markets, the development of new products, and expanding into new and adjacent markets;
- improve the productivity of capital invested in R&D activities;
- accurately forecast demand, work with suppliers and meet production schedules for its products;

- improve its manufacturing processes and achieve cost efficiencies across product offerings;
- adapt to changes in value offered by companies in different parts of the supply chain;
- qualify products for evaluation and volume manufacturing with its customers; and
- implement changes in its design engineering methodology to reduce material costs and cycle time, increase commonality of platforms and types of parts used in different systems, and improve product life cycle management.

If Applied does not successfully anticipate technology inflections, develop and commercialize new products and technologies, and respond to changes in customer requirements and market trends, its business performance and results of operations may be adversely impacted.

Risks Related to Applied's Business, Finance and Operations

Supply chain disruptions, manufacturing interruptions or delays, or the failure to accurately forecast customer demand, could affect Applied's ability to meet customer demand, lead to higher costs, or result in excess or obsolete inventory.

Applied's business depends on its timely supply of equipment, services and related products to meet the changing technical and volume requirements of its customers, which depends in part on the timely delivery of parts, materials and services, including components and subassemblies, from suppliers and contract manufacturers. Significant and sudden increases in demand for Applied's products, as well as worldwide demand for electronic products, have resulted in, and may continue to result in, a shortage of parts, materials and services needed to manufacture Applied's products. Such shortages, as well as delays in and unpredictability of shipments due to transportation interruptions, have adversely impacted, and may continue to adversely impact, our suppliers' ability to meet our demand requirements. Difficulties in obtaining sufficient and timely supply of parts, materials or services, and delays in and unpredictability of shipments due to transportation interruptions, have adversely impacted, and may continue to adversely impact, Applied's manufacturing operations and its ability to meet customer demand. Some key parts are subject to long lead-times or available only from a single supplier or limited group of suppliers, and some sourcing or subassembly is provided by suppliers located in countries other than the countries where Applied conducts its manufacturing. Volatility of demand for manufacturing equipment can increase capital, technical, operational and other risks for Applied and for companies throughout its supply chain, and may cause some suppliers to exit businesses, or scale back or cease operations, which could impact our ability to meet customer demand.

Applied may also experience significant interruptions of its manufacturing operations, delays in its ability to deliver or install products or services, increased costs or customer order cancellations as a result of:

- the failure or inability to accurately forecast demand and obtain sufficient quantities of quality parts on a cost-effective basis;
- volatility in the availability and cost of parts, materials or services, including rising prices due to inflation;
- difficulties or delays in obtaining required import or export approvals;
- shipment delays due to transportation interruptions or capacity constraints;
- a worldwide shortage of semiconductor components as a result of sharp increases in demand for semiconductor products in general;
- information technology or infrastructure failures, including those of a third party supplier or service provider; and
- natural disasters, the impacts of climate change, or other events beyond Applied's control (such as earthquakes, utility interruptions, tsunamis, hurricanes, typhoons, floods, storms or extreme weather conditions, fires, regional economic downturns, regional or global health epidemics, including the ongoing COVID-19 pandemic, geopolitical turmoil, increased trade restrictions between the U.S. and China and other countries, social unrest, political instability, terrorism, or acts of war) in locations where it or its customers or suppliers have manufacturing, research, engineering or other operations.

As more fully discussed in the risk factor "The ongoing COVID-19 pandemic and global measures taken in response thereto have adversely impacted, and may continue to adversely impact, Applied's operations and financial results" above, the ongoing COVID-19 pandemic and measures taken in response by governments and businesses worldwide to contain its spread have adversely impacted and are expected to continue to adversely impact Applied's supply chain, manufacturing, logistics, workforce and operations, as well as the operations of Applied's customers, suppliers and partners globally.

If a supplier fails to meet Applied's requirements concerning quality, cost, intellectual property protection, socially-responsible business practices, or other performance factors, Applied may transfer its business to alternative sources. Transferring business to alternative suppliers could result in manufacturing delays, additional costs or other difficulties, and may impair Applied's ability to protect, enforce and extract the full value of its intellectual property rights, as well as the intellectual property rights of its customers' and other third parties. These outcomes could have an adverse impact on its business and competitive position and subject Applied to legal proceedings and claims. In addition, if Applied is unable to meet its customers' demand for a prolonged period due to its inability to obtain certain parts or components from suppliers on a timely basis or at all, its business, results of operations and customer relationships could be adversely impacted.

In addition, if Applied needs to rapidly increase its business and manufacturing capacity to meet increases in demand or expedited shipment schedules, this may strain Applied's manufacturing and supply chain operations, and negatively impact Applied's working capital. Moreover, if actual demand for Applied's products is different than expected, Applied may purchase more/fewer parts than necessary or incur costs for canceling, postponing or expediting delivery of parts. If Applied purchases or commits to purchase inventory in anticipation of customer demand that does not materialize, or such inventory is rendered obsolete by the rapid pace of technological change, or if customers reduce, delay or cancel orders, Applied may incur excess or obsolete inventory charges.

Applied is exposed to risks associated with business combinations, acquisitions, strategic investments and divestitures.

Applied engages in acquisitions of or investments in companies, technologies or products in existing, related or new markets for Applied. Business combinations, acquisitions and investments involve numerous risks to Applied's business, financial condition and operating results, including but not limited to:

- inability to complete proposed transactions timely or at all due to the failure to obtain regulatory or other approvals, litigation or other disputes, and any ensuing obligation to pay a termination fee;
- diversion of management's attention and disruption of ongoing businesses;
- the failure to realize expected revenues, gross and operating margins, net income and other returns from acquired businesses;
- requirements imposed by government regulators in connection with their review of a transaction, which may include, among other things, divestitures and restrictions on the conduct of Applied's existing business or the acquired business;
- following completion of acquisitions, ineffective integration of businesses, operations, systems, digital and physical security, technologies, products, employees, compliance programs, changes in laws or regulations, including tax laws, or other factors, may impact the ability to realize anticipated synergies or other benefits;
- failure to commercialize technologies from acquired businesses or developed through strategic investments;
- dependence on unfamiliar supply chains or relatively small supply partners;
- inability to capitalize on characteristics of new markets that may be significantly different from Applied's existing markets and where competitors may have stronger market positions and customer relationships;
- failure to retain and motivate key employees of acquired businesses;
- the potential impact of the announcement or consummation of a proposed transaction on relationships with third parties;
- potential changes in Applied's credit rating, which could adversely impact the Company's access to and cost of capital;
- reductions in cash balances or increases in debt obligations to finance activities associated with a transaction, which increase interest expense, and reductions in cash balances, which reduce the availability of cash flow for general corporate or other purposes, including share repurchases and dividends;
- exposure to new operational risks, rules, regulations, worker expectations, customs and practices to the extent acquired businesses are located in regions where Applied has not historically conducted business;
- challenges associated with managing new, more diverse and more widespread operations, projects and people;
- inability to obtain and protect intellectual property rights in key technologies;
- inadequacy or ineffectiveness of an acquired company's internal financial controls, disclosure controls and procedures, cybersecurity, privacy policies and compliance programs, or environmental, health and safety, anti-corruption, human resource, or other policies or practices;

- impairment of acquired intangible assets and goodwill as a result of changing business conditions, technological advancements or worse-than-expected performance of the segment;
- the risk of litigation or claims associated with a proposed or completed transaction;
- unknown, underestimated, undisclosed or undetected commitments or liabilities or non-compliance with laws, regulations or policies; and
- the inappropriate scale of acquired entities' critical resources or facilities for business needs.

Applied also makes investments in other companies, including companies formed as joint ventures, which may decline in value or not meet desired objectives. The success of these investments depends on various factors over which Applied may have limited or no control and, particularly with respect to joint ventures, requires ongoing and effective cooperation with partners. In addition, new legislation, additional regulations or global economic or political conditions may affect or impair our ability to invest in certain countries or require us to obtain regulatory approvals to do so. Applied may not receive the necessary regulatory approvals or the approvals may come with significant conditions or obligations. The risks to Applied's investment portfolio may be exacerbated by unfavorable financial market and macroeconomic conditions and, as a result, the value of the investment portfolio could be negatively impacted and lead to impairment charges.

Applied continually assesses the strategic fit of its businesses and may from time to time seek to divest portions of its business that are not deemed to fit with its strategic plan. Some divestitures may take the form of Applied contributing assets to a joint venture, and thus are subject to the joint venture risks discussed above. In addition, divestitures involve significant risks and uncertainties, such as ability to sell such businesses on satisfactory price and terms and in a timely manner (including long and costly sales processes and the possibility of lengthy and potentially unsuccessful attempts by a buyer to receive required regulatory approvals), or at all, disruption to other parts of the businesses and distraction of management, allocation of internal resources that would otherwise be devoted to completing strategic acquisitions, loss of key employees or customers, exposure to unanticipated liabilities (including, among other things, those arising from representations and warranties made to a buyer regarding the businesses) or ongoing obligations to support the businesses following such divestitures, and other adverse financial impacts.

Applied is exposed to risks associated with expanding into new and related markets and industries.

As part of its growth strategy, Applied seeks to expand into related or new markets and industries, either with its existing products or with new products developed internally, or those developed in collaboration with third parties, or obtained through acquisitions. Applied's ability to successfully expand its business into new and related markets and industries may be adversely affected by a number of factors, including:

- the need to devote additional resources to develop new products for, and operate in, new markets;
- the need to develop new sales and technical marketing strategies, cultivate relationships with new customers and meet different customer service requirements;
- differing rates of profitability and growth among multiple businesses;
- Applied's ability to anticipate demand, capitalize on opportunities, and avoid or minimize risks;
- the complexity of managing multiple businesses with variations in production planning, execution, supply chain management and logistics;
- the adoption of new business models, business processes and systems;
- the complexity of entering into and effectively managing strategic alliances or partnering opportunities;
- new materials, processes and technologies;
- the need to attract, motivate and retain employees with skills and expertise in these new areas;
- new and more diverse customers and suppliers, including some with limited operating histories, uncertain or limited funding, evolving business models or locations in regions where Applied does not have, or has limited, operations;
- new or different competitors with potentially more financial or other resources, industry experience and established customer relationships;
- entry into new industries and countries, with differing levels of government involvement, laws and regulations, and business, employment and safety practices;
- third parties' intellectual property rights; and
- the need to comply with, or work to establish, industry standards and practices.

In addition, Applied from time to time receives funding from United States and other government agencies for certain strategic development programs to increase its research and development resources and address new market opportunities. As a condition to this government funding, Applied is often subject to certain record-keeping, audit, intellectual property rights-sharing, and/or other obligations.

The ability to attract, retain and motivate key employees is vital to Applied's success.

Applied's success, competitiveness and ability to execute on its global strategies and maintain a culture of innovation depend in large part on its ability to attract, retain and motivate qualified employees and leaders with expertise and capabilities, representing diverse backgrounds and experiences. Achieving this objective may be difficult due to many factors, including fluctuations in global economic and industry conditions, management changes, Applied's organizational structure, increasing local and global competition for talent, the availability of qualified employees in the local and global markets, cost reduction activities (including workforce reductions and unpaid shutdowns), availability of career development opportunities, the ability to obtain necessary authorizations for workers to provide services outside their home countries, and the attractiveness of Applied's compensation and benefit programs, including its share-based programs. If we are unable to attract, retain and motivate qualified employees and leaders, we may be unable to fully capitalize on current and new market opportunities, which could adversely impact Applied's business and results of operations. The loss or retirement of employees presents particular challenges to the extent they involve the departure of knowledgeable and experienced employees and the resulting need to identify and train existing or new candidates to perform necessary functions, which may result in unexpected costs, reduced productivity, and/or difficulties with respect to internal processes and controls.

Applied is exposed to risks associated with operating in jurisdictions with complex and changing tax laws.

Applied is subject to income taxes in the United States and foreign jurisdictions. Significant judgment is required to determine and estimate worldwide tax liabilities. Applied's provision for income taxes and effective tax rates could be affected by numerous factors, including changes in applicable tax laws, interpretations of applicable tax laws, amount and composition of pre-tax income in jurisdictions with differing tax rates, and valuation of deferred tax assets. There have been a number of proposed changes in the tax laws that, if enacted, would increase our tax liability. While it is too early to predict the outcome of these proposals, if enacted, they could have a material impact on our provision for income taxes and effective tax rate. An increase in Applied's provision for income taxes and effective tax rate could, in turn, have a material adverse impact on Applied's results of operations and financial condition.

Consistent with the international nature of its business, Applied conducts certain manufacturing, supply chain, and other operations in Asia, bringing these activities closer to customers and reducing operating costs. In certain foreign jurisdictions, conditional reduced income tax rates have been granted to Applied. To obtain the benefit of these tax incentives, Applied must meet requirements relating to various activities. Applied's ability to realize benefits from these incentives could be materially affected if, among other things, applicable requirements are not met or Applied incurs net losses in these jurisdictions.

In addition, Applied is subject to examination by the U.S. Internal Revenue Service and other tax authorities, and from time to time amends previously filed tax returns. Applied regularly assesses the likelihood of favorable or unfavorable outcomes resulting from these examinations and amendments to determine the adequacy of its provision for income taxes, which requires estimates and judgments. Although Applied believes its tax estimates are reasonable, there can be no assurance that the tax authorities will agree with such estimates. Applied may have to engage in litigation to achieve the results reflected in the estimates, which may be time-consuming and expensive. There can be no assurance that Applied will be successful or that any final determination will not be materially different from the treatment reflected in Applied's historical income tax provisions and effective tax rates.

Applied's indebtedness and debt covenants could adversely affect its financial condition and business.

Applied has \$5.5 billion in aggregate principal amount of senior unsecured notes outstanding. Under the indenture governing the senior unsecured notes, it may be required to offer to repurchase the notes at a price equal to 101% of the principal amount, plus accrued and unpaid interest, upon a change of control of Applied and a contemporaneous downgrade of the notes below investment grade. Applied also has in place a \$1.5 billion revolving credit facility. While no amounts were outstanding under this credit facility as of October 31, 2021, Applied may borrow amounts in the future under this credit facility. Applied may also enter into new financing arrangements. Applied's ability to satisfy its debt obligations is dependent upon the results of its business operations and subject to other risks discussed in this section. Significant changes in Applied's credit rating, disruptions in the global financial markets or changes in the interest rate environment could have a material adverse consequence on Applied's access to and cost of capital for future financings, and financial condition. If Applied fails to satisfy its debt obligations, or comply with financial and other debt covenants, it may be in default and any borrowings may become immediately due and payable, and such default may also constitute a default under other of Applied's obligations. There can be no assurance that Applied would have sufficient financial resources or be able to arrange financing to repay any borrowings at such time.

The failure to successfully implement enterprise resource planning and other information systems changes could adversely impact Applied's business and results of operations.

Applied periodically implements new or enhanced enterprise resource planning and related information systems in order to better manage its business operations, align its global organizations and enable future growth. Implementation of new business processes and information systems requires the commitment of significant personnel, training and financial resources, and entails risks to Applied's business operations. If Applied does not successfully implement enterprise resource planning and related information systems improvements, or if there are delays or difficulties in implementing these systems, Applied may not realize anticipated productivity improvements or cost efficiencies, and may experience interruptions in service and operational difficulties, such as its ability to track orders, timely manufacture and ship products, project inventory requirements, effectively manage its supply chain and allocate human resources, aggregate financial data and report operating results, and otherwise effectively manage its business, all of which could result in quality issues, reputational harm, lost market and revenue opportunities, and otherwise adversely affect Applied's business, financial condition and results of operations.

Applied may incur impairment charges related to goodwill or long-lived assets.

Applied has a significant amount of goodwill and other acquired intangible assets related to acquisitions. Goodwill and purchased intangible assets with indefinite useful lives are not amortized, but are reviewed for impairment annually during the fourth quarter of each fiscal year, and more frequently when events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The review compares the fair value for each of Applied's reporting units to its associated carrying value, including goodwill. Factors that could lead to impairment of goodwill and intangible assets include adverse industry or economic trends, reduced estimates of future cash flows, declines in the market price of Applied common stock, changes in Applied's strategies or product portfolio, and restructuring activities. Applied's valuation methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and projections of future operating performance. Applied may be required to record future charges to earnings during the period in which an impairment of goodwill or intangible assets is determined to exist.

Risks Related to Intellectual Property and Cybersecurity

Applied is exposed to various risks related to protection and enforcement of intellectual property rights.

Applied's success depends in significant part on the protection of its technology using patents, trade secrets, copyrights and other intellectual property rights. Infringement of Applied's rights by a third party, such as the unauthorized manufacture or sale of equipment or spare parts, could result in uncompensated lost market and revenue opportunities for Applied. Monitoring and detecting any unauthorized use of intellectual property is difficult and costly and Applied cannot be certain that the protective measures it has implemented will completely prevent misuse. Applied's ability to enforce its intellectual property rights is subject to litigation risks, as well as uncertainty as to the protection and enforceability of those rights in some countries. If Applied seeks to enforce its intellectual property rights, it may be subject to claims that those rights are invalid or unenforceable, and others may seek counterclaims against Applied, which could have a negative impact on its business. If Applied is unable to enforce and protect intellectual property rights, or if they are circumvented, rendered obsolete or invalidated by the rapid pace of technological change, it could have an adverse impact on its competitive position and business. In addition, changes in intellectual property laws or their interpretation may impact Applied's ability to protect and assert its intellectual property rights, increase costs and uncertainties in the prosecution of patent applications or related enforcement actions, and diminish the value and competitive advantage conferred by Applied's intellectual property assets.

Third parties may also assert claims against Applied and its products. Claims that Applied's products infringe the rights of others, whether or not meritorious, can be expensive and time-consuming to defend and resolve, and may divert the efforts and attention of management and personnel. The inability to obtain rights to use third party intellectual property on commercially reasonable terms could have an adverse impact on Applied's business. In addition, Applied may face claims based on the theft or unauthorized use or disclosure of third-party trade secrets and other confidential business information. Any such incidents and claims could severely harm Applied's business and reputation, result in significant expenses, harm its competitive position, and prevent Applied from selling certain products, all of which could have a significant adverse impact on Applied's business and results of operations.

Applied is exposed to risks related to cybersecurity threats and incidents.

In the conduct of its business, Applied collects, uses, transmits and stores data on information technology systems, including systems owned and maintained by Applied or its third-party providers. These data include confidential information and intellectual property belonging to Applied or its customers or other business partners, as well as personal information of individuals. All information technology systems are subject to disruption, breach or failure. Applied and its third-party providers have experienced, and expect to continue to experience, cybersecurity incidents, some of which may be successful. These cybersecurity incidents may range from employee error or misuse, to individual attempts to gain unauthorized access to these information systems, to sophisticated cybersecurity attacks, known as advanced persistent threats, any of which may target the Company directly or indirectly through its third party providers and global supply chain. Although no such cybersecurity incident has been material to the Company to date, Applied continues to devote significant resources to network security, data encryption, and other measures to protect its systems and data from unauthorized access or misuse, and it may be required to expend greater resources in the future, especially in the face of continuously evolving cybersecurity threats and privacy and data protection laws. Depending on their nature and scope, cybersecurity incidents may result in business disruption, such as delay in the development and delivery of Applied's products or disruption of Applied's manufacturing processes; the misappropriation of intellectual property; corruption, loss of, or inability to access (e.g., through ransomware or denial of service) confidential information and critical data (i.e., that of Applied and its third party providers and customers); reputational damage; litigation or regulatory enforcement action related to contractual or regulatory privacy, cybersecurity, data protection, or other confidentiality obligations; diminution in the value of Applied's investment in research, development and engineering; and increased costs associated with the implementation of cybersecurity measures to detect, deter, protect against, and recover from such incidents. Compliance with, and changes to, laws and regulations concerning privacy, cybersecurity, data protection and data localization could result in significant expense, and any failure to comply could result in proceedings against Applied by regulatory authorities or other third parties. Further, customers and third-party providers increasingly demand rigorous contractual provisions regarding privacy, cybersecurity, data protection, confidentiality, and intellectual property, which may also increase our overall compliance burden.

Risks Related to Legal and Compliance

Applied is exposed to various risks related to legal proceedings.

Applied from time to time is, and in the future may be involved in legal proceedings or claims regarding patent infringement, trade secret misappropriation, and other intellectual property rights, trade, including import, export and customs, antitrust, environmental regulations, privacy, data protection, securities, contracts, product performance, product liability, unfair competition, employment, workplace safety, and other matters. Applied also on occasion receives notification from customers who believe that Applied owes them indemnification, product warranty or has other obligations related to claims made against such customers by third parties.

Legal proceedings and claims, whether with or without merit, and associated internal investigations, may be time-consuming and expensive to prosecute, defend or conduct; divert management's attention and other Applied resources; inhibit Applied's ability to sell its products; result in adverse judgments for damages, injunctive relief, penalties and fines; and negatively affect Applied's business. There can be no assurance regarding the outcome of current or future legal proceedings, claims or investigations.

Applied is subject to risks associated with environmental, health and safety regulations and sustainability requirements.

Applied is subject to environmental, health and safety regulations in connection with its global business operations, including but not limited to: regulations related to the development, manufacture, shipping and use of its products; handling, discharge, recycling and disposal of hazardous materials used in its products or in producing its products; the operation of its facilities; and the use of its real property. The failure or inability to comply with existing or future environmental, health and safety regulations, including those relating to climate change, could result in: significant remediation or other legal liabilities; the imposition of penalties and fines; restrictions on the development, manufacture, sale, shipping or use of certain of its products; limitations on the operation of its facilities or ability to use its real property; and a decrease in the value of its real property.

In addition to regulatory compliance, growing customer sustainability requirements, as well as Applied's sustainability targets, could cause Applied from time to time to alter its manufacturing, operations or equipment designs, and incur substantial expense to meet these regulatory and sustainability requirements. Any failure to comply with these regulations, or meet these customer requirements or sustainability targets, could adversely impact the demand for Applied's products and subject Applied to significant costs and liabilities and reputational risks that could adversely affect Applied's business, financial condition and results of operations.

Applied is exposed to various risks related to the global regulatory environment.

As a public company with global operations, Applied is subject to the laws of the United States and multiple foreign jurisdictions and the rules and regulations of various governing bodies, which may differ among jurisdictions, including those related to financial and other disclosures, accounting standards, corporate governance, intellectual property, tax, trade (including import, export and customs), antitrust, environment, health and safety (including those relating to climate change), employment, immigration and travel regulations, privacy, data protection and localization, and anti-corruption. Changing, inconsistent or conflicting laws, rules and regulations, and ambiguities in their interpretation and application create uncertainty and challenges, and compliance with laws, rules and regulations may be onerous and expensive, divert management time and attention from revenue-generating activities, and otherwise adversely impact Applied's business operations. Violations of law, rules and regulations, including, among others, those related to financial and other disclosures, trade and import, antitrust, privacy, data protection, and anti-corruption, could result in fines, criminal penalties, restrictions on Applied's business, and damage to its reputation, and could have an adverse impact on its business operations, financial condition and results of operations.

Item 1B: *Unresolved Staff Comments*

None.

Item 2: Properties

Information concerning Applied's properties is set forth below:

(Square feet in thousands)	United States	Other Countries	Total
Owned	4,855	2,472	7,327
Leased	1,912	1,800	3,712
Total	6,767	4,272	11,039

Because of the interrelation of Applied's operations, properties within a country may be shared by the segments operating within that country. The Company's headquarters offices are in Santa Clara, California. Products in Semiconductor Systems are manufactured in Santa Clara, California; Austin, Texas; Gloucester, Massachusetts; Kalispell, Montana; Rehovot, Israel; and Singapore. Remanufactured equipment products in the Applied Global Services segment are produced primarily in Austin, Texas. Products in the Display and Adjacent Markets segment are manufactured in Alzenau, Germany and Tainan, Taiwan.

Applied also owns and leases offices, plants and warehouse locations in many locations throughout the world, including in Europe, Japan, North America (principally the United States), Israel, China, India, Korea, Southeast Asia and Taiwan. These facilities are principally used for manufacturing; research, development and engineering; and marketing, sales and customer support.

Applied also owns a total of approximately 269 acres of buildable land in Montana, Texas, California, Israel and Italy that could accommodate additional building space.

Applied considers the properties that it owns or leases as adequate to meet its current and future requirements. Applied regularly assesses the size, capability and location of its global infrastructure and periodically makes adjustments based on these assessments.

Item 3: *Legal Proceedings*

The information set forth under “Legal Matters” in Note 17 of Notes to Consolidated Financial Statements is incorporated herein by reference. *See also “Risk Factors – Risks Related to Legal and Compliance.”*

Item 4: *Mine Safety Disclosures*

None.

PART II

Item 5: Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

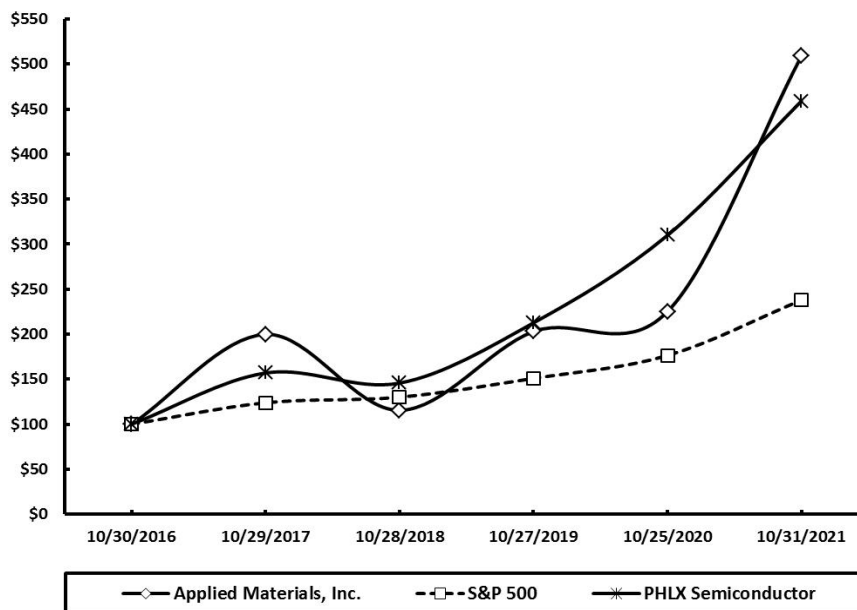
Market Information

Applied’s common stock is traded on the NASDAQ Global Select Market under the symbol AMAT. As of December 10, 2021, there were 2,833 registered holders of Applied common stock. Information regarding quarterly cash dividends declared on Applied Materials’s common stock during fiscal 2021, 2020 and 2019 may be found under “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Financial Condition, Liquidity and Capital Resources”.

