

**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 June 30, 2019
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: 0-12933

LAM RESEARCH CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)
4650 Cushing Parkway, Fremont, California
(Address of principal executive offices)

94-2634797
(I.R.S. Employer Identification No.)
94538
(Zip Code)

Registrant's telephone number, including area code: (510) 572-0200

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, Par Value \$0.001 Per Share	LRCX	The Nasdaq Stock Market (Nasdaq Global Select Market)

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

None
(Title of class)

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

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

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

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

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

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐

Smaller reporting company ☐

Emerging growth company ☐

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

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

The aggregate market value of the Registrant's Common Stock, \$0.001 par value, held by non-affiliates of the Registrant, as of December 23, 2018, the last business day of the most recently completed second fiscal quarter, was \$15,363,329,674. Common Stock held by each officer and director and by each person who owns 5% or more of the outstanding Common Stock has been excluded from this computation based on the assumption that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination of such status for other purposes.

As of August 15, 2019, the Registrant had 144,532,998 outstanding shares of Common Stock.

Documents Incorporated by Reference

Parts of the Registrant's Proxy Statement for the Annual Meeting of Stockholders expected to be held on or about November 5, 2019, are incorporated by reference into Part III of this Form 10-K. Except as expressly incorporated by reference herein, the Registrant's proxy statement shall not be deemed to be part of this report.

LAM RESEARCH CORPORATION
2019 ANNUAL REPORT ON FORM 10-K
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PART I

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

With the exception of historical facts, the statements contained in this discussion are forward-looking statements, which are subject to the safe harbor provisions created by the Private Securities Litigation Reform Act of 1995. Certain, but not all, of the forward-looking statements in this report are specifically identified as forward-looking, by use of phrases and words such as “believe,” “estimated,” “anticipate,” “expect,” “probable,” “intend,” “plan,” “aim,” “may,” “should,” “could,