Performance Graph

The performance graph below shows the five-year cumulative total stockholder return on Applied common stock during the period from October 30, 2016 through October 31, 2021. This is compared with the cumulative total return of the Standard & Poor’s 500 Stock Index and the PHLX Semiconductor Index over the same period. The comparison assumes \$100 was invested on October 30, 2016 in Applied common stock and in each of the foregoing indices and assumes reinvestment of dividends, if any. Dollar amounts in the graph are rounded to the nearest whole dollar. The performance shown in the graph represents past performance and should not be considered an indication of future performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN
Among Applied Materials, Inc., the S&P 500 Index,
and the PHLX Semiconductor Index



*Assumes \$100 invested on 10/30/16 in stock or 10/31/16 in index, including reinvestment of dividends.
Indexes calculated on month-end basis.
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	10/30/2016	10/29/2017	10/28/2018	10/27/2019	10/25/2020	10/31/2021
Applied Materials	100.00	199.87	115.48	202.95	225.12	508.89
S&P 500 Index	100.00	123.88	130.09	150.94	176.35	237.87
PHLX Semiconductor Index	100.00	156.93	145.72	212.64	309.77	458.88

Issuer Purchases of Equity Securities

In March 2021, Applied's Board of Directors approved a common stock repurchase program authorizing \$7.5 billion in repurchases, which supplemented the previously existing \$6.0 billion authorization approved in February 2018.

The following table provides information as of October 31, 2021 with respect to the shares of common stock repurchased by Applied during the fourth quarter of fiscal 2021 pursuant to the foregoing Board authorization.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Aggregate Price Paid	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Dollar Value of Shares That May Yet be Purchased Under the Programs
(In millions, except per share amounts)					
Month #1					
(August 2, 2021 to August 29, 2021)	3.5	\$ 134.64	\$ 466	3.5	\$ 6,059
Month #2					
(August 30, 2021 to September 26, 2021)	3.2	\$ 137.35	443	3.2	\$ 5,616
Month #3					
(September 27, 2021 to October 31, 2021)	4.5	\$ 131.23	591	4.5	\$ 5,025
Total	<u>11.2</u>	<u>\$ 134.05</u>	<u>\$ 1,500</u>	<u>11.2</u>	

Item 6: [Reserved]

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

Introduction

Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is intended to facilitate an understanding of Applied's business and results of operations. This MD&A should be read in conjunction with Applied's Consolidated Financial Statements and the accompanying Notes to Consolidated Financial Statements included elsewhere in this Form 10-K. The following discussion contains forward-looking statements and should also be read in conjunction with the cautionary statement set forth at the beginning of this Form 10-K. MD&A consists of the following sections:

- *Applied's Pandemic Response*
- *Overview*: a summary of Applied's business and measurements
- *Results of Operations*: a discussion of operating results
- *Segment Information*: a discussion of segment operating results
- *Recent Accounting Pronouncements*: a discussion of new accounting pronouncements and its impact to Applied's consolidated financial statements
- *Financial Condition, Liquidity and Capital Resources*: an analysis of cash flows, sources and uses of cash
- *Off-Balance Sheet Arrangements and Contractual Obligations*
- *Critical Accounting Policies and Estimates*: a discussion of critical accounting policies that require the exercise of judgments and estimates
- *Non-GAAP Adjusted Results*: a presentation of results reconciling GAAP to non-GAAP adjusted measures

Applied's Pandemic Response

As the COVID-19 pandemic emerged in 2020, Applied Materials responded quickly to put in place precautionary measures to keep its workplaces healthy and safe, while ensuring compliance with orders and restrictions imposed by government authorities, everywhere Applied operates in the world.

Applied's top priority during the ongoing COVID-19 pandemic remains protecting the health and safety of its employees and their families, customers, suppliers and community. Applied continues to support workplace flexibility such as remote working where possible and follow enhanced safety and health protocols—including screenings, social distancing, and use of personal protective equipment. Applied is keeping its labs and operations active and continuing to support customers.

Applied has implemented a multi-phase plan to return to working on-site, which takes into consideration factors such as Applied's business and employee needs, local government regulations, community case trends, and recommendations from public health officials. The plan involves multiple phases that gradually allow additional workers to return onsite while practicing social distancing and other safety measures.

Applied will continue to monitor and evaluate the ongoing COVID-19 pandemic and will work to respond appropriately to the impact of COVID-19 on its business, its customers' and suppliers' businesses and its communities.

Overview

Applied provides manufacturing equipment, services and software to the semiconductor, display, and related industries. Applied's customers include manufacturers of semiconductor wafers and chips, liquid crystal and organic light-emitting diode (OLED) displays, and other electronic devices. These customers may use what they manufacture in their own end products or sell the items to other companies for use in advanced electronic components. Each of Applied's businesses is subject to variable industry conditions, as demand for manufacturing equipment and services can change depending on supply and demand for chips, display technologies, and other electronic devices, as well as other factors, such as global economic and market conditions, and the nature and timing of technological advances in fabrication processes.

Applied operates in three reportable segments: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets. A summary of financial information for each reportable segment is found in Note 18 of Notes to Consolidated Financial Statements. A discussion of factors that could affect Applied's operations is set forth under "Risk Factors" in Part I, Item 1A, which is incorporated herein by reference. Product development and manufacturing activities occur primarily in the United States, Europe, Israel, and Asia. Applied's broad range of equipment and service products are highly technical and are sold primarily through a direct sales force.

Applied's results are driven primarily by customer spending on capital equipment and services to support key technology transitions or to increase production volume in response to worldwide demand for semiconductors and displays. Spending by semiconductor customers, which include companies that operate in the foundry, logic and memory markets, is driven by demand for advanced electronic products, including smartphones and other mobile devices, servers, personal computers, automotive devices, storage, and other products. The growth of data and emerging end-market drivers such as artificial intelligence, the Internet of Things, 5G networks, smart vehicles and augmented and virtual reality are also creating the next wave of growth for the industry. As a result, products within the Semiconductor Systems segment are subject to significant changes in customer requirements, including transitions to smaller dimensions, increasingly complex chip architectures, new materials and an increasing number of applications. Demand for display manufacturing equipment spending depends primarily on consumer demand for increasingly larger and more advanced TVs as well as larger and higher resolution displays for next-generation mobile devices, and investments in new types of display technologies. While certain existing technologies may be adapted to new requirements, some applications create the need for an entirely different technological approach. The timing of customer investment in manufacturing equipment is also affected by the timing of next-generation process development and the timing of capacity expansion to meet end-market demand. In light of these conditions, Applied's results can vary significantly year-over-year, as well as quarter-over-quarter.

Applied's strategic priorities include developing products that help solve customers' challenges at technology inflections; expanding its served market opportunities in the semiconductor and display industries; and growing its services business. Applied's long-term growth strategy requires continued development of new materials engineering capabilities, including products and platforms that enable expansion into new and adjacent markets. Applied's significant investments in research, development and engineering must generally enable it to deliver new products and technologies before the emergence of strong demand, thus allowing customers to incorporate these products into their manufacturing plans during early-stage technology selection. Applied works closely with its global customers to design systems and processes that meet their planned technical and production requirements.

The following table presents certain significant measurements for the past three fiscal years:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
(In millions, except per share amounts and percentages)					
Net sales	\$ 23,063	\$ 17,202	\$ 14,608	\$ 5,861	\$ 2,594
Gross margin	47.3 %	44.7 %	43.7 %	2.6 points	1.0 points
Operating income	\$ 6,889	\$ 4,365	\$ 3,350	\$ 2,524	\$ 1,015
Operating margin	29.9 %	25.4 %	22.9 %	4.5 points	2.5 points
Net income	\$ 5,888	\$ 3,619	\$ 2,706	\$ 2,269	\$ 913
Earnings per diluted share	\$ 6.40	\$ 3.92	\$ 2.86	\$ 2.48	\$ 1.06

Fiscal 2021 contained 53 weeks, and fiscal 2020 and 2019 each contained 52 weeks.

COVID-19 was designated a pandemic during fiscal 2020 and the resulting restrictions put in place worldwide impacted Applied's supply chains and manufacturing operations.

In fiscal 2021, the COVID-19 pandemic accelerated the digital transformation of the economy, creating increased global demand for semiconductors. As a result, semiconductor equipment customers continued to make strategic investments in new technology transitions. Foundry and logic spending increased in fiscal 2021 compared to fiscal 2020 driven by customer investment in both advanced and mature nodes. Spending by memory customers increased in fiscal 2021 compared to fiscal 2020, as the industry made investments to maintain balance between supply and demand and invested in new technology. While customers' strategic investments continued, supply chain constraints impacted Applied's ability to fulfill demand primarily in the fourth quarter of fiscal 2021. Applied expects demand to remain strong and supply shortages to persist into fiscal 2022, and managing these near-term supply chain constraints is a top priority.

Applied saw continued growth in its services business in fiscal 2021 compared to fiscal 2020 driven by an increase in the installed base of equipment and in long-term service agreements. Applied's Display and Adjacent Markets revenue remained relatively flat in fiscal 2021 compared to fiscal 2020 due to increased investment in display manufacturing equipment for TVs, offset by decreased investment in display manufacturing equipment for mobile products.

In response to the ongoing COVID-19 pandemic and evolving conditions and worldwide response, Applied made adjustments to its global operations and is actively managing its responses in collaboration with its employees, customers and suppliers. However, the situation remains fluid and uncertain. For additional risks associated with the ongoing COVID-19 pandemic, see the risk factor entitled “*The ongoing COVID-19 pandemic and global measures taken in response thereto have adversely impacted, and may continue to adversely impact, Applied’s operations and financial results*” in Part I, Item 1A, “Risk Factors.”

Results of Operations

Net Sales

Net sales for the periods indicated were as follows:

	2021		2020		2019		Change	
							2021 over 2020	2020 over 2019
	(In millions, except percentages)							
Semiconductor Systems	\$ 16,286	71%	\$ 11,367	66%	\$ 9,027	62%	43 %	26 %
Applied Global Services	5,013	22%	4,155	24%	3,854	26%	21 %	8 %
Display and Adjacent Markets	1,634	7%	1,607	9%	1,651	11%	2 %	(3)%
Corporate and Other	130	—%	73	1%	76	1%	78 %	(4)%
Total	\$ 23,063	100%	\$ 17,202	100%	\$ 14,608	100%	34 %	18 %

Net sales in fiscal 2021 compared to fiscal 2020 and fiscal 2020 compared to fiscal 2019 increased primarily due to increased customer investments in semiconductor equipment and spending on services. The Semiconductor Systems segment continued to represent the largest contributor of net sales.

Net sales by geographic region, determined by the location of customers’ facilities to which products were shipped, were as follows:

	2021		2020		2019		Change	
							2021 over 2020	2020 over 2019
	(In millions, except percentages)							
China	\$ 7,535	33%	\$ 5,456	32%	\$ 4,277	29%	38 %	28 %
Korea	5,012	22%	3,031	18%	1,929	13%	65 %	57 %
Taiwan	4,742	20%	3,953	23%	2,965	20%	20 %	33 %
Japan	1,962	8%	1,996	11%	2,198	15%	(2)%	(9)%
Southeast Asia	677	3%	411	2%	548	4%	65 %	(25)%
Asia Pacific	19,928	86%	14,847	86%	11,917	81%	34 %	25 %
United States	2,038	9%	1,619	10%	1,871	13%	26 %	(13)%
Europe	1,097	5%	736	4%	820	6%	49 %	(10)%
Total	\$ 23,063	100%	\$ 17,202	100%	\$ 14,608	100%	34 %	18 %

The changes in net sales in all regions in fiscal 2021 compared to fiscal 2020 primarily reflected changes in investments in semiconductor manufacturing equipment and customer spending on comprehensive service agreements. The decrease in net sales to customers in Japan for fiscal 2021 compared to fiscal 2020 primarily reflected a decrease in investments in semiconductor manufacturing equipment, partially offset by an increase in customer spending on comprehensive service agreements.

The changes in net sales in all regions in fiscal 2020 compared to fiscal 2019 primarily reflected changes in semiconductor equipment spending. The increase in net sales to customers in China, Taiwan and Korea for fiscal 2020 compared to fiscal 2019 was primarily due to increased investments in semiconductor manufacturing equipment and customer spending on comprehensive service agreements. The increase in China was partially offset by a decrease in customer spending in display manufacturing equipment. The decrease in net sales to customers in Japan and United States for fiscal 2020 compared to fiscal 2019 primarily reflected a decrease in investments in semiconductor and display manufacturing equipment. The decrease in net sales to customers in Southeast Asia and Europe for fiscal 2020 compared to fiscal 2019 primarily reflected a decrease in investments in semiconductor manufacturing equipment and customer spending on legacy systems and spares.

Gross Margin

Gross margins for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions, except percentages)	
Gross margin	47.3 %	44.7 %	43.7 %	2.6 points	1.0 points

Gross margin in fiscal 2021 increased compared to fiscal 2020 primarily due to the increase in net sales and favorable changes in customer and product mix, partially offset by higher freight costs and higher personnel costs due to an increase in headcount to provide manufacturing capacity and flexibility.

Gross margin in fiscal 2020 increased compared to fiscal 2019 primarily due to the increase in net sales and favorable changes in customer and product mix, partially offset by higher freight costs, and higher personnel costs due to increase in headcount to provide manufacturing capacity and flexibility, underutilization of headcount due to COVID-19 restrictions preventing travel to customer site and incremental employee compensation related to the COVID-19 pandemic.

Gross margin during fiscal 2021, 2020 and 2019 included \$118 million, \$103 million and \$89 million, respectively, of share-based compensation expense.

Research, Development and Engineering

Research, Development and Engineering (RD&E) expenses for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions)	
Research, development and engineering	\$ 2,485	\$ 2,234	\$ 2,054	\$ 251	\$ 180

Applied's future operating results depend to a considerable extent on its ability to maintain a competitive advantage in the equipment and service products it provides. Development cycles range from 12 to 36 months depending on whether the product is an enhancement of an existing product, which typically has a shorter development cycle, or a new product, which typically has a longer development cycle. Most of Applied's existing products resulted from internal development activities and innovations involving new technologies, materials and processes. In certain instances, Applied acquires technologies, either in existing or new product areas, to complement its existing technology capabilities and to reduce time to market.

Management believes that it is critical to continue to make substantial investments in RD&E to assure the availability of innovative technology that meets the current and projected requirements of its customers' most advanced designs. Applied has maintained and intends to continue its commitment to investing in RD&E in order to continue to offer new products and technologies.

Applied continued its RD&E investments across Semiconductor Systems and Display and Adjacent Markets on the development of new unit process systems and integrated materials solutions. Areas of investment include etch, deposition, inspection, patterning, packaging and other technologies to improve chip performance, power, area, cost and time-to-market. In Display and Adjacent Markets, RD&E investments were focused on expanding the Company's market opportunity with new display technologies.

The increases in RD&E expenses during both fiscal 2021 compared to fiscal 2020 and fiscal 2020 compared to fiscal 2019 were primarily due to additional headcount and higher expense associated with share-based compensation and variable compensation. These increases reflect Applied's ongoing investments in product development initiatives, consistent with the Company's growth strategy. Applied continued to prioritize existing RD&E investments in technical capabilities and critical research and development programs in current and new markets, with a focus on semiconductor technologies.

RD&E expenses during fiscal 2021, 2020 and 2019 included \$129 million, \$116 million and \$99 million, respectively, of share-based compensation expense.

Marketing and Selling

Marketing and selling expenses for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions)	
Marketing and selling	\$ 609	\$ 526	\$ 521	\$ 83	\$ 5

Marketing and selling expenses for fiscal 2021 increased compared to fiscal 2020 primarily due to additional headcount and higher variable compensation. Marketing and selling expenses remained relatively flat in fiscal 2020 compared to fiscal 2019. Marketing and selling expenses for fiscal years 2021, 2020 and 2019 included \$43 million, \$36 million and \$31 million, respectively, of share-based compensation expense.

General and Administrative

General and administrative (G&A) expenses for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions)	
General and administrative	\$ 620	\$ 567	\$ 461	\$ 53	\$ 106

G&A expenses in fiscal 2021 increased compared to fiscal 2020 primarily due to additional headcount and higher variable compensation. G&A expenses in fiscal 2020 increased compared to fiscal 2019 primarily due to higher expenses associated with acquisition integration and deal costs, variable compensation, and share-based compensation.

G&A expenses during fiscal 2021, 2020 and 2019 included \$56 million, \$52 million and \$44 million, respectively, of share-based compensation expense.

Severance and Related Charges

Severance and related charges for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions)	
Severance and related charges	\$ 157	\$ —	\$ —	\$ 157	\$ —

In the first quarter of fiscal 2021, Applied enacted a severance plan (Fiscal 2021 Severance Plan) to realign its workforce. Under this plan, Applied implemented a one-time voluntary retirement program and other workforce reduction actions. The voluntary retirement program was available to certain U.S. employees who met minimum age and length of service requirements, as well as other business-specific criteria. In addition, Applied implemented other workforce reduction actions globally across the Display and Adjacent Markets business.

Deal Termination Fee

Deal termination fee for the periods indicated were as follows:

	2021	2020	2019	Change	
				2021 over 2020	2020 over 2019
				(In millions)	
Deal termination fee	\$ 154	\$ —	\$ —	\$ 154	\$ —

On June 30, 2019, Applied entered into a Share Purchase Agreement (SPA) with Kokusai Electric Corporation (Kokusai Electric) and KKR HKE Investment L.P. (KKR) providing for Applied's acquisition of all outstanding shares of Kokusai Electric. The SPA, as subsequently amended, terminated as of March 19, 2021. Applied paid KKR a termination fee of \$154 million during the second quarter of fiscal 2021.

Interest Expense and Interest and Other Income (loss), net

Interest expense and interest and other income (loss), net for the periods indicated were as follows:

				Change	
	2021	2020	2019	2021 over 2020	2020 over 2019
	(In millions)				
Interest expense	\$ 236	\$ 240	\$ 237	\$ (4)	\$ 3
Interest and other income, net	\$ 118	\$ 41	\$ 156	\$ 77	\$ (115)

Interest expenses incurred were primarily associated with the senior unsecured notes. Interest expense in fiscal 2021 remained relatively flat compared fiscal 2020 and fiscal 2019 due to the average principal balance of the senior unsecured notes remained consistent at \$5.5 billion in each of the last three years.

Interest and other income, net in fiscal 2021 increased compared to fiscal 2020, primarily driven by a higher net gain from equity investments, partially offset by lower interest income during fiscal 2021 compared to fiscal 2020. Interest and other income, net in fiscal 2020 decreased compared to fiscal 2019, primarily driven by lower interest income and a loss on early extinguishment of debt. In addition, unrealized gains on equity investment securities from investments during fiscal 2020 were lower compared to fiscal 2019.

Income Taxes

Provision for income taxes and effective tax rates for the periods indicated were as follows:

	2021		2020		2019		Change				
	(In millions, except percentages)										
Provision for income taxes	\$	883	\$	547	\$	563	\$	336	\$	(16)	
Effective income tax rate		13.0	%	13.1	%	17.2	%	(0.1)	points	(4.1)	points

Applied's provision for income taxes and effective tax rate are affected by the geographical composition of pre-tax income which includes jurisdictions with differing tax rates, conditional reduced tax rates and other income tax incentives. It is also affected by events that are not consistent from period to period, such as changes in income tax laws and the resolution of prior years' income tax filings.

Applied's effective tax rate for fiscal 2021 was slightly lower than fiscal 2020 primarily due to higher proportion of pre-tax income in lower tax jurisdictions, partially offset by resolutions of prior years' income tax filings. Applied's effective tax rate for fiscal 2020 was lower than fiscal 2019 primarily due to a decline in the tax expense from changes to uncertain tax positions year-over-year, an increased tax benefit from tax credits, and increased excess stock compensation tax benefits. This benefit was partly offset by an unfavorable settlement of an uncertain tax position in fiscal 2020.

On June 14, 2019, the U.S. government released regulations that significantly affect how the global intangible low-taxed income (GILTI) provision of the Tax Cuts and Jobs Act (Tax Act) is interpreted. As a result, Applied reversed a tax benefit of \$96 million in the third quarter of fiscal 2019 that had been realized in the first half of fiscal 2019. An accounting policy may be selected to treat GILTI temporary differences in taxable income either as a current-period expense when incurred (period cost method) or factor such amounts into the measurement of deferred taxes (deferred method). Applied has chosen the period cost method.

Segment Information

Applied reports financial results in three segments: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets. A description of the products and services, as well as financial data, for each reportable segment can be found in Note 18 of Notes to Consolidated Financial Statements.

The Corporate and Other category includes revenues from products, as well as costs of products sold, for fabricating solar photovoltaic cells and modules and certain operating expenses that are not allocated to its reportable segments and are managed separately at the corporate level. These operating expenses include costs for share-based compensation; certain management, finance, legal, human resource, and RD&E functions provided at the corporate level; and unabsorbed information technology and occupancy. In addition, Applied does not allocate to its reportable segments restructuring, severance and asset impairment charges and any associated adjustments related to restructuring actions, unless these actions pertain to a specific reportable segment.

The results for each reportable segment are discussed below.

Semiconductor Systems Segment

The Semiconductor Systems segment is comprised primarily of capital equipment used to fabricate semiconductor chips. Semiconductor industry spending on capital equipment is driven by demand for advanced electronic products, including smartphones and other mobile devices, servers, personal computers, automotive electronics, storage, and other products, and the nature and timing of technological advances in fabrication processes, and as a result is subject to variable industry conditions. Development efforts are focused on solving customers' key technical challenges in transistor, interconnect, patterning and packaging performance.

Certain significant measures for the periods indicated were as follows:

	2021	2020	2019	Change			
				2021 over 2020	2020 over 2019		
	(In millions, except percentages and ratios)						
Net sales	\$ 16,286	\$ 11,367	\$ 9,027	\$ 4,919	43 %	\$ 2,340	26 %
Operating income	\$ 6,311	\$ 3,714	\$ 2,464	\$ 2,597	70 %	\$ 1,250	51 %
Operating margin	38.8 %	32.7 %	27.3 %		6.1 points		5.4 points

Net sales for Semiconductor Systems by end use application for the periods indicated were as follows:

	2021		2020		2019	
Foundry, logic and other	60	%	59	%	52	%
Dynamic random-access memory (DRAM)	19	%	20	%	22	%
Flash memory	21	%	21	%	26	%
	100	%	100	%	100	%

Semiconductor equipment customers continued to make strategic investments in new technology transitions during fiscal 2021. Foundry and logic spending increased, in absolute dollars, in fiscal 2021 compared to fiscal 2020 driven by customer investment in both advanced and mature nodes. Spending by memory customers also increased, in absolute dollars, in fiscal 2021 compared to the prior year. Operating margin for fiscal 2021 increased compared to fiscal 2020, primarily reflecting higher net sales and favorable changes in customer and product mix, partially offset by higher personnel costs due to the hiring of additional headcount to provide manufacturing capacity and flexibility, and higher freight costs. In fiscal 2021, two customers each accounted for more than 10 percent of this segment's total net sales, and together they accounted for approximately 43 percent of this segment's total net sales.

Net sales for fiscal 2020 increased compared to fiscal 2019 primarily due to higher spending, in absolute dollars, from foundry, logic and other customers. Operating margin for fiscal 2020 increased compared to fiscal 2019, primarily reflecting higher net sales and favorable changes in customer and product mix and lower travel-related spending due to COVID-19 travel restrictions, partially offset by increased RD&E expenses, higher freight costs, higher personnel costs due to additional headcount to provide manufacturing capacity and flexibility, and incremental employee compensation related to the COVID-19 pandemic.

There was no single region that accounted for at least 30 percent of total net sales for the Semiconductor Systems segment for any of the past three fiscal years.

Applied Global Services Segment

The Applied Global Services segment provides integrated solutions to optimize equipment and fab performance and productivity, including spares, upgrades, services, certain remanufactured earlier generation equipment and factory automation software for semiconductor, display and solar products.

Demand for Applied Global Services' solutions are driven by Applied's large and growing installed base of manufacturing systems, and customers' needs to shorten ramp times, improve device performance and yield, and optimize factory output and operating costs. Industry conditions that affect Applied Global Services' sales of spares and services are primarily characterized by increases in semiconductor manufacturers' wafer starts and continued strong utilization rates, growth of the installed base of equipment, growing service intensity of newer tools, and the Company's ability to sell more comprehensive service agreements.

Certain significant measures for the periods indicated were as follows:

	2021		2020		2019		Change			
							2021 over 2020	2020 over 2019		
	(In millions, except percentages and ratios)									
Net sales	\$	5,013	\$	4,155	\$	3,854	\$ 858	21 %	\$ 301	8 %
Operating income	\$	1,508	\$	1,127	\$	1,101	\$ 381	34 %	\$ 26	2 %
Operating margin		30.1 %		27.1 %		28.6 %		3.0 points		(1.5) points

Net sales for fiscal 2021 increased compared to fiscal 2020 primarily due to higher customer spending on comprehensive service agreements and spares, and the impact of an additional one week during fiscal 2021. Operating margin for fiscal 2021 increased compared to fiscal 2020 primarily due to higher net sales, partially offset by higher expense related to an increase in headcount to support business growth and higher freight costs. In fiscal 2021, two customers each accounted for more than 10 percent of this segment's total net sales.

Net sales for fiscal 2020 increased compared to fiscal 2019 primarily due to higher customer spending on comprehensive service agreements, semiconductor spares and legacy systems. Operating margin for fiscal 2020 decreased compared to fiscal 2019 primarily due to an increase in headcount to support business growth, underutilization of headcount due to COVID-19 restrictions preventing travel to customer sites, higher freight costs and incremental employee compensation related to the COVID-19 pandemic.

There was no single region that accounted for at least 30 percent of total net sales for the Applied Global Services segment for any of the past three fiscal years.

Display and Adjacent Markets Segment

The Display and Adjacent Markets segment encompasses products for manufacturing liquid crystal and OLED displays, and other display technologies for TVs, monitors, laptops, personal computers, electronic tablets, smart phones, and other consumer-oriented devices and equipment upgrades. The segment is focused on expanding its presence through technologically-differentiated equipment for manufacturing large-scale LCD TVs, OLEDs, low temperature polysilicon (LTPS), metal oxide, and touch panel sectors; and development of products that provide customers with improved performance and yields.

Display industry growth depends primarily on consumer demand for increasingly larger and more advanced TVs as well as larger and higher resolution displays for next-generation mobile devices. Uneven spending patterns by customers in the Display and Adjacent Markets segment can cause significant fluctuations quarter-over-quarter, as well as year-over-year.

Certain significant measures for the periods presented were as follows:

				Change	
	2021	2020	2019	2021 over 2020	2020 over 2019
	(In millions, except percentages and ratios)				
Net sales	\$ 1,634	\$ 1,607	\$ 1,651	\$ 27	2 % \$ (44) (3)%
Operating income	\$ 314	\$ 291	\$ 294	\$ 23	8 % \$ (3) (1)%
Operating margin	19.2 %	18.1 %	17.8 %	1.1 points	0.3 points

Net sales for fiscal 2021 remained relatively flat compared to fiscal 2020 primarily due to higher customer investment in display manufacturing equipment for TVs, offset by a decrease in customer investments in display manufacturing equipment for mobile products. Operating margin for fiscal 2021 increased compared to fiscal 2020 primarily due to higher net sales and favorable changes in customer and product mix. In fiscal 2021, three customers each accounted for at least 10 percent of this segment's net sales, and together they accounted for approximately 65 percent of this segment's total net sales.

Net sales for fiscal 2020 decreased compared to fiscal 2019 primarily due to lower customer investments in display manufacturing equipment for TVs, partially offset by higher customer investments in display manufacturing equipment for mobile products. Operating margin for fiscal 2020 increased compared to fiscal 2019, reflecting favorable changes in customer and product mix and lower travel-related spending due to COVID-19 travel restrictions.

The following region accounted for at least 30 percent of total net sales for the Display and Adjacent Markets segment for one or more of the periods presented:

	2021		2020		2019		Change	
							2021 over 2020	2020 over 2019
	(In millions, except percentages)							
China	\$ 1,361	83 %	\$ 1,343	84 %	\$ 1,469	89 %	\$ 18	1 % \$ (126) (9)%

Recent Accounting Pronouncements

For a description of recent accounting pronouncements, including the expected dates of adoption and estimated effects, if any, on Applied's consolidated financial statements, see Note 1, "Summary of Significant Accounting Policies," of the Notes to Consolidated Financial Statements.

Financial Condition, Liquidity and Capital Resources

Applied's cash, cash equivalents and investments consist of the following:

	October 31, 2021	October 25, 2020
	(In millions)	
Cash and cash equivalents	\$ 4,995	\$ 5,351
Short-term investments	464	387
Long-term investments	2,055	1,538
Total cash, cash-equivalents and investments	<u>\$ 7,514</u>	<u>\$ 7,276</u>

Sources and Uses of Cash

A summary of cash provided by (used in) operating, investing, and financing activities is as follows:

	2021	2020	2019
	(In millions)		
Cash provided by operating activities	\$ 5,442	\$ 3,804	\$ 3,247
Cash used in investing activities	\$ (1,216)	\$ (130)	\$ (443)
Cash used in financing activities	\$ (4,591)	\$ (1,337)	\$ (3,115)

Kokusai Electric Corporation

On June 30, 2019, Applied entered into a Share Purchase Agreement (SPA) with Kokusai Electric Corporation (Kokusai Electric) and KKR HKE Investment L.P. (KKR) providing for Applied's acquisition of all outstanding shares of Kokusai Electric. The SPA, as subsequently amended, terminated as of March 19, 2021. Applied paid KKR a termination fee of \$154 million during the second quarter of fiscal 2021.

Operating Activities

Cash from operating activities for fiscal 2021 was \$5.4 billion, which reflects net income adjusted for the effect of non-cash charges and changes in working capital components. Non-cash charges included depreciation, amortization, severance and related charges, share-based compensation and deferred income taxes. Cash provided by operating activities increased in fiscal 2021 compared to fiscal 2020 primarily due to higher net income, partially offset by an increase in the accounts receivable balance. Cash provided by operating activities increased in fiscal 2020 compared to fiscal 2019 primarily due to higher net income.

Applied has agreements with various financial institutions to sell accounts receivable and discount promissory notes from selected customers. Applied sells its accounts receivable generally without recourse. Applied, from time to time, also discounts letters of credit issued by customers through various financial institutions. The discounting of letters of credit depends on many factors, including the willingness of financial institutions to discount the letters of credit and the cost of such arrangements. Applied sold \$1.3 billion, \$1.2 billion and \$1.5 billion of accounts receivable during fiscal 2021, 2020 and 2019, respectively. Applied did not discount letters of credit issued by customers in fiscal 2021. Applied discounted letters of credit issued by customers of \$105 million and \$48 million in fiscal, 2020 and 2019, respectively. There was no discounting of promissory notes in each of fiscal 2021, 2020 and 2019.

Applied's working capital was \$9.8 billion at October 31, 2021 and \$8.9 billion at October 25, 2020.

Days sales outstanding at the end of fiscal 2021, 2020 and 2019 was 74 days, 57 days, and 61 days, respectively. Days sales outstanding varies due to the timing of shipments and payment terms. The increase in days sales outstanding at the end of fiscal 2021 was primarily due to unfavorable revenue linearity and lower account receivable factoring compared to the end of fiscal 2020. The decrease in days sales outstanding at the end of fiscal 2020 was primarily due to higher accounts receivable factoring and favorable revenue linearity compared to the end of fiscal 2019.

Investing Activities

Applied used \$1.2 billion, \$130 million and \$443 million of cash in investing activities in fiscal 2021, 2020 and 2019, respectively. Capital expenditures in fiscal 2021, 2020 and 2019 were \$668 million, \$422 million and \$441 million, respectively. Capital expenditures in fiscal 2021 and 2020 were primarily for investments in demonstration and testing equipment, real property acquisitions and improvements, and network equipment. Capital expenditures in fiscal 2019 were primarily for real property acquisitions and improvements in North America and Taiwan, as well as investments in demonstration, testing and laboratory tools. Purchases of investments, net of proceeds from sales and maturities of investments, for 2021 was \$536 million. Proceeds from sales and maturities of investments, net of purchase of investments were \$399 million and \$26 million for fiscal 2020 and 2019, respectively. Investing activities also included investments in technology to allow Applied to access new market opportunities or emerging technologies.

Applied's investment portfolio consists principally of investment grade money market mutual funds, U.S. Treasury and agency securities, municipal bonds, corporate bonds and mortgage-backed and asset-backed securities, as well as equity securities. Applied regularly monitors the credit risk in its investment portfolio and takes appropriate measures, which may include the sale of certain securities, to manage such risks prudently in accordance with its investment policies.

Financing Activities

Applied used \$4.6 billion of cash in financing activities in fiscal 2021, consisting primarily of repurchases of common stock of \$3.8 billion, cash dividends to stockholders of \$838 million and tax withholding payments for vested equity awards of \$178 million, offset by proceeds from common stock issuances of \$175 million.

Applied used \$1.3 billion of cash in financing activities in fiscal 2020, consisting primarily of the repayment of \$1.4 billion senior notes, repurchases of common stock of \$649 million, cash dividends to stockholders of \$787 million and tax withholding payments for vested equity awards of \$172 million, offset by net proceeds received from the issuance of senior unsecured notes of \$1.5 billion and proceeds from common stock issuances of \$174 million.

Applied used \$3.1 billion of cash in financing activities in fiscal 2019, consisting primarily of repurchases of common stock of \$2.4 billion, cash dividends to stockholders of \$771 million and tax withholding payments for vested equity awards of \$86 million, offset by proceeds from common stock issuances of \$145 million.

In March 2021, Applied's Board of Directors approved a common stock repurchase program authorizing \$7.5 billion in repurchases, which supplemented the previously existing \$6.0 billion authorization approved in February 2018. At October 31, 2021, approximately \$5.0 billion remained available for future stock repurchases under the repurchase program.

During fiscal 2021, Applied's Board of Directors declared one quarterly cash dividend of \$0.22 per share and three quarterly cash dividends of \$0.24 per share. During fiscal 2020, Applied's Board of Directors declared one quarterly cash dividend of \$0.21 per share and three quarterly cash dividends of \$0.22 per share. During fiscal 2019, Applied's Board of Directors declared one quarterly cash dividend of \$0.20 per share and three quarterly cash dividends in the amount of \$0.21 per share. Dividends paid during fiscal 2021, 2020 and 2019 amounted to \$838 million, \$787 million and \$771 million, respectively. Applied currently anticipates that cash dividends will continue to be paid on a quarterly basis, although the declaration of any future cash dividend is at the discretion of the Board of Directors and will depend on Applied's financial condition, results of operations, capital requirements, business conditions and other factors, as well as a determination by the Board of Directors that cash dividends are in the best interests of Applied's stockholders.

Applied has credit facilities for unsecured borrowings in various currencies of up to \$1.6 billion, of which \$1.5 billion is comprised of a committed revolving credit agreement (Revolving Credit Agreement) with a group of banks. The Revolving Credit Agreement includes a provision under which Applied may request an increase in the amount of the facility of up to \$500 million for a total commitment of no more than \$2.0 billion, subject to the receipt of commitments from one or more lenders for any such increase and other customary conditions. The Revolving Credit Agreement is scheduled to expire in February 2025, unless extended as permitted under the Revolving Credit Agreement. The Revolving Credit Agreement provides for borrowings in United States dollars that bear interest for each advance at one of two rates selected by Applied, plus an applicable margin, which varies according to Applied's public debt credit ratings. The Revolving Credit Agreement includes financial and other covenants with which Applied was in compliance as of October 31, 2021.

Remaining credit facilities in the amount of approximately \$70 million are with Japanese banks. Applied's ability to borrow under these facilities is subject to bank approval at the time of the borrowing request, and any advances will be at rates indexed to the banks' prime reference rate denominated in Japanese yen.

In August 2019, Applied entered into a term loan credit agreement (Term Loan Credit Agreement) with a group of lenders under which the lenders committed to make an unsecured term loan to Applied of up to \$2.0 billion to finance in part Applied's planned acquisition of all outstanding shares of Kokusai Electric, to pay related transaction fees and expenses and for general corporate purposes. In March 2021, the Term Loan Credit Agreement, as subsequently amended, terminated automatically in accordance with its terms upon the termination of the SPA. No amounts were borrowed under the Term Loan Credit Agreement.

Applied has a short-term commercial paper program under which Applied may issue unsecured commercial paper notes of up to a total amount of \$1.5 billion. As of October 31, 2021, Applied did not have any commercial paper outstanding but may issue commercial paper notes under this program from time to time in the future. The commercial paper program is backstopped by the Revolving Credit Agreement and borrowings under the Revolving Credit Agreement reduce the amount of commercial paper notes Applied can issue.

In May 2020, Applied issued \$750 million aggregate principal amount of 1.750% senior unsecured notes due 2030 and \$750 million aggregate principal amount of 2.750% senior unsecured notes due 2050, in a registered public offering. In June 2020, Applied used a portion of the net proceeds from the offering to redeem the outstanding \$600 million in aggregate principal amount of its 2.625% senior unsecured notes due October 1, 2020 and \$750 million in aggregate principal amount of its 4.300% senior unsecured notes due June 15, 2021, at a total aggregate redemption price of \$1.4 billion. As a result, Applied recognized a \$33 million loss on early extinguishment of these senior unsecured notes during the third quarter of fiscal 2020.

Applied had senior unsecured notes in the aggregate principal amount of \$5.5 billion outstanding as of October 31, 2021. See Note 11 of the Notes to the Consolidated Condensed Financial Statements for additional discussion of existing debt. Applied may seek to refinance its existing debt and may incur additional indebtedness depending on Applied's capital requirements and the availability of financing.

Others

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act (Tax Act). The Tax Act requires a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. The transition tax expense is payable in installments over eight years, with eight percent due in each of the first five years starting with fiscal 2018. As of October 31, 2021, Applied had \$775 million of total payments remaining, payable in installments in the next five years. Before the Tax Act, U.S. income tax had not been provided for certain unrepatriated earnings that were considered indefinitely reinvested. Income tax is now provided for all unrepatriated earnings.

Although cash requirements will fluctuate based on the timing and extent of factors such as those discussed above, Applied's management believes that cash generated from operations, together with the liquidity provided by existing cash balances and borrowing capability, will be sufficient to satisfy Applied's liquidity requirements for the next 12 months. For further details regarding Applied's operating, investing and financing activities, see the Consolidated Statements of Cash Flows in this report.

For details on standby letters of credit, guarantee instruments and other agreements with banks, see Off-Balance Sheet Arrangements below.

Off-Balance Sheet Arrangements and Contractual Obligations

Off-Balance Sheet Arrangements

In the ordinary course of business, Applied provides standby letters of credit or other guarantee instruments to third parties as required for certain transactions initiated by either Applied or its subsidiaries. These include agreements with various banks to facilitate subsidiary banking operations worldwide, including overdraft arrangements. As of October 31, 2021, the maximum potential amount of future payments that Applied could be required to make under these guarantee agreements was approximately \$500 million. Applied has not recorded any liability in connection with these guarantee agreements beyond that required to appropriately account for the underlying transaction being guaranteed. Applied does not believe, based on historical experience and information currently available, that it is probable that any amounts will be required to be paid under these guarantee agreements.

Applied also has agreements with various banks to facilitate subsidiary banking operations worldwide, including overdraft arrangements, issuance of bank guarantees, and letters of credit. As of October 31, 2021, Applied has provided parent guarantees to banks for approximately \$144 million to cover these arrangements.

Contractual Obligations

The following table summarizes Applied's contractual obligations as of October 31, 2021:

<u>Contractual Obligations</u>	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
	(In millions)				
Debt obligations	\$ 5,500	\$ —	\$ —	\$ 700	\$ 4,800
Interest expense associated with debt obligations	3,212	205	410	382	2,215
Operating lease obligations	315	78	132	66	39
Income tax from change in U.S. tax laws ¹	775	82	234	459	—
Purchase obligations ²	5,716	5,498	218	—	—
Other long-term liabilities ^{3,4}	21	—	2	1	18
Total	\$ 15,539	\$ 5,863	\$ 996	\$ 1,608	\$ 7,072

¹ Represents the transition tax liability associated with the deemed repatriation of accumulated foreign earnings as a result of the enactment of the Tax Cuts and Jobs Act into law on December 22, 2017.

² Represents Applied's agreements to purchase goods and services consisting of Applied's outstanding purchase orders for goods and services.

³ Other long-term liabilities in the table do not include pension, postretirement and deferred compensation plans due to the uncertainty in the timing of future payments. Applied evaluates the need to make contributions to its pension and postretirement benefit plans after considering the funded status of the plans, movements in the discount rate, performance of the plan assets and related tax consequences. Payments to the plans would be dependent on these factors and could vary across a wide range of amounts and time periods. Payments for deferred compensation plans are dependent on activity by participants, making the timing of payments uncertain. Information on Applied's pension, postretirement benefit and deferred compensation plans is presented in Note 15, Employee Benefit Plans, of the consolidated financial statements.

⁴ Applied's other long-term liabilities in the Consolidated Balance Sheets include deferred income tax liabilities, gross unrecognized tax benefits and related gross interest and penalties. As of October 31, 2021, the gross liability for unrecognized tax benefits that was not expected to result in payment of cash within one year was \$524 million. Interest and penalties related to uncertain tax positions that were not expected to result in payment of cash within one year of October 31, 2021 was \$88 million. At this time, Applied is unable to make a reasonably reliable estimate of the timing of payments due to uncertainties in the timing of tax audit outcomes; therefore, such amounts are not included in the above contractual obligation table.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements and related disclosures in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, assumptions and estimates that affect the amounts reported. Note 1 of Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements. Certain of these significant accounting policies are considered to be critical accounting policies.

A critical accounting policy is defined as one that is both material to the presentation of Applied's consolidated financial statements and that requires management to make difficult, subjective or complex judgments that could have a material effect on Applied's financial condition or results of operations. Specifically, these policies have the following attributes: (1) Applied is required to make assumptions about matters that are highly uncertain at the time of the estimate; and (2) different estimates Applied could reasonably have used, or changes in the estimate that are reasonably likely to occur, would have a material effect on Applied's financial condition or results of operations.

Estimates and assumptions about future events and their effects cannot be determined with certainty. Applied bases its estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. These estimates may change as new events occur, as additional information is obtained and as Applied's operating environment changes. These changes have historically been minor and have been included in the consolidated financial statements as soon as they became known. In addition, management is periodically faced with uncertainties, the outcomes of which are not within its control and will not be known for prolonged periods of time. These uncertainties include those discussed in Part I, Item 1A, "Risk Factors." Based on a critical assessment of its accounting policies and the underlying judgments and uncertainties affecting the application of those policies, management believes that Applied's consolidated financial statements are fairly stated in accordance with accounting principles generally accepted in the United States of America, and provide a meaningful presentation of Applied's financial condition and results of operations.

Management believes that the following are critical accounting policies and estimates:

Revenue Recognition

Applied recognizes revenue when promised goods or services (performance obligations) are transferred to a customer in an amount that reflects the consideration to which Applied expects to be entitled in exchange for those goods or services. Applied performs the following five steps to determine when to recognize revenue: (1) identification of the contract(s) with customers, (2) identification of the performance obligations in the contract, (3) determination of the transaction price, (4) allocation of the transaction price to the performance obligations in the contract, and (5) recognition of revenue when, or as, a performance obligation is satisfied. Management uses judgment to identify performance obligations within a contract and to determine whether multiple promised goods or services in a contract should be accounted for separately or as a group. Judgment is also used in interpreting commercial terms and determining when transfer of control occurs. Moreover, judgment is used to estimate the contract's transaction price and allocate it to each performance obligation. Any material changes in the identification of performance obligations, determination and allocation of the transaction price to performance obligations, and determination of when transfer of control occurs to the customer, could impact the timing and amount of revenue recognition, which could have a material effect on Applied's financial condition and results of operations.

Warranty Costs

Applied provides for the estimated cost of warranty when revenue is recognized. Estimated warranty costs are determined by analyzing specific product, current and historical configuration statistics and regional warranty support costs. Applied's warranty obligation is affected by product and component failure rates, material usage and labor costs incurred in correcting product failures during the warranty period. As Applied's customer engineers and process support engineers are highly trained and deployed globally, labor availability is a significant factor in determining labor costs. The quantity and availability of critical replacement parts is another significant factor in estimating warranty costs. Unforeseen component failures or exceptional component performance can also result in changes to warranty costs. If actual warranty costs differ substantially from Applied's estimates, revisions to the estimated warranty liability would be required, which could have a material adverse effect on Applied's business, financial condition and results of operations.

Allowance for Credit Losses

Applied maintains an allowance for credit losses for estimated losses resulting from the inability of its customers to make required payments. This allowance is based on historical experience, credit evaluations, specific customer collection history and any customer-specific issues Applied has identified. Changes in circumstances, such as an unexpected material adverse change in a major customer's ability to meet its financial obligation to Applied or its payment trends, may require Applied to further adjust its estimates of the recoverability of amounts due to Applied, which could have a material adverse effect on Applied's business, financial condition and results of operations.

Inventory Valuation

Inventories are generally stated at the lower of cost or net realizable value, with cost determined on a first-in, first-out (FIFO) basis. The carrying value of inventory is reduced for estimated obsolescence by the difference between its cost and the estimated net realizable value based upon assumptions about future demand. Applied evaluates the inventory carrying value for potential excess and obsolete inventory exposures by analyzing historical and anticipated demand. In addition, inventories are evaluated for potential obsolescence due to the effect of known and anticipated engineering change orders and new products. If actual demand were to be substantially lower than estimated, additional adjustments for excess or obsolete inventory may be required, which could have a material adverse effect on Applied's business, financial condition and results of operations.

Goodwill and Intangible Assets

Applied reviews goodwill and intangible assets for impairment annually during the fourth quarter of each fiscal year and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The process of evaluating the potential impairment of goodwill and intangible assets requires significant judgment, especially in emerging markets. When reviewing goodwill for impairment, Applied first performs a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value.

In performing a qualitative assessment, Applied considers business conditions and other factors including, but not limited to (i) adverse industry or economic trends, (ii) restructuring actions and lower projections that may impact future operating results, (iii) sustained decline in share price, and (iv) overall financial performance and other events affecting the reporting units. If Applied concludes that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then a quantitative impairment test is performed by estimating the fair value of the reporting unit and comparing it to its carrying value. If the carrying value of a reporting unit exceeds its fair value, Applied would record an impairment charge equal to the excess of the carrying value of the reporting unit's goodwill over its fair value.

Applied determines the fair value of each reporting unit based on a weighting of an income and a market approach. Applied bases the fair value estimates on assumptions that it believes to be reasonable but that are unpredictable and inherently uncertain. Under the income approach, Applied estimates the fair value based on discounted cash flow method.

The estimates used in the impairment testing are consistent with the discrete forecasts that Applied uses to manage its business, and considers any significant developments during the period. Under the discounted cash flow method, cash flows beyond the discrete forecasts are estimated using a terminal growth rate, which considers the long-term earnings growth rate specific to the reporting units. The estimated future cash flows are discounted to present value using each reporting unit's weighted average cost of capital. The weighted average cost of capital measures a reporting unit's cost of debt and equity financing weighted by the percentage of debt and equity in a reporting unit's target capital structure. In addition, the weighted average cost of capital is derived using both known and estimated market metrics, and is adjusted to reflect both the timing and risks associated with the estimated cash flows. The tax rate used in the discounted cash flow method is the median tax rate of comparable companies and reflects Applied's current international structure, which is consistent with the market participant perspective. Under the market approach, Applied uses the guideline company method which applies market multiples to forecasted revenues and earnings before interest, taxes, depreciation and amortization. Applied uses market multiples that are consistent with comparable publicly-traded companies and considers each reporting unit's size, growth and profitability relative to its comparable companies.

Intangible assets, such as purchased technology, are generally recorded in connection with a business acquisition. The value assigned to intangible assets is usually based on estimates and judgments regarding expectations for the success and life cycle of products and technology acquired. If actual product acceptance differs significantly from the estimates, Applied may be required to record an impairment charge to reduce the carrying value of the reporting unit to its estimated fair value.

Income Taxes

Applied's provision for income taxes and effective tax rate are affected by the geographical composition of pre-tax income which includes jurisdictions with differing tax rates, conditional reduced tax rates and other income tax incentives. It is also affected by events that are not consistent from period to period, such as changes to income tax laws and the resolution of prior years' income tax filings.

Applied recognizes a current tax liability for the estimated amount of income tax payable on tax returns for the current fiscal year. Deferred tax assets and liabilities are recognized for the estimated future tax effects of temporary differences between the book and tax bases of assets and liabilities. Deferred tax assets are also recognized for net operating loss and tax credit carryforwards. Deferred tax assets are offset by a valuation allowance to the extent it is more likely than not that they are not expected to be realized.

Applied recognizes tax benefits from uncertain tax positions only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities based on the technical merits of the position. The tax benefits recognized from such positions are estimated based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. Any changes in judgment related to uncertain tax positions are recognized in Applied's provision for income taxes in the quarter in which such change occurs. Interest and penalties related to uncertain tax positions are recognized in Applied's provision for income taxes.

The calculation of Applied's provision for income taxes and effective tax rate involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with Applied's expectations could have an adverse material impact on Applied's results of operations and financial condition.

Non-GAAP Adjusted Financial Results

Management uses non-GAAP adjusted financial measures to evaluate the Company's operating and financial performance and for planning purposes, and as performance measures in its executive compensation program. Applied believes these measures enhance an overall understanding of its performance and investors' ability to review the Company's business from the same perspective as the Company's management and facilitate comparisons of this period's results with prior periods on a consistent basis by excluding items that management does not believe are indicative of Applied's ongoing operating performance.

The non-GAAP adjusted financial measures presented below are adjusted to exclude the impact of certain costs, expenses, gains and losses, including certain items related to mergers and acquisitions; restructuring and severance charges and any associated adjustments; certain incremental expenses related to COVID-19; impairments of assets; gain or loss on strategic investments; loss on early extinguishment of debt; certain income tax items and other discrete adjustments. Additionally, non-GAAP results exclude estimated discrete income tax expense items associated with U.S. tax legislation. Reconciliations of these non-GAAP measures to the most directly comparable financial measures calculated and presented in accordance with GAAP are provided in the financial tables presented below. There are limitations in using non-GAAP financial measures because the non-GAAP financial measures are not prepared in accordance with generally accepted accounting principles, may be different from non-GAAP financial measures used by other companies, and may exclude certain items that may have a material impact upon our reported financial results. The presentation of this additional information is not meant to be considered in isolation or as a substitute for the directly comparable financial measures prepared in accordance with GAAP.

The following tables present a reconciliation of the GAAP and non-GAAP adjusted consolidated results for the past three fiscal years:

APPLIED MATERIALS, INC.
UNAUDITED RECONCILIATION OF GAAP TO NON-GAAP ADJUSTED RESULTS

(In millions, except percentages)	2021	2020	2019
Non-GAAP Adjusted Gross Profit			
Reported gross profit - GAAP basis	\$ 10,914	\$ 7,692	\$ 6,386
Certain items associated with acquisitions ¹	27	37	37
Certain incremental expenses related to COVID-19 ²	12	23	—
Other charges	2	—	—
Non-GAAP adjusted gross profit	<u>\$ 10,955</u>	<u>\$ 7,752</u>	<u>\$ 6,423</u>
Non-GAAP adjusted gross margin	47.5 %	45.1 %	44.0 %
Non-GAAP Adjusted Operating Income			
Reported operating income - GAAP basis	\$ 6,889	\$ 4,365	\$ 3,350
Certain items associated with acquisitions ¹	47	54	55
Acquisition integration and deal costs	45	80	22
Certain incremental expenses related to COVID-19 ²	24	30	—
Severance and related charges ³	157	—	—
Deal termination fee	154	—	—
Other charges	6	—	—
Non-GAAP adjusted operating income	<u>\$ 7,322</u>	<u>\$ 4,529</u>	<u>\$ 3,427</u>
Non-GAAP adjusted operating margin	31.7 %	26.3 %	23.5 %
Non-GAAP Adjusted Net Income			
Reported net income - GAAP basis	\$ 5,888	\$ 3,619	\$ 2,706
Certain items associated with acquisitions ¹	47	54	55
Acquisition integration and deal costs	46	80	22
Certain incremental expenses related to COVID-19 ²	24	30	—
Severance and related charges ³	157	—	—
Deal termination fee	154	—	—
Realized loss (gain) on strategic investments, net	(43)	(1)	(6)
Unrealized loss (gain) on strategic investments, net	(56)	(8)	(30)
Loss on early extinguishment of debt	—	33	—
Other charges	6	—	—
Income tax effect of changes in applicable U.S. tax laws ⁴	—	—	(24)
Income tax effects related to intra-entity intangible asset transfers	64	114	62
Resolution of prior years' income tax filings and other tax items	33	(41)	95
Income tax effect of non-GAAP adjustments ⁵	(33)	(35)	(5)
Non-GAAP adjusted net income	<u>\$ 6,287</u>	<u>\$ 3,845</u>	<u>\$ 2,875</u>

1 These items are incremental charges attributable to completed acquisitions, consisting of amortization of purchased intangible assets.

2 Temporary incremental employee compensation during the COVID-19 pandemic.

3 The severance and related charges primarily related to a one-time voluntary retirement program offered to certain eligible employees.

4 Charges to income tax provision related to a one-time transition tax as a result of U.S. tax legislation.

5 Adjustment to provision for income taxes related to non-GAAP adjustments reflected in income before income taxes.

APPLIED MATERIALS, INC.
UNAUDITED RECONCILIATION OF GAAP TO NON-GAAP ADJUSTED RESULTS

(In millions, except per share amounts)	2021	2020	2019
Non-GAAP Adjusted Earnings Per Diluted Share			
Reported earnings per diluted share - GAAP basis	\$ 6.40	\$ 3.92	\$ 2.86
Certain items associated with acquisitions	0.04	0.05	0.05
Acquisition integration and deal costs	0.04	0.07	0.02
Certain incremental expenses related to COVID-19	0.02	0.03	—
Severance and related charges	0.13	—	—
Deal termination fee	0.17	—	—
Realized loss (gain) on strategic investments, net	(0.03)	—	—
Unrealized loss (gain) on strategic investments, net	(0.05)	(0.01)	(0.03)
Loss on early extinguishment of debt	—	0.03	—
Other charges	0.01	—	—
Income tax effect of change in applicable U.S. tax laws	—	—	(0.03)
Income tax effects related to intra-entity intangible asset transfers	0.07	0.12	0.07
Resolution of prior years' income tax filings and other tax items	0.04	(0.04)	0.10
Non-GAAP adjusted earnings per diluted share	<u>\$ 6.84</u>	<u>\$ 4.17</u>	<u>\$ 3.04</u>
Weighted average number of diluted shares	919	923	945

The following table presents a reconciliation of the GAAP and non-GAAP adjusted segment results for the past three fiscal years:

APPLIED MATERIALS, INC.
UNAUDITED RECONCILIATION OF GAAP TO NON-GAAP ADJUSTED RESULTS

(In millions, except percentages)	2021	2020	2019
Semiconductor Systems Non-GAAP Adjusted Operating Income			
Reported operating income - GAAP basis	\$ 6,311	\$ 3,714	\$ 2,464
Certain items associated with acquisitions ¹	38	41	43
Acquisition integration costs	(2)	3	—
Certain incremental expenses related to COVID-19 ²	12	20	—
Other charges	3	—	—
Non-GAAP adjusted operating income	<u>\$ 6,362</u>	<u>\$ 3,778</u>	<u>\$ 2,507</u>
Non-GAAP adjusted operating margin	39.1 %	33.2 %	27.8 %
AGS Non-GAAP Adjusted Operating Income			
Reported operating income - GAAP basis	\$ 1,508	\$ 1,127	\$ 1,101
Certain incremental expenses related to COVID-19 ²	8	8	—
Other charges	1	—	—
Non-GAAP adjusted operating income	<u>\$ 1,517</u>	<u>\$ 1,135</u>	<u>\$ 1,101</u>
Non-GAAP adjusted operating margin	30.3 %	27.3 %	28.6 %
Display and Adjacent Markets Non-GAAP Adjusted Operating Income			
Reported operating income - GAAP basis	\$ 314	\$ 291	\$ 294
Certain items associated with acquisitions ¹	4	12	12
Acquisition integration costs	—	—	1
Certain incremental expenses related to COVID-19 ²	1	1	—
Severance and related charges ³	8	—	—
Non-GAAP adjusted operating income	<u>\$ 327</u>	<u>\$ 304</u>	<u>\$ 307</u>
Non-GAAP adjusted operating margin	20.0 %	18.9 %	18.6 %

1 These items are incremental charges attributable to completed acquisitions, consisting of amortization of purchased intangible assets.

2 Temporary incremental employee compensation during the COVID-19 pandemic.

3 The severance and related charges related to workforce reduction actions globally across the Display and Adjacent Market business.

Note: The reconciliation of GAAP and non-GAAP adjusted segment results above does not include certain revenues, costs of products sold and operating expenses that are reported within corporate and other and included in consolidated operating income.

Item 7A: Quantitative and Qualitative Disclosures About Market Risk

Applied is exposed to financial market risks, including fluctuations in interest rate and foreign currency exchange rates.

Interest Rate Risk

Available-for-sale Debt Securities. The market value of Applied's investments in available-for-sales securities was approximately \$1.8 billion at October 31, 2021. An immediate hypothetical 100 basis point increase in interest rates would result in a decrease in the fair value of investments as of October 31, 2021 of approximately \$26 million.

Debt. At October 31, 2021, the aggregate principal of long-term senior unsecured notes issued by Applied was \$5.5 billion with an estimated fair value of \$6.4 billion. A hypothetical decrease in interest rates of 100 basis points would result in an increase in the fair value of Applied's long-term senior notes issuances of approximately \$731 million at October 31, 2021. From time to time Applied uses interest rate swaps or rate lock agreements to mitigate the potential impact of changes in benchmark interest rates on interest expense and cash flows.

Foreign Currency Risk

Certain operations of Applied are conducted in foreign currencies, such as Japanese yen, Israeli shekel, euro and Taiwanese dollar. Hedges are used to reduce, but not eliminate, the impact of foreign currency exchange rate movements on the consolidated balance sheet, statement of operations, and statement of cash flows.

Applied uses primarily foreign currency forward contracts to offset the impact of foreign exchange movements on non-U.S. dollar denominated monetary assets and liabilities. The foreign exchange gains and losses on the assets and liabilities are recorded in interest and other income (net) and are offset by the gains and losses on the hedges.

Applied uses foreign currency forward and option contracts to hedge a portion of anticipated non-U.S. dollar denominated revenues and expenses expected to occur within the next 24 months. Gains and losses on these hedging contracts generally mitigate the effect of currency movements on Applied's net sales, cost of products sold, and operating expenses. A hypothetical 10% adverse change in foreign currency exchange rates relative to the U.S. Dollar would result in a decrease in the fair value of these hedging contracts of \$177 million at October 31, 2021.

Applied does not use foreign currency forward or option contracts for trading or speculative purposes.

Item 8: Financial Statements and Supplementary Data

The consolidated financial statements required by this Item are set forth on the pages indicated at Item 15(a).

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

None.

Item 9A: Controls and Procedures

Disclosure Controls and Procedures

As of the end of the period covered by this report, management of Applied conducted an evaluation, under the supervision and with the participation of Applied's Chief Executive Officer and Chief Financial Officer, of the effectiveness of Applied's disclosure controls and procedures, as such term is defined in Rule 13a-15(e) of the Securities Exchange Act of 1934 (the Exchange Act). Based upon that evaluation, Applied's Chief Executive Officer and Chief Financial Officer concluded that Applied's disclosure controls and procedures were effective as of the end of the period covered by this report in ensuring that information required to be disclosed was recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and to provide reasonable assurance that information required to be disclosed by Applied in such reports is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

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

KPMG LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Form 10-K and, as part of the audit, has issued a report, included herein, on the effectiveness of Applied's internal control over financial reporting as of October 31, 2021.

Changes in Internal Control over Financial Reporting

Due to the ongoing COVID-19 pandemic, Applied continues to support workplace flexibility such as remote work where possible. Business continuity plans are in effect in order to mitigate potential impact on Applied's control environment and its operating and disclosure controls and procedures. The design of business continuity plans, which include remote access to secure data when needed, allow for remote and reliable execution of Applied's operating and disclosure controls and procedures.

Applied evaluated the impact of the ongoing COVID-19 pandemic on its internal control over financial reporting. During the fourth quarter of fiscal 2021, there were no changes in the internal control over financial reporting that materially affected, or are reasonably likely to materially affect, Applied's internal control over financial reporting.

Inherent Limitations of Disclosure Controls and Procedures and Internal Control over Financial Reporting

It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system will be met. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events.

Item 9B: Other Information

None

PART III

Item 10: *Directors, Executive Officers and Corporate Governance*

Except for the information regarding executive officers required by Item 401 of Regulation S-K (which is included in Part I, Item 1 of this Annual Report on Form 10-K, under “Information about our Executive Officers”) and code of ethics (which is set forth below), the information required by this item will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

Applied has implemented the Standards of Business Conduct, a code of ethics with which every person who works for Applied and every member of the Board of Directors is expected to comply. If any substantive amendments are made to the Standards of Business Conduct or any waiver is granted, including any implicit waiver, from a provision of the code to Applied’s Chief Executive Officer, Chief Financial Officer or Chief Accounting Officer, Applied will disclose the nature of such amendment or waiver on its website or in a report on Form 8-K. The above information, including the Standards of Business Conduct, is available on Applied’s website under the Corporate Governance section at <http://www.appliedmaterials.com/company/investor-relations/governance>. This website address is intended to be an inactive, textual reference only. None of the materials on, or accessible through, this website is part of this report or is incorporated by reference herein.

Item 11: *Executive Compensation*

The information required by this Item will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

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

Except for the information regarding securities authorized for issuance under equity compensation plans (which is set forth below), the information required by this Item will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

The following table summarizes information with respect to equity awards under Applied's equity compensation plans as of October 31, 2021:

Equity Compensation Plan Information

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights(1)	(b) Weighted Average Exercise Price of Outstanding Options, Warrants and Rights(2)	(c) Number of Securities Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column(a))
		(In millions, except prices)	
Equity compensation plans approved by security holders	13	\$ —	51 (3)
Total	13	\$ —	51

(1) Includes only restricted stock units and performance shares outstanding under Applied's equity compensation plans, as no options, stock warrants or other rights were outstanding as of October 31, 2021.

(2) The weighted average exercise price calculation does not take into account any restricted stock units or performance shares.

(3) Includes 16 million shares of Applied common stock available for future issuance under the Applied Materials, Inc. Omnibus Employees' Stock Purchase Plan. Of these 16 million shares, 1 million are subject to purchase during the purchase period in effect as of October 31, 2021.

Prior to September 1, 2021, Applied had two Employee Stock Purchase Plans, one generally for United States employees (U.S. ESPP) and a second for employees of international subsidiaries (Offshore ESPP), which enable eligible employees to purchase Applied common stock. On March 11, 2021, Applied's shareholders approved an amendment and restatement of the U.S. ESPP (as amended, the Omnibus ESPP). The Omnibus ESPP became effective on September 1, 2021 (the Effective Date) in accordance with its terms, and amended the U.S. ESPP to, among other changes, (i) incorporate the Offshore ESPP as a sub-plan, and (ii) add 11.3 million shares to the number of shares of Applied common stock authorized for issuance. The Offshore ESPP was terminated as an independent plan on the Effective Date.

Applied has the following equity compensation plan that has not been approved by stockholders:

Applied Materials Profit Sharing Scheme. The Applied Materials Profit Sharing Scheme was adopted effective July 3, 1996 to enable employees of Applied Materials Ireland Limited and its participating subsidiaries to purchase Applied common stock at 100% of fair market value on the purchase date. Under this plan, eligible employees may elect to forego a certain portion of their base salary and certain bonuses they have earned and that otherwise would be payable in cash to purchase shares of Applied common stock at full fair market value. Since the eligible employees pay full fair market value for the shares, there is no reserved amount of shares under this plan and, accordingly, the table above does not include any set number of shares available for future issuance under the plan.

Item 13: *Certain Relationships and Related Transactions, and Director Independence*

The information required by this Item will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

Item 14: *Principal Accounting Fees and Services*

The information required by this Item will be provided in accordance with Instruction G(3) to Form 10-K no later than February 28, 2022.

PART IV

Item 15: Exhibits, Financial Statement Schedules

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

	<u>Page Number</u>
(1) Financial Statements:	
Reports of Independent Registered Public Accounting Firm	61
Consolidated Statements of Operations	64
Consolidated Statements of Comprehensive Income	65
Consolidated Balance Sheets	66
Consolidated Statements of Stockholders' Equity	67
Consolidated Statements of Cash Flows	68
Notes to Consolidated Financial Statements	69
(2) Exhibits:	
The exhibits listed in the accompanying Index to Exhibits are filed or incorporated by reference as part of this Annual Report on Form 10-K	105

All other schedules are omitted because they are not applicable or the required information is shown in the Consolidated Financial Statements or Notes thereto.

Item 16: Form 10-K Summary

None.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Applied Materials, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Applied Materials, Inc. and subsidiaries (the Company) as of October 31, 2021 and October 25, 2020, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended October 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of October 31, 2021 and October 25, 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended October 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of October 31, 2021, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated December 17, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Changes in Accounting Principles

As discussed in note 1 to the consolidated financial statements, the Company changed its method of accounting for leases as of October 28, 2019 due to the adoption of Accounting Standards Codification Topic 842, *Leases*. As discussed in note 16 to the consolidated financial statements, the Company changed its method of accounting for intra-entity transfers of assets other than inventory as of October 29, 2018 due to the adoption of Accounting Standards Update No. 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of net realizable value adjustments to inventories for excess or obsolescence

As discussed in notes 1 and 8 to the consolidated financial statements, the Company has inventories with a carrying value of \$4,309 million as of October 31, 2021. The Company adjusts inventory carrying value for estimated excess or obsolescence equal to the difference between cost of inventory and the estimated net realizable value based upon assumptions about future demand and market conditions. If actual demand were to be substantially lower than estimated, there could be a significant adverse impact on the carrying value of inventories and results of operations.

We identified the evaluation of net realizable value adjustments to inventories for excess or obsolescence as a critical audit matter. Evaluation of the Company's estimates regarding forecasted sales and inventory consumption involved a high degree of auditor judgment.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's process for determining net realizable value adjustments for inventory excess or obsolescence, including controls related to estimating forecasted sales and inventory consumption. We evaluated certain inventories for excess or obsolescence by comparing the Company's sales and inventory consumption forecast to historical sales, historical inventory usage, known customer orders, and industry outlook reports. In addition, for certain inventories, we compared the Company's historical estimates of net realizable value adjustments for excess and obsolescence to the actual physical inventory disposals to evaluate the Company's ability to accurately estimate the net realizable value adjustments.

/s/ KPMG LLP

KPMG LLP

We have served as the Company's auditor since 2004.

Santa Clara, California
December 17, 2021

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Applied Materials, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Applied Materials, Inc. and subsidiaries' (the Company) internal control over financial reporting as of October 31, 2021, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2021, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of October 31, 2021 and October 25, 2020, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended October 31, 2021, and the related notes (collectively, the consolidated financial statements), and our report dated December 17, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ KPMG LLP

KPMG LLP

Santa Clara, California
December 17, 2021

APPLIED MATERIALS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In millions, except per share amounts)

Fiscal Year	2021	2020	2019
Net sales	\$ 23,063	\$ 17,202	\$ 14,608
Cost of products sold	12,149	9,510	8,222
Gross profit	10,914	7,692	6,386
Operating expenses:			
Research, development and engineering	2,485	2,234	2,054
Marketing and selling	609	526	521
General and administrative	620	567	461
Severance and related charges	157	—	—
Deal termination fee	154	—	—
Total operating expenses	4,025	3,327	3,036
Income from operations	6,889	4,365	3,350
Interest expense	236	240	237
Interest and other income, net	118	41	156
Income before income taxes	6,771	4,166	3,269
Provision for income taxes	883	547	563
Net income	\$ 5,888	\$ 3,619	\$ 2,706
Earnings per share:			
Basic	\$ 6.47	\$ 3.95	\$ 2.89
Diluted	\$ 6.40	\$ 3.92	\$ 2.86
Weighted average number of shares:			
Basic	910	916	937
Diluted	919	923	945

See accompanying Notes to Consolidated Financial Statements.

APPLIED MATERIALS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)

Fiscal Year	2021	2020	2019
Net income	\$ 5,888	\$ 3,619	\$ 2,706
Other comprehensive income (loss), net of tax:			
Change in unrealized gain (loss) on available-for-sale investments	(21)	9	21
Change in unrealized net loss on derivative instruments	30	(117)	(7)
Change in defined and postretirement benefit plans	30	(11)	(51)
Change in cumulative translation adjustments	—	—	(1)
Other comprehensive income (loss), net of tax	39	(119)	(38)
Comprehensive income	\$ 5,927	\$ 3,500	\$ 2,668

See accompanying Notes to Consolidated Financial Statements.

APPLIED MATERIALS, INC.
CONSOLIDATED BALANCE SHEETS
(In millions, except per share amounts)

	October 31, 2021	October 25, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 4,995	\$ 5,351
Short-term investments	464	387
Accounts receivable, net	4,953	2,963
Inventories	4,309	3,904
Other current assets	1,386	764
Total current assets	16,107	13,369
Long-term investments	2,055	1,538
Property, plant and equipment, net	1,934	1,604
Goodwill	3,479	3,466
Purchased technology and other intangible assets, net	104	153
Deferred income taxes and other assets	2,146	2,223
Total assets	\$ 25,825	\$ 22,353
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	\$ 4,268	\$ 3,138
Contract liabilities	2,076	1,321
Total current liabilities	6,344	4,459
Long-term debt	5,452	5,448
Income taxes payable	1,090	1,206
Other liabilities	692	662
Total liabilities	13,578	11,775
Commitments and contingencies (Note 17)		
Stockholders' equity:		
Preferred stock: \$0.01 par value per share; 1 shares authorized; no shares issued	—	—
Common stock: \$0.01 par value per share; 2,500 shares authorized; 892 and 914 shares outstanding at 2021 and 2020, respectively	9	9
Additional paid-in capital	8,247	7,904
Retained earnings	32,246	27,209
Treasury stock: 1,119 and 1,091 shares at 2021 and 2020, respectively	(27,995)	(24,245)
Accumulated other comprehensive loss	(260)	(299)
Total stockholders' equity	12,247	10,578
Total liabilities and stockholders' equity	\$ 25,825	\$ 22,353

See accompanying Notes to Consolidated Financial Statements.

APPLIED MATERIALS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In millions)

	Common Stock		Additional Paid-In Capital	Retained Earnings (a)	Treasury Stock		Accumulated Other Comprehensive Income (Loss)	Total
	Shares	Amount			Shares	Amount		
Balance at October 28, 2018	967	\$ 10	\$ 7,274	\$ 20,880	1,019	\$ (21,194)	\$ (125)	\$ 6,845
Adoption of new accounting standards (b)	—	—	—	1,570	—	—	(17)	1,553
Net income	—	—	—	2,706	—	—	—	2,706
Other comprehensive loss, net of tax	—	—	—	—	—	—	(38)	(38)
Dividends declared (\$0.83 per common share)	—	—	—	(770)	—	—	—	(770)
Share-based compensation	—	—	263	—	—	—	—	263
Issuance under stock plans	9	—	58	—	—	—	—	58
Common stock repurchases	(60)	(1)	—	—	60	(2,402)	—	(2,403)
Balance at October 27, 2019	916	\$ 9	\$ 7,595	\$ 24,386	1,079	\$ (23,596)	\$ (180)	\$ 8,214
Net income	—	—	—	3,619	—	—	—	3,619
Other comprehensive loss, net of tax	—	—	—	—	—	—	(119)	(119)
Dividends declared (\$0.87 per common share)	—	—	—	(796)	—	—	—	(796)
Share-based compensation	—	—	307	—	—	—	—	307
Issuance under stock plans	10	—	2	—	—	—	—	2
Common stock repurchases	(12)	—	—	—	12	(649)	—	(649)
Balance at October 25, 2020	914	\$ 9	\$ 7,904	\$ 27,209	1,091	\$ (24,245)	\$ (299)	\$ 10,578
Net income	—	—	—	5,888	—	—	—	5,888
Other comprehensive income, net of tax	—	—	—	—	—	—	39	39
Dividends declared (\$0.94 per common share)	—	—	—	(851)	—	—	—	(851)
Share-based compensation	—	—	346	—	—	—	—	346
Issuance under stock plans	6	—	(3)	—	—	—	—	(3)
Common stock repurchases	(28)	—	—	—	28	(3,750)	—	(3,750)
Balance at October 31, 2021	892	\$ 9	\$ 8,247	\$ 32,246	1,119	\$ (27,995)	\$ (260)	\$ 12,247

(a) - Retained earnings balance as of October 28, 2018 included an increase of \$6 million related to the adoption of the standard related to revenue recognition.

(b) - Represents the adjustment related to the adoption of Accounting Standard Update (ASU) 2016-01 *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* and ASU 2016-16 *Income Tax (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*.

See accompanying Notes to Consolidated Financial Statements.

APPLIED MATERIALS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)

Fiscal Year	2021	2020	2019
Cash flows from operating activities:			
Net income	\$ 5,888	\$ 3,619	\$ 2,706
Adjustments required to reconcile net income to cash provided by operating activities:			
Depreciation and amortization	394	376	363
Severance and related charges	148	—	—
Deferred income taxes	80	80	49
Other	(70)	60	(19)
Share-based compensation	346	307	263
Changes in operating assets and liabilities, net of amounts acquired:			
Accounts receivable	(1,989)	(427)	(207)
Inventories	(405)	(421)	248
Other current and non-current assets	(602)	(161)	(86)
Accounts payable and accrued expenses	465	327	(247)
Contract liabilities	755	(16)	135
Income taxes payable	396	(10)	44
Other liabilities	36	70	(2)
Cash provided by operating activities	5,442	3,804	3,247
Cash flows from investing activities:			
Capital expenditures	(668)	(422)	(441)
Cash paid for acquisitions, net of cash acquired	(12)	(107)	(28)
Proceeds from sales and maturities of investments	1,471	1,754	1,940
Purchases of investments	(2,007)	(1,355)	(1,914)
Cash used in investing activities	(1,216)	(130)	(443)
Cash flows from financing activities:			
Debt borrowings, net of issuance costs	—	2,979	—
Debt repayments	—	(2,882)	—
Proceeds from common stock issuances	175	174	145
Common stock repurchases	(3,750)	(649)	(2,403)
Tax withholding payments for vested equity awards	(178)	(172)	(86)
Payments of dividends to stockholders	(838)	(787)	(771)
Cash used in financing activities	(4,591)	(1,337)	(3,115)
Increase (decrease) in cash, cash equivalents and restricted cash equivalents	(365)	2,337	(311)
Cash, cash equivalents and restricted cash equivalents — beginning of period	5,466	3,129	3,440
Cash, cash equivalents and restricted cash equivalents — end of period	<u>\$ 5,101</u>	<u>\$ 5,466</u>	<u>\$ 3,129</u>
Reconciliation of cash, cash equivalents, and restricted cash equivalents			
Cash and cash equivalents	\$ 4,995	\$ 5,351	\$ 3,129
Restricted cash equivalents included in deferred income taxes and other assets	106	115	—
Total cash, cash equivalents, and restricted cash equivalents	<u>\$ 5,101</u>	<u>\$ 5,466</u>	<u>\$ 3,129</u>
Supplemental cash flow information:			
Cash payments for income taxes	\$ 851	\$ 542	\$ 522
Cash refunds from income taxes	\$ 27	\$ 68	\$ 22
Cash payments for interest	\$ 205	\$ 219	\$ 219

See accompanying Notes to Consolidated Financial Statements.

Note 1 Summary of Significant Accounting Policies

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of Applied Materials, Inc. and its subsidiaries (Applied or the Company) after elimination of intercompany balances and transactions. All references to a fiscal year apply to Applied's fiscal year which ends on the last Sunday in October. Fiscal 2021, 2020 and 2019 contained 53, 52 and 52 weeks, respectively. The first fiscal quarter of 2021 contained 14 weeks, while the second, third and fourth quarters of fiscal 2021 contained 13 weeks. Each fiscal quarter of 2020 and 2019 contained 13 weeks.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make judgments, estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ materially from those estimates. On an ongoing basis, Applied evaluates its estimates, including those related to standalone selling price (SSP) related to revenue recognition, accounts receivable and sales allowances, fair values of financial instruments, inventories, intangible assets and goodwill, useful lives of intangible assets and property and equipment, fair values of share-based awards, and income taxes, among others. Applied bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities.

As of October 31, 2021, the COVID-19 pandemic and worldwide response remains fluid. As a result, many of Applied's estimates and assumptions are subject to increased judgment and volatility. These estimates may differ materially in future periods as the pandemic continues to evolve and additional information becomes available.

Cash Equivalents

All highly-liquid investments with a remaining maturity of three months or less at the time of purchase are considered to be cash equivalents. Cash equivalents consist primarily of investments in institutional money market funds.

Investments

All of Applied's investments, except equity investments, are classified as available-for-sale at the respective balance sheet dates. Investments classified as available-for-sale are measured and recorded in the Consolidated Balance Sheets at fair value, and unrealized gains and losses, net of tax, is reported as a separate component of other comprehensive income. Interest earned on cash and investments, as well as realized gains and losses on sale of securities, are included in interest and other income, net in the Consolidated Statements of Operations.

Applied's equity investments with readily determinable values consist of publicly traded equity securities. These investments are measured at fair value using quoted prices for identical assets in an active market. Privately-held equity investments without readily determinable fair value are measured at cost, less impairment, adjusted by observable price changes. Adjustments resulting from impairments and observable prices changes are recorded in the Consolidated Statements of Operations.

Allowance for Credit Losses

Applied maintains an allowance for credit losses for estimated losses resulting from the inability of its customers to make required payments. This allowance is based on historical experience, credit evaluations, specific customer collection history and any customer-specific issues Applied has identified. Changes in circumstances, such as an unexpected material adverse change in a major customer's ability to meet its financial obligation to Applied or its payment trends, may require Applied to further adjust its estimates of the recoverability of amounts due to Applied. Bad debt expense and any reversals are recorded in marketing and selling expenses in the Consolidated Statement of Operations.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost determined on a first-in, first-out (FIFO) basis. Applied adjusts inventory carrying value for estimated obsolescence equal to the difference between the cost of inventory and the estimated net realizable value based upon assumptions about future demand and market conditions. Applied fully writes down inventories and noncancelable purchase orders for inventory deemed obsolete. Applied performs periodic reviews of inventory items to identify excess inventories on hand by comparing on-hand balances to anticipated usage using recent historical activity as well as anticipated or forecasted demand. If estimates of customer demand diminish further or market conditions become less favorable than those projected by Applied, additional inventory adjustments may be required.

Property, Plant and Equipment

Property, plant and equipment is stated at cost. Depreciation is provided over the estimated useful lives of the assets using the straight-line method. Estimated useful lives for financial reporting purposes are as follows: buildings and improvements, 3 to 30 years; demonstration and manufacturing equipment, 3 to 5 years; software, 3 to 5 years; and furniture, fixtures and other equipment, 3 to 5 years. Land improvements are amortized over the shorter of 15 years or the estimated useful life. Leasehold improvements are amortized over the shorter of five years or the lease term.

Intangible Assets

Goodwill and indefinite-lived assets are not amortized, but are reviewed for impairment annually during the fourth quarter of each fiscal year and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. Purchased technology and other intangible assets are presented at cost, net of accumulated amortization, and are amortized over their estimated useful lives of 1 to 15 years using the straight-line method.

Long-Lived Assets

Applied reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets or asset group may not be recoverable. Applied assesses these assets for impairment based on estimated future cash flows from these assets.

Revenue Recognition from Contracts with Customers

Applied recognizes revenue when promised goods or services are transferred to a customer in an amount that reflects the consideration to which Applied expects to be entitled in exchange for those goods or services. Applied determines revenue recognition through the following five steps: (1) identification of the contract(s) with customers, (2) identification of the performance obligations in the contract, (3) determination of the transaction price, (4) allocation of the transaction price to the performance obligations in the contract, and (5) recognition of revenue when, or as, a performance obligation is satisfied.

Identifying the contract(s) with customers. Applied sells manufacturing equipment, services, and spare parts directly to its customers in the semiconductor, display, and related industries. The Company generally considers written documentation including, but not limited to, signed purchase orders, master agreements, and sales orders as contracts provided that collection is probable. Collectability is assessed based on the customer's creditworthiness determined by reviewing the customer's published credit and financial information, historical payment experience, as well as other relevant factors.

Identifying the performance obligations. Applied's performance obligations include delivery of manufacturing equipment, service agreements, spare parts, installation, extended warranty and training. Applied's service agreements are considered one performance obligation and may include multiple goods and services that Applied provides to the customer to deliver against a performance metric. Judgment is used to determine whether multiple promised goods or services in a contract should be accounted for separately or as a group.

Determine the transaction price. The transaction price for Applied's contracts with customers may include fixed and variable consideration. Applied includes variable consideration in the transaction price to the extent that it is probable that a significant reversal of revenue will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

Allocate the transaction price to the performance obligations. A contract's transaction price is allocated to each distinct performance obligation identified within the contract. Applied generally estimates the standalone selling price of a distinct performance obligation based on historical cost plus an appropriate margin. For contracts with multiple performance obligations, Applied allocates the contract's transaction price to each performance obligation using the relative standalone selling price of each distinct good or service in the contract.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Recognizing the revenue as performance obligations are satisfied. Applied recognizes revenue from equipment and spares parts at a point in time when Applied has satisfied its performance obligation by transferring control of the goods to the customer which typically occurs at shipment or delivery. Revenue from service agreements is recognized over time, typically within 12 months, as customers receive the benefits of services.

The incremental costs to obtain a contract are not material.

Payment Terms. Payment terms vary by contract. Generally, the majority of payments are due within a certain number of days from shipment of goods or performance of service. The remainder is typically due upon customer technical acceptance. Applied typically receives deposits on future deliverables from customers in the Display and Adjacent Markets segment and, in certain instances, may also receive deposits from customers in the Applied Global Services segment. Applied's payment terms do not generally contain a significant financing component.

Shipping and Handling Costs

Applied accounts for shipping and handling activities related to contracts with customers as costs to fulfill our promise to transfer the associated products. Accordingly, amounts billed for shipping and handling costs are recorded as a component of net sales and costs as a component of cost of products sold.

Warranty

Applied provides for the estimated cost of warranty when revenue is recognized. Estimated warranty costs are determined by analyzing specific product, current and historical configuration statistics and regional warranty support costs. Applied's warranty obligation is affected by product and component failure rates, material usage and labor costs incurred in correcting product failures during the warranty period. If actual warranty costs differ substantially from Applied's estimates, revisions to the estimated warranty liability would be required.

Applied also sells extended warranty contracts to its customers which provide an extension of the standard warranty coverage period of up to 2 years. Applied receives payment at the inception of the contract and recognizes revenue ratably over the extended warranty coverage period, as the customer simultaneously receives and consumes the benefits of the extended warranty.

Sales and Value Added Taxes

Taxes collected from customers and remitted to governmental authorities are presented on a net basis in the Consolidated Statements of Operations.

Research, Development and Engineering Costs

Research, development and engineering costs are expensed as incurred.

Income Taxes

Applied recognizes a current tax liability for the estimated amount of income tax payable on tax returns for the current fiscal year. Deferred tax assets and liabilities are recognized for the estimated future tax effects of temporary differences between the book and tax bases of assets and liabilities. Deferred tax assets are also recognized for net operating loss and tax credit carryovers. Deferred tax assets are offset by a valuation allowance to the extent it is more likely than not that they are not expected to be realized.

Applied recognizes tax benefits from uncertain tax positions only if it is more likely than not that the tax position will be sustained upon examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized from such positions are estimated based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. Any changes in judgment related to uncertain tax positions are recognized in Applied's provision for income taxes in the quarter in which such change occurs. Interest and penalties related to uncertain tax positions are recognized in Applied's provision for income taxes.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Derivative Financial Instruments

Applied uses financial instruments, such as forward exchange and currency option contracts, to hedge a portion of, but not all, existing and anticipated foreign currency denominated transactions typically expected to occur within 24 months. The purpose of Applied's foreign currency management is to mitigate the effect of exchange rate fluctuations on certain foreign currency denominated revenues, costs and eventual cash flows. In certain cases, Applied also uses interest rate swap or lock agreements to hedge against the variability of cash flows due to changes in the benchmark interest rate of fixed rate debt. The terms of derivative financial instruments used for hedging purposes are generally consistent with the timing of the transactions being hedged. Applied's derivative financial instruments are recorded as assets or liabilities at fair value. For derivative instruments designated and qualifying as cash flow hedges, the gain or loss is reported as a component of accumulated other comprehensive income (loss) in stockholders' equity, and is reclassified into earnings when the hedged transaction affects earnings. Any portion excluded from the assessment of effectiveness is recognized in the same line as the hedged transaction but may be recognized in a different manner, e.g. amortized. If a hedged transaction becomes probable of not occurring according to the original strategy, the hedge relationship is discontinued and the gain or loss on the associated derivative is recorded promptly in earnings. For hedges of existing foreign currency denominated assets or liabilities, the gain or loss is recorded promptly in earnings to offset the changes in the fair value of the assets or liabilities being hedged.

Foreign Currency

As of October 31, 2021, all of Applied's subsidiaries use the United States dollar as their functional currency. Accordingly, assets and liabilities of these subsidiaries are remeasured using exchange rates in effect at the end of the period, except for non-monetary assets, such as inventories and property, plant and equipment, which are remeasured using historical exchange rates. Foreign currency-denominated revenues and costs are remeasured using average exchange rates for the period, except for costs related to the non-monetary assets and liabilities, which are remeasured using historical exchange rates. The resulting remeasurement gains and losses are included in interest and other income, net in the Consolidated Statements of Operations as incurred.

Concentrations of Credit Risk

Financial instruments that potentially subject Applied to significant concentrations of credit risk consist principally of cash equivalents, investments, trade accounts receivable and derivative financial instruments used in hedging activities. Applied invests in a variety of financial instruments, such as, but not limited to, commercial paper, corporate and municipal bonds, United States Treasury and agency securities, and asset-backed and mortgage-backed securities, and, by policy, limits the amount of credit exposure with any one financial institution or commercial issuer. Applied is exposed to credit-related losses in the event of nonperformance by counterparties to derivative financial instruments, but does not expect any counterparties to fail to meet their obligations. Applied performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral to secure accounts receivable. Applied maintains an allowance reserve for potentially uncollectible accounts receivable based on its assessment of the collectability of accounts receivable. Applied regularly reviews the allowance by considering factors such as historical experience, credit quality, age of the accounts receivable balances, and current economic conditions that may affect a customer's ability to pay. In addition, Applied utilizes deposits and/or letters of credit to mitigate credit risk when considered appropriate.

Recent Accounting Pronouncements

Accounting Standards Adopted

Leases. In February 2016, the Financial Accounting Standard Board (FASB) issued authoritative guidance for lease accounting, which requires lessees to recognize lease assets and liabilities on the balance sheet for certain lease arrangements that are classified as operating leases under the previous standard, and to provide for enhanced disclosures. Applied adopted this guidance in the first quarter of fiscal 2020 using the modified retrospective transition method which required applying the new standard as of the beginning of the period of adoption with no adjustment to comparative prior periods. Applied elected the package of practical expedients permitted under the transition guidance, which allow Applied not to reassess whether a contract contains a lease, initial direct costs and lease classification for leases existing prior to adoption. Applied also elected to combine the lease and non-lease components as a single lease component and not to use hindsight in determining the lease term. Upon adoption, Applied recognized right-of-use assets of \$160 million, net of deferred rent of \$4 million and lease liabilities of \$164 million.

Retirement Benefits: Changes to the Disclosure Requirements for Defined Benefit and other Postretirement Plans. In August 2018, the Financial Accounting Standard Board (FASB) issued authoritative guidance that adds, removes, and clarifies disclosure requirements for defined benefit and other postretirement plans. Applied adopted this guidance in the first quarter of fiscal 2021 on a retrospective basis. The adoption of this guidance did not have a significant impact on Applied's defined benefit and other postretirement disclosures.

Goodwill Impairment. In January 2017, the FASB issued authoritative guidance that simplifies the process required to test goodwill for impairment. Applied adopted this guidance in the first quarter of fiscal 2021. The adoption of this guidance did not have a significant impact on Applied's consolidated condensed financial statements.

Financial Instruments: Credit Losses. In June 2016, the FASB issued authoritative guidance that modifies the impairment model for certain financial assets by requiring use of an expected loss methodology, which will result in more timely recognition of credit losses. Applied adopted this guidance in the first quarter of fiscal 2021 on a modified retrospective basis. The adoption of this guidance did not have a significant impact on Applied's consolidated condensed financial statements.

Accounting Standards Not Yet Adopted

Simplifying the Accounting for Income Taxes. In December 2019, the FASB issued an accounting standard update to simplify the accounting for income taxes (Topic 740). This amendment removes certain exceptions and improves consistent application of accounting principles for certain areas in Topic 740. Applied will adopt this authoritative guidance in the first quarter of fiscal 2022. The adoption of this guidance is not expected to have a significant impact on Applied's consolidated financial statements.

Contract Assets and Contract Liabilities from Revenue Contracts with Customers in a Business Combination. In October 2021, the FASB issued an accounting standard update to improve the accounting for contract assets and contract liabilities from revenue contracts with customers in a business combination (Topic 805). This amendment improves comparability for both the recognition and measurement of acquired revenue contracts with customers at the date of and after a business combination. This authoritative guidance will be effective for Applied in the first quarter of fiscal 2024, with early adoption permitted. Applied is currently evaluating the effect of this new guidance on Applied's consolidated financial statements.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 2 Earnings Per Share

Basic earnings per share is determined using the weighted average number of common shares outstanding during the period. Diluted earnings per share is determined using the weighted average number of common shares and potential common shares (representing the dilutive effect of restricted stock units, and employee stock purchase plan shares) outstanding during the period. Applied's net income has not been adjusted for any period presented for purposes of computing basic or diluted earnings per share due to the Company's non-complex capital structure.

Fiscal Year	2021	2020	2019
	(In millions, except per share amounts)		
Numerator:			
Net income	\$ 5,888	\$ 3,619	\$ 2,706
Denominator:			
Weighted average common shares outstanding	910	916	937
Effect of weighted dilutive stock options, restricted stock units and employee stock purchase plan shares	9	7	8
Denominator for diluted earnings per share	919	923	945
Basic earnings per share	\$ 6.47	\$ 3.95	\$ 2.89
Diluted earnings per share	\$ 6.40	\$ 3.92	\$ 2.86
Potentially weighted dilutive securities	—	—	3

Potentially weighted dilutive securities attributable to outstanding restricted stock units are excluded from the calculation of diluted earnings per share where the combined exercise price and average unamortized fair value are greater than the average market price of Applied common stock, and therefore their inclusion would be anti-dilutive.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 3 Cash, Cash Equivalents and Investments

Summary of Cash, Cash Equivalents and Investments

The following tables summarize Applied's cash, cash equivalents and investments by security type:

<u>October 31, 2021</u>	<u>Cost</u>	<u>Gross Unrealized Gains</u>	<u>Gross Unrealized Losses</u>	<u>Estimated Fair Value</u>
	(In millions)			
Cash	\$ 1,407	\$ —	\$ —	\$ 1,407
Cash equivalents:				
Money market funds	3,556	—	—	3,556
Municipal securities	22	—	—	22
Commercial paper, corporate bonds and medium-term notes	10	—	—	10
Total Cash equivalents	3,588	—	—	3,588
Total Cash and Cash equivalents	<u>\$ 4,995</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 4,995</u>
Short-term and long-term investments:				
U.S. Treasury and agency securities	\$ 314	\$ —	\$ —	\$ 314
Non-U.S. government securities*	5	—	—	5
Municipal securities	367	3	1	369
Commercial paper, corporate bonds and medium-term notes	587	2	2	587
Asset-backed and mortgage-backed securities	555	3	1	557
Total fixed income securities	1,828	8	4	1,832
Publicly traded equity securities	22	39	3	58
Equity investments in privately-held companies	561	82	14	629
Total equity investments	583	121	17	687
Total short-term and long-term investments	<u>\$ 2,411</u>	<u>\$ 129</u>	<u>\$ 21</u>	<u>\$ 2,519</u>
Total Cash, Cash equivalents and Investments	<u>\$ 7,406</u>	<u>\$ 129</u>	<u>\$ 21</u>	<u>\$ 7,514</u>

* Includes Canadian provincial government debt

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

<u>October 25, 2020</u>	<u>Cost</u>	<u>(In millions)</u>		<u>Estimated Fair Value</u>
		<u>Gross Unrealized Gains</u>	<u>Gross Unrealized Losses</u>	
Cash	\$ 1,136	\$ —	\$ —	\$ 1,136
Cash equivalents:				
Money market funds	4,209	—	—	4,209
Municipal securities	6	—	—	6
Total Cash equivalents	4,215	—	—	4,215
Total Cash and Cash equivalents	<u>\$ 5,351</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 5,351</u>
Short-term and long-term investments:				
U.S. Treasury and agency securities	\$ 394	\$ 4	\$ —	\$ 398
Municipal securities	359	6	—	365
Commercial paper, corporate bonds and medium-term notes	492	8	1	499
Asset-backed and mortgage-backed securities	470	9	—	479
Total fixed income securities	1,715	27	1	1,741
Publicly traded equity securities	11	36	2	45
Equity investments in privately-held companies	121	25	7	139
Total equity investments	132	61	9	184
Total short-term and long-term investments	<u>\$ 1,847</u>	<u>\$ 88</u>	<u>\$ 10</u>	<u>\$ 1,925</u>
Total Cash, Cash equivalents and Investments	<u>\$ 7,198</u>	<u>\$ 88</u>	<u>\$ 10</u>	<u>\$ 7,276</u>

Maturities of Investments

The following table summarizes the contractual maturities of Applied's investments at October 31, 2021:

	<u>Cost</u>	<u>Estimated Fair Value</u>
	<u>(In millions)</u>	
Due in one year or less	\$ 393	\$ 395
Due after one through five years	878	878
Due after five years	2	2
No single maturity date**	1,138	1,244
Total	<u>\$ 2,411</u>	<u>\$ 2,519</u>

** Securities with no single maturity date include publicly-traded and privately-held equity securities, and asset-backed and mortgage-backed securities.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Gains and Losses on Investments

At October 31, 2021, gross unrealized losses related to Applied’s debt investment portfolio were not material. Applied regularly reviews its debt investment portfolio to identify and evaluate investments that have indications of possible impairment from credit losses or other factors. Factors considered in determining whether an unrealized loss is considered to be a credit loss include: the significance of the decline in value compared to the cost basis; the financial condition; credit quality and near-term prospects of the investee; and whether it is more likely than not that Applied will be required to sell the security prior to recovery. Credit losses related to available-for-sale debt securities are recorded as an allowance for credit losses through interest and other income, net. Any additional changes in fair value that are not related to credit losses are recognized in accumulated other comprehensive income.

During fiscal 2021, with the adoption of credit losses authoritative guidance, Applied did not recognize significant credit losses and the ending allowance for credit losses was not material. Applied determined that the gross unrealized losses on its marketable fixed-income securities at October 25, 2020 and October 27, 2019 were temporary in nature and therefore it did not recognize any impairment of its marketable fixed-income securities for fiscal 2020 or 2019. During fiscal 2021, 2020 and 2019, impairment charges on equity investments in privately-held companies were not material. These impairment charges are included in interest and other income, net in the Consolidated Statement of Operations.

The components of gain (loss) on equity investments for each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Publicly traded equity securities			
Unrealized gain	\$ 14	\$ 14	\$ 28
Unrealized loss	(11)	(17)	(5)
Realized gain on sales	2	1	2
Equity investments in privately-held companies			
Unrealized gain	65	18	13
Unrealized loss	(12)	(7)	(6)
Realized gain on sales	48	8	5
Realized loss on sales or impairment	(7)	(8)	(1)
Total gain (loss) on equity investments, net	\$ 99	\$ 9	\$ 36

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 4 Fair Value Measurements

Applied's financial assets are measured and recorded at fair value on a recurring basis, except for equity investments in privately-held companies. These equity investments are generally accounted for under the measurement alternative, defined as cost, less impairments, adjusted for subsequent observable price changes and are periodically assessed for impairment when events or circumstances indicate that a decline in value may have occurred. Applied's nonfinancial assets, such as goodwill, intangible assets, and property, plant and equipment, are recorded at cost and are assessed for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable.

Fair Value Hierarchy

Applied uses the following fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

- Level 1 — Quoted prices in active markets for identical assets or liabilities;
- Level 2 — Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- Level 3 — Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Applied's investments consist primarily of debt securities that are classified as available-for-sale and recorded at their fair values. In determining the fair value of investments, Applied uses pricing information from pricing services that value securities based on quoted market prices and models that utilize observable market inputs. In the event a fair value estimate is unavailable from a pricing service, Applied generally obtains non-binding price quotes from brokers. Applied then reviews the information provided by the pricing services or brokers to determine the fair value of its short-term and long-term investments. In addition, to validate pricing information obtained from pricing services, Applied periodically performs supplemental analysis on a sample of securities. Applied reviews any significant unanticipated differences identified through this analysis to determine the appropriate fair value. As of October 31, 2021, substantially all of Applied's available-for-sale, short-term and long-term investments were recognized at fair value that was determined based upon observable inputs.

Applied's equity investments with readily determinable values consist of publicly traded equity securities. These investments are measured at fair value using quoted prices for identical assets in an active market and the changes in fair value of these equity investments are recognized in the consolidated statements of operations.

Investments with remaining effective maturities of 12 months or less from the balance sheet date are classified as short-term investments. Investments with remaining effective maturities of more than 12 months from the balance sheet date are classified as long-term investments.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Assets Measured at Fair Value on a Recurring Basis

Financial assets (excluding cash balances) measured at fair value on a recurring basis are summarized below:

	October 31, 2021			October 25, 2020		
	Level 1	Level 2	Total	Level 1	Level 2	Total
(In millions)						
Assets:						
Available-for-sale debt security investments						
Money market funds*	\$ 3,662	\$ —	\$ 3,662	\$ 4,324	\$ —	\$ 4,324
U.S. Treasury and agency securities	296	18	314	375	23	398
Non-U.S. government securities	—	5	5	—	—	—
Municipal securities	—	391	391	—	371	371
Commercial paper, corporate bonds and medium-term notes	—	597	597	—	499	499
Asset-backed and mortgage-backed securities	—	557	557	—	479	479
Total available-for-sale debt security investments	\$ 3,958	\$ 1,568	\$ 5,526	\$ 4,699	\$ 1,372	\$ 6,071
Equity investments with readily determinable values						
Publicly traded equity securities	\$ 58	\$ —	\$ 58	\$ 45	\$ —	\$ 45
Total equity investments with readily determinable values	\$ 58	\$ —	\$ 58	\$ 45	\$ —	\$ 45
Total	\$ 4,016	\$ 1,568	\$ 5,584	\$ 4,744	\$ 1,372	\$ 6,116

* Amounts as of October 31, 2021 and October 25, 2020 include \$106 million and \$115 million, respectively, invested in money market funds related to deferred compensation plans. Due to restrictions on the distribution of these funds, they are classified as restricted cash equivalents and are included in deferred income taxes and other assets in the Consolidated Condensed Balance Sheets.

Applied did not have any financial assets measured at fair value on a recurring basis within Level 3 fair value measurements as of October 31, 2021 or October 25, 2020.

Assets and Liabilities without Readily Determinable Values Measured on a Non-recurring Basis

Applied's equity investments without readily determinable values consist of equity investments in privately-held companies. Applied elected the measurement alternative, defined as cost, less impairments, adjusted for subsequent observable price changes on a prospective basis for certain equity investments without readily determinable fair values and is required to account for any subsequent observable changes in fair value within the statements of operations. These investments are classified as Level 3 within the fair value hierarchy and periodically assessed for impairment when an event or circumstance indicates that a decline in value may have occurred.

During fiscal 2021, 2020 and 2019, impairment charges on equity investments in privately-held companies were not material.

Other

The carrying amounts of Applied's financial instruments, including cash and cash equivalents, restricted cash equivalents, accounts receivable, notes payable - short term, and accounts payable and accrued expenses, approximate fair value due to their short maturities. At October 31, 2021, the aggregate principal amount of long-term senior unsecured notes was \$5.5 billion, and the estimated fair value was \$6.4 billion. At October 25, 2020, the aggregate principal amount of long-term senior unsecured notes was \$5.5 billion and the estimated fair value was \$6.6 billion. The estimated fair value of long-term senior unsecured notes is determined by Level 2 inputs and is based primarily on quoted market prices for the same or similar issues. See Note 11 of the Notes to the Consolidated Financial Statements for further detail of existing debt.

Note 5 Derivative Instruments and Hedging Activities

Derivative Financial Instruments

Applied conducts business in a number of foreign countries, with certain transactions denominated in local currencies, such as the Japanese yen, Israeli shekel, euro and Taiwanese dollar. Applied uses derivative financial instruments, such as forward exchange contracts and currency option contracts, to hedge certain forecasted foreign currency denominated transactions expected to occur typically within the next 24 months. The purpose of Applied's foreign currency management is to mitigate the effect of exchange rate fluctuations on certain foreign currency denominated revenues, costs and eventual cash flows. The terms of currency instruments used for hedging purposes are generally consistent with the timing of the transactions being hedged.

Applied does not use derivative financial instruments for trading or speculative purposes. Derivative instruments and hedging activities, including foreign currency exchange and interest rate contracts, are recognized on the balance sheet at fair value. Changes in the fair value of derivatives that do not qualify for hedge accounting treatment are recognized currently in earnings. All of Applied's derivative financial instruments are recorded at their fair value in other current assets or in accounts payable and accrued expenses.

Hedges related to anticipated transactions are designated and documented at the inception of the hedge as cash flow hedges and foreign exchange derivatives are typically entered into once per month. Cash flow hedges are evaluated for effectiveness quarterly. The effective portion of the gain or loss on these hedges is reported as a component of AOCI in stockholders' equity and is reclassified into earnings when the hedged transaction affects earnings. The majority of the after-tax net income or loss related to foreign exchange derivative instruments included in AOCI at October 31, 2021 is expected to be reclassified into earnings within 12 months. Changes in fair value caused by changes in time value of option contracts designated as cash flow hedges are excluded from the assessment of effectiveness. The initial value of this excluded component is amortized on a straight-line basis over the life of the hedging instrument and recognized in the financial statement line item to which the hedge relates. If the transaction being hedged is probable not to occur, Applied promptly recognizes the gain or loss on the associated financial instrument in the consolidated condensed statement of operations. The amount recognized due to discontinuance of cash flow hedges that were probable of not occurring by the end of the originally specified time period was not significant for fiscal years 2021, 2020 or 2019.

Foreign currency forward contracts are generally used to hedge certain foreign currency denominated assets or liabilities. Accordingly, changes in the fair value of these hedges are recorded in earnings to offset the changes in the fair value of the assets or liabilities being hedged.

As of October 31, 2021 and October 25, 2020, the total outstanding notional amount of foreign exchange contracts was \$2.1 billion and \$1.6 billion, respectively. The fair values of foreign exchange derivative instruments at October 31, 2021 and October 25, 2020 were not material.

Applied is also exposed to interest rate risk associated with its potential future borrowings. During fiscal 2020, Applied entered into a series of interest rate contracts to hedge against the variability of cash flows due to changes in the benchmark interest rate of fixed rate debt. These instruments were designated as cash flow hedges at inception and were settled in conjunction with the issuance of debt in May 2020.

The gain (loss) on derivatives in cash flow hedging relationships recognized in AOCI for derivatives designated as hedging instruments for the indicated periods were as follows:

	Derivatives in Cash Flow Hedging Relationships		
	2021	2020	2019
	(In millions)		
Foreign exchange contracts	\$ 36	\$ 3	\$ (14)
Interest rate contracts	—	(151)	—
Total	\$ 36	\$ (148)	\$ (14)

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The effects of derivative instruments and hedging activities on the Consolidated Statements of Operations were as follows:

	Total Amount Presented in the Consolidated Statement of Operations in which the Effects of Cash Flow Hedges are Recorded	Derivatives in Cash Flow Hedging Relationships	
		Amount of Gain or (Loss) Reclassified from AOCI into Consolidated Statement of Operations	Amounts of Gain (Loss) Excluded from Effectiveness Testing Recognized in Consolidated Statement of Operations
(In millions)			
2021			
Foreign Exchange Contracts:			
Net Sales	\$ 23,063	\$ 4	\$ —
Cost of products sold	\$ 12,149	2	(2)
Research, development and engineering	\$ 2,485	3	—
General and administrative	\$ 620	1	—
Interest Rate Contracts:			
Interest expense	\$ 236	(13)	—
		<u>\$ (3)</u>	<u>\$ (2)</u>
2020			
Foreign Exchange Contracts:			
Net Sales	\$ 17,202	\$ (2)	\$ 4
Cost of products sold	\$ 9,510	6	(3)
Research, development and engineering	\$ 2,234	4	—
General and administrative	\$ 567	1	—
Interest Rate Contracts:			
Interest expense	\$ 240	(7)	—
		<u>\$ 2</u>	<u>\$ 1</u>
2019			
Foreign Exchange Contracts:			
Cost of products sold	\$ 8,222	\$ 2	\$ 15
General and administrative	\$ 461	(3)	(6)
Interest Rate Contracts:			
Interest expense	\$ 237	(3)	—
		<u>\$ (4)</u>	<u>\$ 9</u>

	Location of Gain or (Loss) Recognized in Consolidated Statement of Operations	Amount of Gain or (Loss) Recognized in Consolidated Statement of Operations		
		2021	2020	2019
(In millions)				
Derivatives Not Designated as Hedging Instruments				
Foreign exchange contracts	General and administrative	\$ —	\$ —	\$ (8)
Foreign exchange contracts	Interest and other income, net	29	(10)	—
Total return swaps - deferred compensation	Cost of products sold	3	1	—
Total return swaps - deferred compensation	Operating expenses	29	6	—
Total return swaps - deferred compensation	Interest and other income, net	(1)	(1)	—
Total		<u>\$ 60</u>	<u>\$ (4)</u>	<u>\$ (8)</u>

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Credit Risk Contingent Features

If Applied's credit rating were to fall below investment grade, it would be in violation of credit risk contingent provisions of the derivative instruments discussed above, and certain counterparties to the derivative instruments could request immediate payment on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments with credit-risk related contingent features that were in a net liability position was immaterial as of October 31, 2021 and October 25, 2020.

Entering into derivative contracts with banks exposes Applied to credit-related losses in the event of the banks' nonperformance. However, Applied's exposure is not considered significant.

Note 6 Accounts Receivable, Net

Applied has agreements with various financial institutions to sell accounts receivable and discount promissory notes from selected customers. Applied sells its accounts receivable generally without recourse. Applied, from time to time, also discounts letters of credit issued by customers through various financial institutions. The discounting of letters of credit depends on many factors, including the willingness of financial institutions to discount the letters of credit and the cost of such arrangements.

Applied sold \$1.3 billion, \$1.2 billion and \$1.5 billion of accounts receivable during fiscal 2021, 2020 and 2019, respectively. Applied did not discount letters of credit issued by customers in fiscal 2021. Applied discounted letters of credit issued by customers of \$105 million and \$48 million in fiscal 2020 and 2019, respectively. There was no discounting of promissory notes in each of fiscal 2021, 2020 and 2019. Financing charges on the sale of receivables and discounting of letters of credit are included in interest expense in the accompanying Consolidated Statements of Operations and were not material for all years presented.

Accounts receivable are presented net of allowance for credit losses of \$29 million and \$30 million at October 31, 2021 and October 25, 2020, respectively. Changes in allowance for credit losses in each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Beginning balance	\$ 30	\$ 30	\$ 33
Provision	—	—	—
Deductions ¹	(1)	—	(3)
Ending balance	\$ 29	\$ 30	\$ 30

¹ Deductions primarily represent releases of credit losses credited to expense as a result of an overall lower risk profile of Applied's customers and cash collections.

Applied sells its products principally to manufacturers within the semiconductor and display industries. While Applied believes that its allowance for credit losses is adequate and represents its best estimate as of October 31, 2021, it continues to closely monitor customer liquidity and industry and economic conditions, which may result in changes to Applied's estimates.

Note 7 Contract Balances

Contract assets primarily result from receivables for goods transferred to customers where payment is conditional upon technical sign off and not just the passage of time. Contract liabilities consist of unsatisfied performance obligations related to advance payments received and billings in excess of revenue recognized. Applied's contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period.

Contract assets are generally classified as current and are included in Other Current Assets in the Consolidated Balance Sheets. Contract liabilities are classified as current or non-current based on the timing of when performance obligations will be satisfied and associated revenue is expected to be recognized.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Contract balances at the end of each reporting period were as follows:

	October 31, 2021	October 25, 2020
	(In millions)	
Contract assets	\$ 201	\$ 148
Contract liabilities	\$ 2,076	\$ 1,321

The increase in contract assets during fiscal 2021, was primarily due to goods transferred to customers where payment was conditional upon technical sign off, offset by the reclassification of contract assets to net accounts receivable upon meeting conditions to the right to payment.

During fiscal 2021, Applied recognized revenue of approximately \$1.0 billion related to contract liabilities at October 25, 2020. This reduction in contract liabilities was offset by new billings for products and services for which there were unsatisfied performance obligations to customers and revenue had not yet been recognized as of October 31, 2021.

There were no credit losses recognized on Applied's accounts receivables and contract assets during fiscal 2021 and 2020.

As of October 31, 2021, the amount of remaining unsatisfied performance obligations on contracts with an original estimated duration of one year or more was approximately \$779 million, of which approximately 43% is expected to be recognized within 12 months and the remainder is expected to be recognized within the following 24 months thereafter.

Applied has elected the available practical expedient to exclude the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less.

Note 8 Balance Sheet Detail

	October 31, 2021	October 25, 2020
	(In millions)	
Inventories		
Customer service spares	\$ 1,251	\$ 1,270
Raw materials	1,136	870
Work-in-process	873	624
Finished goods	1,049	1,140
	<u>\$ 4,309</u>	<u>\$ 3,904</u>

Included in finished goods inventory are \$58 million at October 31, 2021 and \$16 million at October 25, 2020, of newly-introduced systems at customer locations where the sales transaction did not meet Applied's revenue recognition criteria as set forth in Note 1. Finished goods inventory includes \$380 million and \$416 million of evaluation inventory at October 31, 2021 and October 25, 2020, respectively.

	October 31, 2021	October 25, 2020
	(In millions)	
Other Current Assets		
Prepaid income taxes and income taxes receivable	\$ 593	\$ 162
Prepaid expenses and other	793	602
	<u>\$ 1,386</u>	<u>\$ 764</u>

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	Useful Life	October 31, 2021	October 25, 2020
	(In years)	(In millions)	
Property, Plant and Equipment, Net			
Land and improvements		\$ 334	\$ 256
Buildings and improvements	3-30	1,780	1,655
Demonstration and manufacturing equipment	3-5	1,820	1,586
Furniture, fixtures and other equipment	3-5	720	646
Construction in progress		326	237
Gross property, plant and equipment		4,980	4,380
Accumulated depreciation		(3,046)	(2,776)
		<u>\$ 1,934</u>	<u>\$ 1,604</u>

Depreciation expense was \$345 million, \$320 million and \$306 million for fiscal 2021, 2020 and 2019 respectively.

	October 31, 2021	October 25, 2020
	(In millions)	
Deferred Income Taxes and Other Assets		
Non-current deferred income taxes	\$ 1,623	\$ 1,711
Operating lease right-of-use assets	294	252
Income tax receivables and other assets	229	260
	<u>\$ 2,146</u>	<u>\$ 2,223</u>

	October 31, 2021	October 25, 2020
	(In millions)	
Accounts Payable and Accrued Expenses		
Accounts payable	\$ 1,472	\$ 1,124
Compensation and employee benefits	924	800
Warranty	242	201
Dividends payable	214	201
Income taxes payable	734	222
Other accrued taxes	24	33
Interest payable	39	36
Operating lease liabilities, current	73	64
Other	546	457
	<u>\$ 4,268</u>	<u>\$ 3,138</u>

	October 31, 2021	October 25, 2020
	(In millions)	
Other Liabilities		
Defined and postretirement benefit plans	\$ 193	\$ 241
Operating lease liabilities, non-current	228	195
Other	271	226
	<u>\$ 692</u>	<u>\$ 662</u>

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 9 Business Combination***Kokusai Electric Corporation***

On June 30, 2019, Applied entered into a Share Purchase Agreement (SPA) with Kokusai Electric Corporation (Kokusai Electric) and KKR HKE Investment L.P. (KKR) providing for Applied's acquisition of all outstanding shares of Kokusai Electric. The SPA, as subsequently amended, terminated as of March 19, 2021. Applied paid KKR a termination fee of \$154 million during the second quarter of fiscal 2021.

Note 10 Goodwill, Purchased Technology and Other Intangible Assets***Goodwill and Purchased Intangible Assets***

Applied's methodology for allocating the purchase price relating to purchase acquisitions is determined through established and generally accepted valuation techniques. Goodwill is measured as the excess of the purchase price over the sum of the amounts assigned to tangible and identifiable intangible assets acquired less liabilities assumed. Applied assigns assets acquired (including goodwill) and liabilities assumed to one or more reporting units as of the date of acquisition. Typically, acquisitions relate to a single reporting unit and thus do not require the allocation of goodwill to multiple reporting units. If the products obtained in an acquisition are assigned to multiple reporting units, the goodwill is distributed to the respective reporting units as part of the purchase price allocation process.

Goodwill and purchased intangible assets with indefinite useful lives are not amortized but are reviewed for impairment annually during the fourth quarter of each fiscal year and whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. The process of evaluating the potential impairment of goodwill and intangible assets requires significant judgment, especially in emerging markets. When reviewing goodwill for impairment, Applied first performs a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value.

In performing a qualitative assessment, Applied considers business conditions and other factors including, but not limited to (i) adverse industry or economic trends, (ii) restructuring actions and lower projections that may impact future operating results, (iii) sustained decline in share price, and (iv) overall financial performance and other events affecting the reporting units. If Applied concludes that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then a quantitative impairment test is performed by estimating the fair value of the reporting unit and comparing it to its carrying value. If the carrying value of a reporting unit exceeds its fair value, Applied would record an impairment charge equal to the excess of the carrying value of the reporting unit's goodwill over its fair value.

As of October 31, 2021, Applied's reporting units include Semiconductor Products Group and Imaging and Process Control Group, which combine to form the Semiconductor Systems reporting segment, Applied Global Services, Display and Adjacent Markets and other reporting units recorded under Corporate and Other.

In the fourth quarter of fiscal 2021, Applied performed a qualitative assessment to test goodwill for all of its reporting units for impairment. Applied determined that it was more likely than not that each of its reporting units' fair values exceeded their respective carrying values and that it was not necessary to perform the quantitative goodwill impairment test for any of its reporting units.

The evaluation of goodwill and intangible assets for impairment requires the exercise of significant judgment. In the event of future changes in business conditions, Applied will be required to reassess and update its forecasts and estimates used in future impairment analyses. If the results of these future analyses are lower than current estimates, a material impairment charge may result at that time.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Details of goodwill were as follows:

	October 31, 2021	October 25, 2020
(In millions)		
Semiconductor Systems	\$ 2,207	\$ 2,208
Applied Global Services	1,032	1,018
Display and Adjacent Markets	199	199
Corporate and Other	41	41
Carrying amount	<u>\$ 3,479</u>	<u>\$ 3,466</u>

From time to time, Applied makes acquisitions of companies related to existing or new markets for Applied. During fiscal 2021, goodwill increased by \$13 million primarily due to an acquisition during the first quarter of fiscal 2021, which was not material to Applied's results of operations.

A summary of Applied's purchased technology and intangible assets is set forth below:

	October 31, 2021	October 25, 2020
(In millions)		
Purchased technology, net	\$ 46	\$ 75
Intangible assets - finite-lived, net	58	78
Total	<u>\$ 104</u>	<u>\$ 153</u>

Finite-Lived Purchased Intangible Assets

Applied amortizes purchased intangible assets with finite lives using the straight-line method over the estimated economic lives of the assets, ranging from 1 to 15 years.

Applied evaluates long-lived assets for impairment whenever events or changes in circumstances indicate the carrying value of an asset group may not be recoverable. Applied assesses the fair value of the assets based on the amount of the undiscounted future cash flow that the assets are expected to generate and recognizes an impairment loss when estimated undiscounted future cash flow expected to result from the use of the asset, plus net proceeds expected from disposition of the asset, if any, are less than the carrying value of the asset. When Applied identifies an impairment, Applied reduces the carrying value of the group of assets to comparable market values, when available and appropriate, or to its estimated fair value based on a discounted cash flow approach.

Intangible assets, such as purchased technology, are generally recorded in connection with a business acquisition. The value assigned to intangible assets is usually based on estimates and judgments regarding expectations for the success and life cycle of products and technology acquired. Applied evaluates the useful lives of its intangible assets each reporting period to determine whether events and circumstances require revising the remaining period of amortization. In addition, Applied reviews intangible assets for impairment when events or changes in circumstances indicate their carrying value may not be recoverable. Management considers such indicators as significant differences in actual product acceptance from the estimates, changes in the competitive and economic environments, technological advances, and changes in cost structure.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Details of finite-lived intangible assets were as follows:

	October 31, 2021			October 25, 2020		
	Purchased Technology	Other Intangible Assets	Total	Purchased Technology	Other Intangible Assets	Total
	(In millions)					
Gross carrying amount:						
Semiconductor Systems	\$ 1,476	\$ 256	\$ 1,732	\$ 1,476	\$ 256	\$ 1,732
Applied Global Services	35	44	79	35	44	79
Display and Adjacent Markets	163	38	201	163	38	201
Corporate and Other	13	16	29	13	16	29
Gross carrying amount	\$ 1,687	\$ 354	\$ 2,041	\$ 1,687	\$ 354	\$ 2,041
Accumulated amortization:						
Semiconductor Systems	\$ (1,446)	\$ (203)	\$ (1,649)	\$ (1,423)	\$ (185)	\$ (1,608)
Applied Global Services	(32)	(44)	(76)	(31)	(44)	(75)
Display and Adjacent Markets	(161)	(38)	(199)	(157)	(37)	(194)
Corporate and Other	(2)	(11)	(13)	(1)	(10)	(11)
Accumulated amortization	\$ (1,641)	\$ (296)	\$ (1,937)	\$ (1,612)	\$ (276)	\$ (1,888)
Carrying amount	\$ 46	\$ 58	\$ 104	\$ 75	\$ 78	\$ 153

Details of amortization expense for each fiscal year by segment were as follows:

	2021	2020	2019
	(In millions)		
Semiconductor Systems	\$ 41	\$ 40	\$ 43
Applied Global Services	1	1	1
Display and Adjacent Markets	5	13	13
Corporate and Other	2	2	—
Total	\$ 49	\$ 56	\$ 57

Amortization expense for each fiscal year was charged to the following categories:

	2021	2020	2019
	(In millions)		
Cost of products sold	\$ 29	\$ 37	\$ 38
Research, development and engineering	1	1	1
Marketing and selling	19	18	18
Total	\$ 49	\$ 56	\$ 57

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

As of October 31, 2021, future estimated amortization expense is expected to be as follows:

	Amortization Expense
	(In millions)
2022	\$ 33
2023	20
2024	17
2025	15
2026	15
Thereafter	4
Total	\$ 104

Note 11 Borrowing Facilities and Debt

Revolving Credit Facilities

In February 2020, Applied entered into a five-year \$1.5 billion committed unsecured revolving credit agreement (Revolving Credit Agreement) with a group of banks. The Revolving Credit Agreement includes a provision under which Applied may request an increase in the amount of the facility of up to \$500 million for a total commitment of no more than \$2.0 billion, subject to the receipt of commitments from one or more lenders for any such increase and other customary conditions. The Revolving Credit Agreement is scheduled to expire in February 2025, unless extended as permitted under the Revolving Credit Agreement. The Revolving Credit Agreement provides for borrowings that bear interest for each advance at one of two rates selected by Applied, plus an applicable margin, which varies according to Applied's public debt credit ratings.

No amounts were outstanding under the Revolving Credit Agreement as of October 31, 2021 and October 25, 2020.

In addition, Applied has revolving credit facilities with Japanese banks pursuant to which it may borrow up to approximately \$70 million in aggregate at any time. Applied's ability to borrow under these facilities is subject to bank approval at the time of the borrowing request, and any advances will be at rates indexed to the banks' prime reference rate denominated in Japanese yen. As of October 31, 2021 and October 25, 2020, no amounts were outstanding under these revolving credit facilities.

Term Loan and Short-term Commercial Paper

In August 2019, Applied entered into a term loan credit agreement (Term Loan Credit Agreement) with a group of lenders under which the lenders committed to make an unsecured term loan to Applied of up to \$2.0 billion to finance in part Applied's planned acquisition of all outstanding shares of Kokusai Electric, to pay related transaction fees and expenses and for general corporate purposes. In March 2021, the Term Loan Credit Agreement, as subsequently amended, terminated automatically in accordance with its terms upon the termination of the SPA. No amounts were borrowed under the Term Loan Credit Agreement.

Applied has a short-term commercial paper program under which Applied may issue unsecured commercial paper notes of up to a total amount of \$1.5 billion. At October 31, 2021 and October 25, 2020, Applied did not have any commercial paper outstanding.

Senior Unsecured Notes

In May 2020, Applied issued \$750 million aggregate principal amount of 1.750% senior unsecured notes due 2030 and \$750 million aggregate principal amount of 2.750% senior unsecured notes due 2050, in a registered public offering. In June 2020, Applied used a portion of the net proceeds from the offering to redeem the outstanding \$600 million in aggregate principal amount of its 2.625% senior unsecured notes due October 1, 2020 and \$750 million in aggregate principal amount of its 4.300% senior unsecured notes due June 15, 2021, at a total aggregate redemption price of \$1.4 billion. As a result, Applied recognized a \$33 million loss on early extinguishment of these senior unsecured notes during the third quarter of fiscal 2020.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Debt outstanding as of October 31, 2021 and October 25, 2020 was as follows:

	Principal Amount		Effective Interest Rate	Interest Pay Dates
	October 31, 2021	October 25, 2020		
	(In millions)			
Long-term debt:				
3.900% Senior Notes Due 2025	\$ 700	\$ 700	3.944%	April 1, October 1
3.300% Senior Notes Due 2027	1,200	1,200	3.342%	April 1, October 1
1.750% Senior Notes Due 2030	750	750	1.792%	June 1, December 1
5.100% Senior Notes Due 2035	500	500	5.127%	April 1, October 1
5.850% Senior Notes Due 2041	600	600	5.879%	June 15, December 15
4.350% Senior Notes Due 2047	1,000	1,000	4.361%	April 1, October 1
2.750% Senior Notes Due 2050	750	750	2.773%	June 1, December 1
	<u>5,500</u>	<u>5,500</u>		
Total unamortized discount	(14)	(15)		
Total unamortized debt issuance costs	(34)	(37)		
Total long-term debt	<u>\$ 5,452</u>	<u>\$ 5,448</u>		

Note 12 Leases

A contract contains a lease when Applied has the right to control the use of an identified asset for a period of time in exchange for consideration. Applied leases certain facilities, vehicles and equipment under non-cancelable operating leases, many of which include options to renew. Options that are reasonably certain to be exercised are included in the calculation of the right-of-use asset and lease liability. Applied's leases do not contain residual value guarantees or significant restrictions that impact the accounting for leases. As implicit rates are not available for the leases, Applied uses the incremental borrowing rate as of the lease commencement date in order to measure the right-of-use asset and liability. Operating lease expense is generally recognized on a straight-line basis over the lease term.

Applied elected the practical expedient to account for lease and non-lease components as a single lease component for all leases. For leases with a term of one year or less, Applied elected not to record a right-of-use asset or lease liability and to account for the associated lease payments as they become due.

The components of lease expense and supplemental information were as follows:

	2021	2020
	(In millions, except percentage)	
Operating lease cost	\$ 79	\$ 69
Weighted-average remaining lease term (in years)	5.1	5.2
Weighted-average discount rate	1.7 %	1.8 %

Total rent expense for fiscal 2019 was \$51 million.

Supplemental cash flow information related to leases are as follows:

	2021	2020
	(In millions)	
Operating cash flows paid for operating leases	\$ 79	\$ 70
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 123	\$ 156

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

As of October 31, 2021, the maturities of lease liabilities are as follows:

Fiscal	Operating Leases (In millions)
2022	\$ 78
2023	71
2024	61
2025	48
2026	18
Thereafter	39
Total lease payments	315
Less imputed interest	(14)
Total	\$ 301

Note 13 Severance and Related Charges

Fiscal 2021 Severance Plan

In the first quarter of fiscal 2021, Applied enacted a severance plan to realign its workforce. Under this plan, Applied implemented a one-time voluntary retirement program and other workforce reduction actions. The voluntary retirement program was available to certain U.S. employees who met minimum age and length of service requirements, as well as other business-specific criteria. The payments under this plan are paid at the time of termination and the related costs were not allocated to the segments. In addition, Applied implemented other workforce reduction actions globally across the Display and Adjacent Markets business. These costs were recorded under the Display and Adjacent Markets segment.

During fiscal 2021, Applied recognized \$157 million of severance and related charges in connection with the Fiscal 2021 Severance Plan, of which \$17 million remains outstanding as of October 31, 2021.

Severance and related charges by segment were as follows:

	2021 (In millions)
Display and Adjacent Markets	\$ 8
Corporate and Other	149
Total	\$ 157

Changes in severance and related charges reserves related to the Fiscal 2021 Severance Plan described above were as follows:

	Severance and Related Charges Reserves (In millions)
Balance as of October 25, 2020	\$ —
Provision for severance	158
Adjustment to provision for severance	(1)
Consumption of reserves	(140)
Balance as of October 31, 2021	\$ 17

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 14 Stockholders' Equity, Comprehensive Income and Share-Based Compensation

Accumulated Other Comprehensive Income (Loss)

Changes in the components of accumulated other comprehensive income (AOCI), net of tax, were as follows:

	Unrealized Gain (Loss) on Investments, Net	Unrealized Gain (Loss) on Derivative Instruments Qualifying as Cash Flow Hedges	Defined and Postretirement Benefit Plans	Cumulative Translation Adjustments	Total
	(In millions)				
Balance at October 28, 2018	\$ 7	\$ (9)	\$ (137)	\$ 14	(125)
Adoption of new accounting standards (a)	(17)	—	—	—	(17)
Other comprehensive income (loss) before reclassifications	22	(10)	(57)	(1)	(46)
Amounts reclassified out of AOCI	(1)	3	6	—	8
Other comprehensive income (loss), net of tax	21	(7)	(51)	(1)	(38)
Balance at October 27, 2019	\$ 11	\$ (16)	\$ (188)	\$ 13	\$ (180)
Other comprehensive income (loss) before reclassifications	16	(115)	(21)	—	(120)
Amounts reclassified out of AOCI	(7)	(2)	10	—	1
Other comprehensive income, net of tax	9	(117)	(11)	—	(119)
Balance at October 25, 2020	\$ 20	\$ (133)	\$ (199)	\$ 13	\$ (299)
Other comprehensive income (loss) before reclassifications	(14)	28	20	—	34
Amounts reclassified out of AOCI	(7)	2	10	—	5
Other comprehensive income (loss), net of tax	(21)	30	30	—	39
Balance at October 31, 2021	\$ (1)	\$ (103)	\$ (169)	\$ 13	\$ (260)

(a) - Represents the reclassification adjustment related to the adoption of Accounting Standard Update (ASU) 2016-01 *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*.

The tax effects on the unrealized loss on derivative instruments qualifying as cash flow hedges for fiscal 2020 was \$33 million. The tax effects on net income of amounts reclassified from AOCI for the fiscal years 2021, 2020 and 2019 were not material.

Stock Repurchase Program

In March 2021, Applied's Board of Directors approved a common stock repurchase program authorizing \$7.5 billion in repurchases, which supplemented the previously existing \$6.0 billion authorization approved in February 2018. At October 31, 2021, approximately \$5.0 billion remained available for future stock repurchases under the repurchase program.

The following table summarizes Applied's stock repurchases for each fiscal year:

	2021	2020	2019
	(In millions, except per share amounts)		
Shares of common stock repurchased	28	12	60
Cost of stock repurchased	\$ 3,750	\$ 649	\$ 2,403
Average price paid per share	\$ 134.03	\$ 56.32	\$ 39.86

Applied records treasury stock purchases under the cost method using the first-in, first-out (FIFO) method. Upon reissuance of treasury stock, amounts in excess of the acquisition cost are credited to additional paid in capital. If Applied reissues treasury stock at an amount below its acquisition cost and additional paid in capital associated with prior treasury stock transactions is insufficient to cover the difference between the acquisition cost and the reissue price, this difference is recorded against retained earnings.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Dividends

During fiscal 2021, Applied's Board of Directors declared one quarterly cash dividend of \$0.22 per share and three quarterly cash dividends of \$0.24 per share. During fiscal 2020, Applied's Board of Directors declared one quarterly cash dividend of \$0.21 per share and three quarterly cash dividends of \$0.22 per share. During fiscal 2019, Applied's Board of Directors declared one quarterly cash dividend of \$0.20 per share and three quarterly cash dividends in the amount of \$0.21 per share. Dividends paid during fiscal 2021, 2020 and 2019 amounted to \$838 million, \$787 million and \$771 million, respectively. Applied currently anticipates that cash dividends will continue to be paid on a quarterly basis, although the declaration of any future cash dividend is at the discretion of the Board of Directors and will depend on Applied's financial condition, results of operations, capital requirements, business conditions and other factors, as well as a determination by the Board of Directors that cash dividends are in the best interests of Applied's stockholders.

Share-Based Compensation

Applied has a stockholder-approved equity plan, the Employee Stock Incentive Plan (ESIP), which permits grants to employees of share-based awards, including stock options, stock appreciation rights, restricted stock, restricted stock units, performance share units and performance units. In addition, the plan provides for the automatic grant of restricted stock units to non-employee directors and permits the grant of share-based awards to non-employee directors and consultants. Share-based awards made under the plan may be subject to accelerated vesting under certain circumstances in the event of a change in control of Applied. On March 11, 2021, Applied's shareholders approved an amendment and restatement of the ESIP to, among other changes, add 10 million shares to the number of shares of Applied common stock authorized for issuance.

In addition, prior to September 1, 2021, Applied had two Employee Stock Purchase Plans (ESPP), one generally for United States employees (U.S. ESPP) and a second for employees of international subsidiaries (Offshore ESPP), which enable eligible employees to purchase Applied common stock. On March 11, 2021, Applied's shareholders approved an amendment and restatement of the U.S. ESPP (as amended, the Omnibus ESPP). The Omnibus ESPP became effective on September 1, 2021 (the Effective Date) in accordance with its terms, and amended the U.S. ESPP to, among other changes, (i) incorporate the Offshore ESPP as a sub-plan, and (ii) add 11.3 million shares to the number of shares of Applied common stock authorized for issuance. The Offshore ESPP was terminated as an independent plan on the Effective Date.

Applied recognized share-based compensation expense related to equity awards and ESPP shares. The effect of share-based compensation on the results of operations and the related tax benefits for each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Cost of products sold	\$ 118	\$ 103	\$ 89
Research, development, and engineering	129	116	99
Marketing and selling	43	36	31
General and administrative	56	52	44
Total share-based compensation	<u>\$ 346</u>	<u>\$ 307</u>	<u>\$ 263</u>
Income tax benefits recognized	<u>\$ 43</u>	<u>\$ 39</u>	<u>\$ 37</u>

The cost associated with share-based awards that are subject solely to time-based vesting requirements, less expected forfeitures, is recognized over the awards' service period for the entire award on a straight-line basis. Share-based awards granted to certain executive officers allow partial accelerated vesting in the event of a qualifying retirement based on age and years of service. The cost associated with performance-based equity awards, which include both performance and market goals, is recognized for each tranche over the service period. The cost of equity awards related to performance goals is based on an assessment of the likelihood that the applicable performance goals will be achieved. For the equity awards based on market goals, the cost is recognized based upon the assumption of 100% achievement of the goal.

At October 31, 2021, Applied had \$512 million in total unrecognized compensation expense, net of estimated forfeitures, related to grants of share-based awards and shares issued under Applied's ESPP, which will be recognized over a weighted average period of 2.5 years. At October 31, 2021, there were 35 million shares available for grant of share-based awards under the ESIP, and an additional 16 million shares available for issuance under the Omnibus ESPP.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Stock Options

Stock options are rights to purchase, at future dates, shares of Applied common stock. The exercise price of each stock option equals the fair market value of Applied common stock on the date of grant. Options typically vest over three to four years, subject to the grantee's continued service with Applied through the scheduled vesting date, and expire no later than seven years from the grant date. There were no stock options granted during fiscal 2021, 2020 and 2019. There were no outstanding stock options at the end of fiscal 2021.

Restricted Stock Units, Restricted Stock, Performance Share Units and Performance Units

Restricted stock units are converted into shares of Applied common stock upon vesting on a one-for-one basis. Restricted stock has the same rights as other issued and outstanding shares of Applied common stock except these shares generally have no right to dividends and are held in escrow until the award vests. Performance share units and performance units are awards that result in a payment to a grantee, generally in shares of Applied common stock on a one-for-one basis, if performance goals and/or other vesting criteria established by the Human Resources and Compensation Committee of Applied's Board of Directors are achieved or the awards otherwise vest. Restricted stock units, restricted stock, performance share units and performance units typically vest over three to four years and vesting is usually subject to the grantee's continued service with Applied and, in some cases, achievement of specified performance goals. The compensation expense related to the service-based awards is determined using the fair market value of Applied common stock on the date of the grant, and the compensation expense is recognized over the vesting period.

During fiscal 2021, 2020 and 2019, certain executive officers were granted awards that are subject to the achievement of certain levels specified performance goals.

Certain awards are subject to the achievement of targeted levels of adjusted operating margin and targeted levels of total shareholder return (TSR) relative to a peer group, comprised of companies in the Standard & Poor's 500 Index. Each metric will be weighted 50% and will be measured over a three-year period. The number of shares that may vest in full after three years ranges from 0% to 200% of the target amount. The awards become eligible to vest only if performance goals are achieved and will vest only if the grantee remains employed by Applied through each applicable vesting date, subject to a qualifying retirement based on age and years of service. The awards provide for a partial payout based on actual performance at the conclusion of the three-year performance period in the event of a qualifying retirement.

During fiscal 2021, certain executive officers were also granted non-recurring long-term performance-based awards that are subject to the achievement of targeted levels of Applied's absolute TSR. The awards become eligible to vest only if targeted levels of TSR are achieved during the five-year performance period and will vest only if the grantee remains employed by Applied through the vesting date in October 2025, except in the event of involuntary termination of employment without cause, death or following a change of control. The number of shares that may vest in full after five years ranges from 0% to 200% of the target amount.

The fair value of the portion of the awards subject to targeted levels of adjusted operating margin is estimated on the date of grant. If the performance goals are not met as of the end of the performance period, no compensation expense is recognized and any previously recognized compensation expense is reversed. The expected cost is based on the portion of the awards that is probable to vest and is reflected over the service period and reduced for estimated forfeitures.

The fair value of the portion of the awards subject to targeted levels of relative TSR or absolute TSR is estimated on the date of grant using a Monte Carlo simulation model. Compensation expense is recognized based upon the assumption of 100% achievement of the TSR goal and will not be reversed even if the threshold level of TSR is never achieved, and is reflected over the service period and reduced for estimated forfeitures.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

A summary of the changes in restricted stock units, restricted stock, performance shares and performance units outstanding under Applied's equity compensation plans is presented below:

	Shares	Weighted Average Grant Date Fair Value	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
	(In millions, except per share amounts)			
Non-vested restricted stock units, restricted stock, performance shares and performance units at October 28, 2018	18	\$ 32.64	2.0 years	\$ 600
Granted	8	\$ 36.00		
Vested	(7)	\$ 28.41		
Canceled	(1)	\$ 34.59		
Non-vested restricted stock units, restricted stock, performance shares and performance units at October 27, 2019	18	\$ 35.78	2.1 years	\$ 985
Granted	6	\$ 53.89		
Vested	(8)	\$ 31.25		
Canceled	(1)	\$ 42.61		
Non-vested restricted stock units, restricted stock, performance shares and performance units at October 25, 2020	15	\$ 45.36	2.2 years	\$ 914
Granted	5	\$ 92.04		
Vested	(6)	\$ 43.11		
Canceled	(1)	\$ 59.41		
Non-vested restricted stock units, restricted stock, performance shares and performance units at October 31, 2021	13	\$ 63.29	2.2 years	\$ 1,752
Non-vested restricted stock units, restricted stock, performance shares and performance units expected to vest	13	\$ 63.37	2.0 years	\$ 1,724

At October 31, 2021, 1.2 million additional performance-based awards could be earned based upon achievement of certain levels of specified performance goals.

Employee Stock Purchase Plans

Under the Omnibus ESPP, substantially all employees may purchase Applied common stock through payroll deductions at a price equal to 85 percent of the lower of the fair market value of Applied common stock at the beginning or end of each 6-month purchase period, subject to certain limits. Applied issued 3 million shares in fiscal 2021, 3 million shares in fiscal 2020 and 4 million shares in fiscal 2019, under the ESPP. Compensation expense is calculated using the fair value of the employees' purchase rights under the Black-Scholes model. Underlying assumptions used in the model are outlined in the following table:

	2021	2020	2019
ESPP:			
Dividend yield	0.72 %	1.41 %	1.99 %
Expected volatility	41.3 %	48.2 %	35.5 %
Risk-free interest rate	0.05 %	0.58 %	2.21 %
Expected life (in years)	0.5	0.5	0.5
Weighted average estimated fair value	\$33.77	\$17.30	\$10.61

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 15 Employee Benefit Plans*Employee Bonus Plans*

Applied has various employee bonus plans. A discretionary bonus plan provides for the distribution of a percentage of pre-tax income to Applied employees who are not participants in other performance-based incentive plans, up to a maximum percentage of eligible compensation. Other plans provide for bonuses to Applied's executives and other key contributors based on the achievement of profitability and/or other specified performance criteria. Charges under these plans for fiscal 2021, 2020 and 2019 were \$631 million, \$471 million and \$292 million, respectively.

Employee Savings and Retirement Plan

Applied's Employee Savings and Retirement Plan (the 401(k) Plan) is qualified under Sections 401(a) and (k) of the Internal Revenue Code (the Code). Eligible employees may make salary deferral and catch-up contributions under the 401(k) Plan on a pre-tax basis and on a Roth basis, subject to an annual dollar limit established by the Code. Applied matches 100% of participant salary and/or Roth deferral contributions up to the first 3% of eligible contribution and then 50% of every dollar between 4% and 6% of eligible contribution. Applied does not make matching contributions on any catch-up contributions made by participants. Plan participants who were employed by Applied or any of its affiliates became 100% vested in their Applied matching contribution account balances. Applied's matching contributions under the 401(k) Plan were approximately \$61 million for fiscal 2021, \$52 million for fiscal 2020 and \$49 million for fiscal 2019.

Defined Benefit Pension Plans of Foreign Subsidiaries and Other Postretirement Benefits

Several of Applied's foreign subsidiaries have defined benefit pension plans covering substantially all of their eligible employees. Benefits under these plans are typically based on years of service and final average compensation levels. The plans are managed in accordance with applicable local statutes and practices. Applied deposits funds for certain of these plans with insurance companies, pension trustees, government-managed accounts, and/or accrues the expense for the unfunded portion of the benefit obligation on its Consolidated Financial Statements. Applied's practice is to fund the various pension plans in amounts sufficient to meet the minimum requirements as established by applicable local governmental oversight and taxing authorities. Depending on the design of the plan, local custom and market circumstances, the liabilities of a plan may exceed the qualified plan assets. The differences between the aggregate projected benefit obligations and aggregate plan assets of these plans have been recorded as liabilities by Applied and are included in other liabilities and accrued expenses in the Consolidated Balance Sheets.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

A summary of the changes in benefit obligations and plan assets, which includes post-retirement benefits, for each fiscal year is presented below:

	2021	2020	2019
	(In millions, except percentages)		
Change in projected benefit obligation			
Beginning projected benefit obligation	\$ 674	\$ 617	\$ 524
Service cost	15	13	11
Interest cost	8	8	10
Plan participants' contributions	1	1	1
Actuarial (gain) loss	(1)	6	84
Settlements	—	—	(1)
Foreign currency exchange rate changes	3	33	(5)
Benefits paid	(15)	(10)	(8)
Plan amendments and other adjustments	—	6	1
Ending projected benefit obligation	<u>\$ 685</u>	<u>\$ 674</u>	<u>\$ 617</u>
Ending accumulated benefit obligation	<u>\$ 626</u>	<u>\$ 627</u>	<u>\$ 578</u>
Range of assumptions to determine benefit obligations			
Discount rate	0.6% - 6.6%	0.4% - 6.5%	0.5% - 3.1%
Rate of compensation increase	2.4% - 10.0%	2.3% - 10.0%	2.3% - 3.6%
Change in plan assets			
Beginning fair value of plan assets	\$ 431	\$ 409	\$ 365
Return on plan assets	49	—	30
Employer contributions	22	12	27
Plan participants' contributions	1	1	1
Foreign currency exchange rate changes	3	19	(5)
Settlements	—	—	(1)
Benefits paid	(15)	(10)	(8)
Ending fair value of plan assets	<u>\$ 491</u>	<u>\$ 431</u>	<u>\$ 409</u>
Funded status	<u>\$ (194)</u>	<u>\$ (243)</u>	<u>\$ (208)</u>
Amounts recognized in the consolidated balance sheets			
Noncurrent asset	\$ 1	\$ —	\$ 5
Current liability	(2)	(2)	(1)
Noncurrent liability	(193)	(241)	(212)
Total	<u>\$ (194)</u>	<u>\$ (243)</u>	<u>\$ (208)</u>
Estimated amortization from accumulated other comprehensive loss into net periodic benefit cost over the next fiscal period			
Actuarial loss	\$ 11	\$ 14	\$ 12
Prior service credit	—	—	—
Total	<u>\$ 11</u>	<u>\$ 14</u>	<u>\$ 12</u>
Amounts recognized in accumulated other comprehensive loss			
Net actuarial loss	\$ 200	\$ 242	\$ 226
Prior service credit	1	—	—
Total	<u>\$ 201</u>	<u>\$ 242</u>	<u>\$ 226</u>
Plans with projected benefit obligations in excess of plan assets			
Projected benefit obligation	\$ 472	\$ 674	\$ 424
Fair value of plan assets	\$ 277	\$ 431	\$ 211
Plans with accumulated benefit obligations in excess of plan assets			
Accumulated benefit obligation	\$ 413	\$ 627	\$ 385
Fair value of plan assets	\$ 277	\$ 431	\$ 211

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	2021	2020
Plan assets — allocation		
Equity securities	35 %	38 %
Debt securities	33 %	43 %
Insurance contracts	23 %	9 %
Other investments	9 %	10 %

The following table presents a summary of the ending fair value of the plan assets:

	October 31, 2021				October 25, 2020			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
(In millions)								
Equity securities	\$ 137	\$ —	\$ —	\$ 137	\$ 103	\$ —	\$ —	\$ 103
Debt securities	79	—	—	79	72	—	—	72
Insurance contracts	—	—	110	110	—	—	39	39
Other investments	—	17	—	17	—	16	—	16
Cash	2	—	—	2	2	—	—	2
Total assets at fair value	<u>\$ 218</u>	<u>\$ 17</u>	<u>\$ 110</u>	345	<u>\$ 177</u>	<u>\$ 16</u>	<u>\$ 39</u>	232
Assets measured at net asset value				146				199
Total				<u>\$ 491</u>				<u>\$ 431</u>

The following table presents the activity in Level 3 instruments for each fiscal year:

	2021	2020
(In millions)		
Balance, beginning of year	\$ 39	\$ 36
Purchases, sales, settlements, net	72	1
Currency impact	(1)	2
Balance, end of year	<u>\$ 110</u>	<u>\$ 39</u>

Applied's investment strategy for its defined benefit plans is to invest plan assets in a prudent manner, maintaining well-diversified portfolios with the long-term objective of meeting the obligations of the plans as they come due. Asset allocation decisions are typically made by plan fiduciaries with input from Applied's international pension committee. Applied's asset allocation strategy incorporates a sufficient equity exposure in order for the plans to benefit from the expected better long-term performance of equities relative to the plans' liabilities. Applied retains investment managers, where appropriate, to manage the assets of the plans. Performance of investment managers is monitored by plan fiduciaries with the assistance of local investment consultants. The investment managers make investment decisions within the guidelines set forth by plan fiduciaries. Risk management practices include diversification across asset classes and investment styles, and periodic rebalancing toward target asset allocation ranges. Investment managers may use derivative instruments for efficient portfolio management purposes.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

A summary of the components of net periodic benefit costs and the weighted average assumptions used for net periodic benefit cost calculations for each fiscal year is presented below:

	2021	2020	2019
	(In millions, except percentages)		
Components of net periodic benefit cost			
Service cost	\$ 15	\$ 13	\$ 11
Interest cost	8	8	10
Expected return on plan assets	(21)	(22)	(20)
Amortization of actuarial loss and prior service credit	14	12	7
Net periodic benefit cost	<u>\$ 16</u>	<u>\$ 11</u>	<u>\$ 8</u>
Weighted average assumptions			
Discount rate	1.18 %	1.23 %	1.98 %
Expected long-term return on assets	4.80 %	5.10 %	5.40 %
Rate of compensation increase	2.74 %	2.69 %	2.74 %

Asset return assumptions are derived based on actuarial and statistical methodologies, from analysis of long-term historical data relevant to the country in which each plan is in effect and the investments applicable to the corresponding plan. The discount rate for each plan was derived by reference to appropriate benchmark yields on high quality corporate bonds, allowing for the approximate duration of both plan obligations and the relevant benchmark yields.

Future expected benefit payments for the pension plans and the postretirement plan over the next ten fiscal years are as follows:

	Benefit Payments (In millions)
2022	\$ 11
2023	13
2024	15
2025	14
2026	15
2027-2031	99
Total	<u>\$ 167</u>

Company contributions to these plans for fiscal 2022 are expected to be approximately \$7 million.

Executive Deferred Compensation Plans

Applied sponsors two unfunded deferred compensation plans, the Executive Deferred Compensation Plan (Predecessor EDCP) and the 2016 Deferred Compensation Plan (2016 DCP) (formerly known as the 2005 Executive Deferred Compensation Plan), under which certain employees may elect to defer a portion of their following year's eligible earnings. The Predecessor EDCP was frozen as of December 31, 2004 such that no new deferrals could be made under the plan after that date and the plan would qualify for "grandfather" relief under Section 409A of the Code. The Predecessor EDCP participant accounts continue to be maintained under the plan and credited with deemed interest. The 2016 DCP was originally implemented by Applied effective as of January 1, 2005, and amended and restated as of October 12, 2015, and is intended to comply with the requirements of Section 409A of the Code. In addition, Applied also sponsors a non-qualified deferred compensation plan as a result of the acquisition of Varian. Amounts payable for all plans, including accrued deemed interest, totaled \$206 million and \$151 million at October 31, 2021 and October 25, 2020, respectively, which were included in other liabilities in the Consolidated Balance Sheets.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 16 Income Taxes

The components of income before income taxes for each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
U.S.	\$ 512	\$ 92	\$ 363
Foreign	6,259	4,074	2,906
	<u>\$ 6,771</u>	<u>\$ 4,166</u>	<u>\$ 3,269</u>

The components of the provision for income taxes for each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Current:			
U.S.	\$ 462	\$ 196	\$ 240
Foreign	344	263	260
State	17	20	12
	<u>823</u>	<u>479</u>	<u>512</u>
Deferred:			
U.S.	(3)	(3)	8
Foreign	67	76	46
State	(4)	(5)	(3)
	<u>60</u>	<u>68</u>	<u>51</u>
	<u>\$ 883</u>	<u>\$ 547</u>	<u>\$ 563</u>

A reconciliation between the statutory U.S. federal income tax rate and Applied's actual effective income tax rate for each fiscal year is presented below:

	2021	2020	2019
Tax provision at U.S. statutory rate	21.0 %	21.0 %	21.0 %
Effect of foreign operations taxed at various rates	(7.0)	(5.9)	(5.9)
Changes in prior years' unrecognized tax benefits	0.2	0.5	2.6
Resolutions of prior years' income tax filings	(0.1)	(1.0)	(0.1)
Research and other tax credits	(0.9)	(1.3)	(1.1)
Other	(0.2)	(0.2)	0.7
	<u>13.0 %</u>	<u>13.1 %</u>	<u>17.2 %</u>

Before the Tax Act, U.S. income tax had not been provided for certain unrepatriated earnings that were considered indefinitely reinvested. Income tax is now provided for all unrepatriated earnings.

Applied's effective tax rate for fiscal 2021 was slightly lower than fiscal 2020 primarily due to higher proportion of pre-tax income in lower tax jurisdictions, partially offset by resolutions of prior years' income tax filings. The effective tax rate for fiscal 2020 was lower than fiscal 2019 primarily due to a decline in the tax expense from changes to uncertain tax provisions year-over-year, an increased tax benefit from tax credits, and increased excess stock compensation tax benefits. This benefit was partly offset by an unfavorable settlement of an uncertain tax position in fiscal 2020.

On June 14, 2019, the U.S. government released regulations that significantly affect how the global intangible low-taxed income (GILTI) provision of the Tax Cuts and Jobs Act (Tax Act) is interpreted. As a result, Applied reversed a tax benefit of \$96 million in the third quarter of fiscal 2019 that had been realized in the first half of fiscal 2019. An accounting policy may be selected to treat GILTI temporary differences in taxable income either as a current-period expense when incurred (period cost method) or factor such amounts into the measurement of deferred taxes (deferred method). Applied has chosen the period cost method.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In the reconciliation between the statutory U.S. federal income tax rate and the effective income tax rate, the effect of foreign operations taxed at various rates represents the difference between an income tax provision at the U.S. federal statutory income tax rate and the recorded income tax provision, with the difference expressed as a percentage of worldwide income before income taxes. This effect is substantially related to the tax effect of pre-tax income in jurisdictions with lower statutory tax rates. The foreign operations with the most significant effective tax rate impact are in Singapore. The statutory tax rate for fiscal 2021 for Singapore is 17%. Applied has been granted conditional reduced tax rates that expire in fiscal 2025, excluding potential renewal and subject to certain conditions with which Applied expects to comply. The tax benefits arising from these tax rates were \$370 million or \$0.40 per diluted share and \$215 million or \$0.23 per diluted share for fiscal 2021 and 2020, respectively.

Deferred tax assets and liabilities are recognized for the estimated future tax effects of temporary differences between the book and tax bases of assets and liabilities. Deferred tax assets are also recognized for net operating loss and tax credit carryovers. Deferred tax assets are offset by a valuation allowance to the extent it is more likely than not that they are not expected to be realized. The components of deferred income tax assets and liabilities were as follows:

	October 31, 2021	October 25, 2020
(In millions)		
Deferred tax assets:		
Allowance for doubtful accounts	\$ 4	\$ 4
Inventory reserves and basis difference	112	119
Installation and warranty reserves	29	14
Intangible assets	1,281	1,355
Accrued liabilities	31	24
Deferred revenue	25	32
Tax credits	369	326
Deferred compensation	133	130
Share-based compensation	34	30
Lease liability	61	55
Other	89	96
Gross deferred tax assets	2,168	2,185
Valuation allowance	(361)	(314)
Total deferred tax assets	1,807	1,871
Deferred tax liabilities:		
Fixed assets	(93)	(76)
Right of use assets	(62)	(54)
Undistributed foreign earnings	(37)	(39)
Total deferred tax liabilities	(192)	(169)
Net deferred tax assets	\$ 1,615	\$ 1,702

A valuation allowance is recorded to reflect the estimated amount of net deferred tax assets that may not be realized. Changes in the valuation allowance in each fiscal year were as follows:

	2021	2020	2019
(In millions)			
Beginning balance	\$ 314	\$ 257	\$ 230
Increases	47	57	27
Decreases	—	—	—
Ending balance	\$ 361	\$ 314	\$ 257

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

At October 31, 2021, Applied has state research and development tax credit carryforwards of \$369 million, including \$345 million of credits that are carried over until exhausted and \$20 million that are carried over for 15 years and begin to expire in fiscal 2033. It is more likely than not that all tax credit carryforwards, net of valuation allowance, will be utilized.

Applied maintains liabilities for uncertain tax positions. These liabilities involve considerable judgment and estimation and are continuously monitored based on the best information available. Gross unrecognized tax benefits are classified as non-current income taxes payable or as a reduction in deferred tax assets. A reconciliation of the beginning and ending balances of gross unrecognized tax benefits in each fiscal year is as follows:

	2021	2020	2019
	(In millions)		
Beginning balance of gross unrecognized tax benefits	\$ 496	\$ 845	\$ 374
Settlements with tax authorities	—	(446)	(1)
Lapses of statutes of limitation	(4)	(3)	(2)
Increases in tax positions for current year	26	44	33
Increases in tax positions for prior years	23	91	441
Decreases in tax positions for prior years	(4)	(35)	—
Ending balance of gross unrecognized tax benefits	<u>\$ 537</u>	<u>\$ 496</u>	<u>\$ 845</u>

In fiscal 2020, Applied settled tax audits in Singapore related to fiscal 2012 through fiscal 2019 for additional tax payments of \$72 million and a reduction of future tax deductions of \$374 million. The tax expense impact of these settlements was \$26 million. In fiscal 2019, Applied paid an immaterial amount as a result of settlements with tax authorities.

The increases in tax positions for prior years of \$441 million for fiscal 2019 include the effect of adoption of Accounting Standard Update 2016-16 Income Tax (Topic 740): *Intra-Entity Transfers of Assets Other Than Inventory*. Tax expense for interest and penalties on unrecognized tax benefits for fiscal 2021, 2020 and 2019 was \$14 million, \$24 million and \$24 million, respectively. The income tax liability for interest and penalties for fiscal 2021, 2020 and 2019 was \$88 million, \$74 million and \$50 million, respectively, and was classified as non-current income taxes payable.

Included in the balance of unrecognized tax benefits for fiscal 2021, 2020 and 2019 are \$442 million, \$410 million, and \$758 million, respectively, of tax benefits that, if recognized, would affect the effective tax rate.

Applied's tax returns remain subject to examination by taxing authorities. These include U.S. returns for fiscal 2015 and later years, and foreign tax returns for fiscal 2011 and later years.

The timing of the resolution of income tax examinations, as well as the amounts and timing of various tax payments that may be part of the settlement process, is highly uncertain. This could cause fluctuations in Applied's financial condition and results of operations. Applied continues to have ongoing negotiations with various taxing authorities throughout the year.

Note 17 Warranty, Guarantees, Commitments and Contingencies

Warranty

Changes in the warranty reserves during each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Beginning balance	\$ 201	\$ 196	\$ 208
Provisions for warranty	223	165	148
Changes in reserves related to preexisting warranty	9	2	7
Consumption of reserves	(191)	(162)	(167)
Ending balance	<u>\$ 242</u>	<u>\$ 201</u>	<u>\$ 196</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Applied products are generally sold with a warranty for a 12-month period following installation. The provision for the estimated cost of warranty is recorded when revenue is recognized. Parts and labor are covered under the terms of the warranty agreement. The warranty provision is based on historical experience by product, configuration and geographic region. Quarterly warranty consumption is generally associated with sales that occurred during the preceding four quarters, and quarterly warranty provisions are generally related to the current quarter's sales.

Guarantees

In the ordinary course of business, Applied provides standby letters of credit or other guarantee instruments to third parties as required for certain transactions initiated by either Applied or its subsidiaries. As of October 31, 2021, the maximum potential amount of future payments that Applied could be required to make under these guarantee agreements was approximately \$500 million. Applied has not recorded any liability in connection with these guarantee agreements beyond that required to appropriately account for the underlying transaction being guaranteed. Applied does not believe, based on historical experience and information currently available, that it is probable that any amounts will be required to be paid under these guarantee agreements.

Applied also has agreements with various banks to facilitate subsidiary banking operations worldwide, including overdraft arrangements, issuance of bank guarantees, and letters of credit. As of October 31, 2021, Applied has provided parent guarantees to banks for approximately \$144 million to cover these arrangements.

Legal Matters

From time to time, Applied receives notification from third parties, including customers and suppliers, seeking indemnification, litigation support, payment of money or other actions by Applied in connection with claims made against them. In addition, from time to time, Applied receives notification from third parties claiming that Applied may be or is infringing or misusing their intellectual property or other rights. Applied also is subject to various other legal proceedings, regulatory investigations or inquires, and claims, both asserted and unasserted, that arise in the ordinary course of business.

Although the outcome of the above-described matters, claims and proceedings cannot be predicted with certainty, Applied does not believe that any will have a material effect on its consolidated financial condition or results of operations.

Note 18 Industry Segment Operations

Applied's three reportable segments are: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets. As defined under the accounting literature, Applied's chief operating decision-maker has been identified as the President and Chief Executive Officer, who reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. Segment information is presented based upon Applied's management organization structure as of October 31, 2021 and the distinctive nature of each segment. Future changes to this internal financial structure may result in changes to Applied's reportable segments.

The Semiconductor Systems reportable segment includes semiconductor capital equipment for etch, rapid thermal processing, deposition, chemical mechanical planarization, metrology and inspection, wafer packaging, and ion implantation.

The Applied Global Services segment provides integrated solutions to optimize equipment and fab performance and productivity, including spares, upgrades, services, certain remanufactured earlier generation equipment and factory automation software for semiconductor, display and other products.

The Display and Adjacent Markets segment includes products for manufacturing liquid crystal displays (LCDs), organic light-emitting diodes (OLEDs), equipment upgrades and other display technologies for TVs, monitors, laptops, personal computers, smart phones, and other consumer-oriented devices.

Each operating segment is separately managed and has separate financial results that are reviewed by Applied's chief operating decision-maker. Each reportable segment contains closely related products that are unique to the particular segment. Segment operating income is determined based upon internal performance measures used by Applied's chief operating decision-maker. The chief operating decision-maker does not evaluate operating segments using total asset information.

Applied derives the segment results directly from its internal management reporting system. The accounting policies Applied uses to derive reportable segment results are substantially the same as those used for external reporting purposes. Management measures the performance of each reportable segment based upon several metrics including orders, net sales and operating income. Management uses these results to evaluate the performance of, and to assign resources to, each of the reportable segments.

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Corporate and Other category includes revenues from products, as well as costs of products sold, for fabricating solar photovoltaic cells and modules, and certain operating expenses that are not allocated to its reportable segments and are managed separately at the corporate level. These operating expenses include costs related to share-based compensation; certain management, finance, legal, human resources, and research, development and engineering functions provided at the corporate level; and unabsorbed information technology and occupancy. In addition, Applied does not allocate to its reportable segments restructuring, severance and asset impairment charges and any associated adjustments related to restructuring actions, unless these actions pertain to a specific reportable segment. Segment operating income also excludes interest income/expense and other financial charges and income taxes. Management does not consider the unallocated costs in measuring the performance of the reportable segments.

Information for each reportable segment for and as of the end of each fiscal year were as follows:

	Net Sales	Operating Income (Loss)	Depreciation/ Amortization	Capital Expenditures	Accounts Receivable	Inventories
(In millions)						
2021:						
Semiconductor Systems	\$ 16,286	\$ 6,311	\$ 194	\$ 228	\$ 3,886	\$ 2,586
Applied Global Services	5,013	1,508	32	29	922	1,561
Display and Adjacent Markets	1,634	314	27	32	207	153
Corporate and Other	130	(1,244)	141	379	(62)	9
Total	<u>\$ 23,063</u>	<u>\$ 6,889</u>	<u>\$ 394</u>	<u>\$ 668</u>	<u>\$ 4,953</u>	<u>\$ 4,309</u>
2020:						
Semiconductor Systems	\$ 11,367	\$ 3,714	\$ 219	\$ 226	\$ 2,061	\$ 2,139
Applied Global Services	4,155	1,127	34	30	764	1,545
Display and Adjacent Markets	1,607	291	31	29	179	195
Corporate and Other	73	(767)	92	137	(41)	25
Total	<u>\$ 17,202</u>	<u>\$ 4,365</u>	<u>\$ 376</u>	<u>\$ 422</u>	<u>\$ 2,963</u>	<u>\$ 3,904</u>
2019:						
Semiconductor Systems	\$ 9,027	\$ 2,464	\$ 202	\$ 168	\$ 1,543	\$ 1,703
Applied Global Services	3,854	1,101	25	47	790	1,535
Display and Adjacent Markets	1,651	294	22	43	246	214
Corporate and Other	76	(509)	114	183	(46)	22
Total	<u>\$ 14,608</u>	<u>\$ 3,350</u>	<u>\$ 363</u>	<u>\$ 441</u>	<u>\$ 2,533</u>	<u>\$ 3,474</u>

Semiconductor Systems and Display and Adjacent Markets revenues are recognized at a point in time. Applied Global Services revenue is recognized at a point in time for tangible goods such as spare parts and equipment, and over time for service agreements. The majority of revenue recognized over time is recognized within 12 months of the contract inception.

Operating income (loss) for fiscal 2021 included severance and related charges as discussed in Note 13, Severance and Related Charges and a deal termination fee as discussed in Note 9, Business Combination.

Net sales for Semiconductor Systems by end use application for the periods indicated were as follows:

	2021	2020	2019
Foundry, logic and other	60 %	59 %	52 %
Dynamic random-access memory (DRAM)	19 %	20 %	22 %
Flash memory	21 %	21 %	26 %
	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>

APPLIED MATERIALS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The reconciling items included in Corporate and Other were as follows:

	2021	2020	2019
	(In millions)		
Unallocated net sales	\$ 130	\$ 73	\$ 76
Unallocated cost of products sold and expenses	(725)	(533)	(322)
Share-based compensation	(346)	(307)	(263)
Severance and related charges	(149)	—	—
Deal termination fee	(154)	—	—
Total	<u>\$ (1,244)</u>	<u>\$ (767)</u>	<u>\$ (509)</u>

For geographical reporting, revenue by geographic location is determined by the location of customers' facilities to which products were shipped. Long-lived assets consist primarily of property, plant and equipment and are attributed to the geographic location in which they are located. Net sales and long-lived assets by geographic region for and as of each fiscal year were as follows:

	2021	2020	2019
	(In millions)		
Net sales:			
United States	\$ 2,038	\$ 1,619	\$ 1,871
China	7,535	5,456	4,277
Korea	5,012	3,031	1,929
Taiwan	4,742	3,953	2,965
Japan	1,962	1,996	2,198
Europe	1,097	736	820
Southeast Asia	677	411	548
Total outside United States	<u>21,025</u>	<u>15,583</u>	<u>12,737</u>
Consolidated total	<u>\$ 23,063</u>	<u>\$ 17,202</u>	<u>\$ 14,608</u>

	October 31, 2021	October 25, 2020
	(In millions)	
Long-lived assets:		
United States	\$ 1,965	\$ 1,628
China	10	14
Korea	16	21
Taiwan	62	59
Japan	9	16
Europe	12	21
Southeast Asia	13	18
Total outside United States	<u>122</u>	<u>149</u>
Consolidated total	<u>\$ 2,087</u>	<u>\$ 1,777</u>

The following customers accounted for at least 10 percent of Applied's net sales in each fiscal year, which were for products and services in multiple reportable segments:

	2021	2020	2019
Samsung Electronics Co., Ltd.	20 %	18 %	*
Taiwan Semiconductor Manufacturing Company Limited	15 %	18 %	14 %
Intel Corporation	*	*	12 %

* Less than 10%

INDEX TO EXHIBITS

These Exhibits are numbered in accordance with the Exhibit Table of Item 601 of Regulation S-K:

Exhibit No.	Description	Form	Incorporated by Reference		Filing Date
			File No.	Exhibit No.	
2.1	Amendment to Share Purchase Agreement, dated as of January 1, 2021, by and among Applied Materials, Inc., Kokusai Electric Corporation and KKR HKE Investment L.P.	8-K	000-06920	2.1	1/4/2021
3.1	Amended and Restated Certificate of Incorporation of Applied Materials, Inc., as amended and restated through March 16, 2020	8-K	000-06920	3.1	3/16/2020
3.2	Amended and Restated Bylaws of Applied Materials, Inc., as amended and restated through December 3, 2021	8-K	000-06920	3.1	12/8/2021
4.1	Indenture, dated June 8, 2011, by and between Applied Materials, Inc. and U.S. Bank National Association, as Trustee	8-K	000-06920	4.1	6/10/2011
4.2	First Supplemental Indenture, dated June 8, 2011, by and between Applied Materials, Inc. and U.S. Bank National Association, as Trustee	8-K	000-06920	4.2	6/10/2011
4.3	Second Supplemental Indenture, dated September 24, 2015, by and between Applied Materials, Inc. and U.S. Bank National Association, as Trustee	8-K	000-06920	4.1	9/24/2015
4.4	Third Supplemental Indenture, dated March 31, 2017, by and between Applied Materials, Inc. and U.S. Bank National Association, as Trustee	8-K	000-06920	4.1	3/31/2017
4.5	Fourth Supplemental Indenture dated May 29, 2020, by and between Applied Materials, Inc. and U.S. Bank National Association	8-K	000-06920	4.1	5/29/2020
4.6	Description of Registrant's Securities Registered Under Section 12 of the Securities Exchange Act of 1934	10-K	000-06920	4.6	12/11/2020
10.1	Form of Indemnification Agreement between Applied Materials, Inc. and Non-Employee Directors	10-K	000-06920	10.44	1/31/2000
10.2	Form of Indemnification Agreement between Applied Materials, Inc. and certain of its officers	10-K	000-06920	10.46	1/31/2000
10.3	Applied Materials, Inc. Profit Sharing Scheme (Ireland)	S-8	333-45011	4.1	1/27/1998
10.4*	Applied Materials, Inc. amended and restated Relocation Policy	8-K	000-06920	10.46	10/31/2005
10.5*	Applied Materials Inc. Employee Financial Assistance Plan, amended and restated as of December 18, 2008	10-Q	000-06920	10.58	3/3/2009
10.6	Deed of Amendment to Applied Materials Profit Sharing Scheme, dated February 7, 2006, to amend Clause 20 of the Trust Deed thereunder	10-K	000-06920	10.48	12/12/2008
10.7	Deed of Amendment to Applied Materials Profit Sharing Scheme, dated February 7, 2006, to amend the definition of Eligible Employee in the First Schedule to the Trust Deed thereunder.	10-K	000-06920	10.49	12/12/2008
10.8*	Form of Restricted Stock Unit Agreement for use under the amended and restated Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.3	5/27/2021
10.9*	Form of Restricted Stock Unit Agreement for Nonemployee Directors for use under the amended and restated Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.4	5/27/2021
10.10*	Form of Performance Shares Agreement for certain executive officers for use under the Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.3	2/25/2021
10.11*	Form of Restricted Stock Agreement for use under the amended and restated Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.3	8/23/2012

<u>Exhibit No.</u>	<u>Description</u>	<u>Form</u>	<u>Incorporated by Reference</u>		<u>Filing Date</u>
			<u>File No.</u>	<u>Exhibit No.</u>	
10.12*	Applied Materials, Inc. Omnibus Employees' Stock Purchase Plan, effective September 1, 2021	8-K	000-06920	10.2	3/16/2021
10.13*	Offer Letter, dated August 14, 2013, between Applied Materials, Inc. and Gary E. Dickerson	10-Q	000-06920	10.2	8/22/2013
10.14*	Form of Non-Qualified Stock Option Agreement for Employees for use under the Applied Materials, Inc. Employee Stock Incentive Plan, as amended	10-Q	000-06920	10.4	8/22/2013
10.15*	Form of Performance Unit Agreement for use under the Applied Materials, Inc. Employee Stock Incentive Plan, as amended	10-Q	000-06920	10.2	2/20/2014
10.16*	Form of Letter of Understanding for Long-Term Assignment	10-K	000-06920	10.49	12/17/2014
10.17*	Applied Materials, Inc. Applied Incentive Plan, amended and restated effective October 27, 2014	10-Q	000-06920	10.4	2/19/2015
10.18*	Applied Materials, Inc. 2016 Deferred Compensation Plan, as amended and restated on January 1, 2021	10-Q	000-06920	10.2	2/25/2021
10.19*	Applied Materials, Inc. Employee Stock Incentive Plan, as amended and restated effective March 11, 2021	8-K	000-06920	10.1	3/16/2021
10.20*	Applied Materials, Inc. Senior Executive Bonus Plan, as amended and restated effective March 9, 2017	10-Q	000-06920	10.2	5/25/2017
10.21*	Form of Performance Share Unit Agreement for members of the Executive Staff for use under the amended and restated Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.5	5/27/2021
10.22*	Form of Restricted Stock Unit Agreement for members of the Executive Staff for use under the amended and restated Applied Materials, Inc. Employee Stock Incentive Plan	10-Q	000-06920	10.6	5/27/2021
10.23*	Share Purchase Agreement, dated as of June 30, 2019, among Applied Materials, Inc., Kokusai Electric Corporation and KKR HKE Investment L.P.	8-K	000-06920	2.1	7/1/2019
10.24	Term Loan Credit Agreement, dated as of August 19, 2019, among Applied Materials, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and other lenders named therein	8-K	000-06920	10.1	8/21/2019
10.25	Credit Agreement, dated as of February 21, 2020, among Applied Materials, Inc., JPMorgan Chase Bank, N.A., as administrative agent, and other lenders named therein	8-K	000-06920	10.1	2/21/2020
10.26*	Separation Agreement and Release, dated as of July 3, 2020 by and between Steve Ghanayem and Applied Materials, Inc.	8-K	000-06920	10.1	7/9/2020
10.27	Amendment No. 1 to Term Loan Credit Agreement, dated as of December 30, 2020, by and among Applied Materials, Inc., as borrower, JPMorgan Chase Bank, N.A., as administrative agent, and the lenders named therein	8-K	000-06920	10.1	1/4/2021
21	Subsidiaries of Applied Materials, Inc.†				
23	Consent of Independent Registered Public Accounting Firm, KPMG LLP†				
24	Power of Attorney (included on the signature page of this Annual Report on Form 10-K)†				
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002†				
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002†				
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002†				
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002†				
101.INS	XBRL Instance Document†				

<u>Exhibit No.</u>	<u>Description</u>	<u>Form</u>	<u>Incorporated by Reference</u>		<u>Filing Date</u>
			<u>File No.</u>	<u>Exhibit No.</u>	
101.SCH	XBRL Taxonomy Extension Schema Document‡				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document‡				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document‡				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document‡				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document‡				
104	Cover Page Interactive Data File (formatted as inline XBRL)				

* Indicates a management contract or compensatory plan or arrangement, as required by Item 15(a)(3).

† Filed herewith.

‡ Furnished herewith.

SIGNATURES

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

APPLIED MATERIALS, INC.

By: /s/ GARY E. DICKERSON

Gary E. Dickerson

President, Chief Executive Officer

Dated: December 17, 2021

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gary E. Dickerson, Daniel J. Durn and Teri Little, jointly and severally, his or her attorneys-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

	<u>Title</u>	<u>Date</u>
<u> /s/ GARY E. DICKERSON</u> Gary E. Dickerson	President, Chief Executive Officer and Director (Principal Executive Officer)	December 17, 2021
<u> /s/ ROBERT J. HALLIDAY</u> Robert J. Halliday	Senior Vice President, Chief Financial Officer (Principal Financial Officer)	December 17, 2021
<u> /s/ CHARLES W. READ</u> Charles W. Read	Corporate Vice President, Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)	December 17, 2021
<u> /s/ THOMAS J. IANNOTTI</u> Thomas J. Iannotti	Chairman of the Board	December 17, 2021
<u> /s/ RANI BORKAR</u> Rani Borkar	Director	December 17, 2021
<u> /s/ JUDY BRUNER</u> Judy Bruner	Director	December 17, 2021
<u> /s/ XUN CHEN</u> Xun Chen	Director	December 17, 2021
<u> /s/ AART J. DE GEUS</u> Aart J. de Geus	Director	December 17, 2021
<u> /s/ ALEXANDER A. KARSNER</u> Alexander A. Karsner	Director	December 17, 2021
<u> /s/ ADRIANNA C. MA</u> Adrianna C. Ma	Director	December 17, 2021
<u> /s/ YVONNE MCGILL</u> Yvonne McGill	Director	December 17, 2021
<u> /s/ SCOTT A. MCGREGOR</u> Scott A. McGregor	Director	December 17, 2021

SUBSIDIARIES OF APPLIED MATERIALS, INC.

As of October 31, 2021

LEGAL ENTITY NAME	PLACE OF INCORPORATION
AKT Godo Kaisha	(1) Japan
Applied Materials (Holdings)	(2) California
Applied Materials Asia-Pacific, LLC	(3) Delaware
Applied Materials Canada, Inc.	Canada
Applied Materials Holdings S.à r.l.	(4) Luxembourg
Applied Materials India Private Limited	India
Applied Materials Israel Ltd.	(5) Israel
Applied Materials Netherlands B.V.	(6) The Netherlands
Applied Ventures, LLC	(7) (8) Delaware
Semitool, Inc.	Montana
Tango Systems LLC	(9) Delaware
Varian Semiconductor Equipment Associates, Inc.	(10) Delaware
Veranome Biosystems LLC	Delaware
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(1) AKT Godo Kaisha. owns the following subsidiary: AKT America LLC	California
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(2) Applied Materials (Holdings) owns the following subsidiary: Applied Materials UK Limited	California
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(3) Applied Materials Asia-Pacific, LLC owns the following subsidiaries: Applied Materials (China) Holdings, Ltd.	(a) P.R. China
Applied Materials (Shanghai) Co., Ltd.	P.R. China
Applied Materials China, Limited	(b) Hong Kong
Applied Materials Taiwan, Ltd.	Taiwan
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(4) Applied Materials Holdings S.à r.l. owns the following subsidiaries: Applied Materials Luxembourg 2 S.à r.l.	Luxembourg
Applied Materials U.S. Holdings LLC	
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(5) Applied Materials Israel, Ltd. owns the following subsidiary: ICT Integrated Circuit Testing GmbH	Germany
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LEGAL ENTITY NAME**PLACE OF INCORPORATION**

LEGAL ENTITY NAME		PLACE OF INCORPORATION
(6) Applied Materials Netherlands B.V. owns the following subsidiaries: Applied Materials Belgium N.V. Applied Materials Deutschland Holding GmbH Applied Materials France Applied Materials GmbH Applied Materials Ireland Limited Applied Materials Italia S.r.l. Applied Materials Japan, Inc. Applied Materials Korea Ltd. Applied Materials Switzerland S.à r.l. in liquidation Think Silicon Research and Technology Single Member S.A. (Think Silicon S.A.)	(c)	Belgium Germany France Germany Ireland Italy Japan Korea Switzerland Greece
(7) Applied Ventures, LLC owns the following subsidiary: Applied Ventures Investment Management GP I, LLC	(f)	Delaware
(8) Applied Ventures, LLC owns 50% of the following subsidiary: Applied Ventures ITIC Innovation Fund GP, LLC	(g)	Delaware
(9) Tango System LLC owns the following subsidiary: Kunshan Tango Semiconductor Equipment Co., Ltd.		China
(10) Varian Semiconductor Equipment Associates, Inc. owns the following subsidiary: Applied Materials South East Asia Pte. Ltd.	(f) (h)	Singapore
(a) Applied Materials (China) Holdings, Ltd. owns the following subsidiary: Applied Materials (Xi'an), Ltd.		P.R. China
(b) Applied Materials China, Limited. owns the following subsidiaries: Applied Materials (China), Inc. Applied Materials Display Equipment (Shanghai) Co., Ltd. Lin-gang Special Area Applied Materials (Shanghai) Co., Ltd.		P.R. China P.R. China P.R. China
(c) Applied Materials Deutschland Holding GmbH owns the following subsidiaries: Applied Materials GmbH & Co. KG Applied Materials Verwaltung GmbH Mecatronic GmbH	(i)	Germany Germany Germany

LEGAL ENTITY NAME**PLACE OF
INCORPORATION**

(d) Applied Materials Italia S.r.l. owns the following subsidiary: Baccini Kesheng Italia S.r. l.		Italy
(e) Applied Materials Japan, Inc. owns the following subsidiary: Sigmameltec Ltd.		Japan
(f) Applied Ventures Investment Management GP I, LLC and Applied Materials South East Asia Pte. Ltd., collectively own 60% of the following subsidiary: Applied Ventures Innovation Fund I, L.P.		Delaware
(g) Applied Ventures ITIC Innovation Fund GP, LLC and Applied Materials, Inc. collectively own 31% of the following subsidiary: Applied Ventures ITIC Innovation Fund, L.P.		Delaware
(h) Applied Materials South East Asia Pte. Ltd. owns the followings subsidiaries: Applied Materials Europe B.V. Applied Materials Hong Kong Limited Applied Materials Philippines LLC Applied Materials Singapore Technology Pte. Ltd. DMO Systems Limited MDLSoft LLC Perceptive Engineering Limited Sage Design Automation, Ltd.	(j)	The Netherlands Hong Kong Nevada Singapore Cayman Islands
(i) Applied Materials GmbH & Co. KG owns the following subsidiary: Applied Materials WEB Coating GmbH		Germany
(j) Applied Materials Hong Kong Limited owns the following subsidiary: Baccini Kesheng Pte. Ltd.		Singapore
(k) MDLSoft LLC owns the following subsidiary: MDLab S.r. l. in liquidation		Italy
(l) Perceptive Engineering Limited owns the following subsidiaries: Perceptive Engineering Limited Perceptive Engineering Pte. Ltd.		Ireland Singapore
(m) Sage Design Automation, Ltd. owns the following subsidiaries: Sage Design Automation LLC NP Komplete Technologies, B.V.		California The Netherlands

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Applied Materials, Inc.:

We consent to the incorporation by reference in the registration statements on Form S-8 (Nos. 333-35396; 333-116393; 333-143377; 333-157661; 333-181666; 333-211965; 333-225578; 333-256559; and 333-256561) and Form S-3ASR (333-257078) of Applied Materials, Inc. of our report dated December 17, 2021, with respect to the consolidated balance sheets of Applied Materials, Inc. and subsidiaries as of October 31, 2021 and October 25, 2020, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended October 31, 2021, and the related notes (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of October 31, 2021, which report appears in the October 31, 2021 annual report on Form 10-K of Applied Materials, Inc.

Our report dated December 17, 2021 refers to a change in the Company's methods of accounting for leases as of October 28, 2019 and intra-entity transfers of assets other than inventory as of October 29, 2018 due to the adoption of new accounting standards.

/s/ KPMG LLP
KPMG LLP

Santa Clara, California
December 17, 2021

CERTIFICATION

I, Gary E. Dickerson, certify that:

1. I have reviewed this Annual Report on Form 10-K of Applied Materials, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 17, 2021

/s/ GARY E. DICKERSON

Gary E. Dickerson
President, Chief Executive Officer

CERTIFICATION

I, Robert J. Halliday, certify that:

1. I have reviewed this Annual Report on Form 10-K of Applied Materials, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: December 17, 2021

/s/ ROBERT J. HALLIDAY

Robert J. Halliday
Senior Vice President, Chief Financial Officer

SARBANES-OXLEY ACT SECTION 906 CERTIFICATION

In connection with this Annual Report on Form 10-K of Applied Materials, Inc. for the fiscal year ended October 31, 2021, I, Gary E. Dickerson, President, Chief Executive Officer of Applied Materials, Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. this Form 10-K for the fiscal year ended October 31, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in this Form 10-K for the fiscal year ended October 31, 2021 fairly presents, in all material respects, the financial condition and results of operations of Applied Materials, Inc. for the periods presented therein.

Date: December 17, 2021

/s/ GARY E. DICKERSON

Gary E. Dickerson
President, Chief Executive Officer

SARBANES-OXLEY ACT SECTION 906 CERTIFICATION

In connection with this Annual Report on Form 10-K of Applied Materials, Inc. for the fiscal year ended October 31, 2021, I, Robert J. Halliday, Senior Vice President, Chief Financial Officer of Applied Materials, Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. this Form 10-K for the fiscal year ended October 31, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. the information contained in this Form 10-K for the fiscal year ended October 31, 2021 fairly presents, in all material respects, the financial condition and results of operations of Applied Materials, Inc. for the periods presented therein.

Date: December 17, 2021

/s/ ROBERT J. HALLIDAY

Robert J. Halliday

Senior Vice President, Chief Financial Officer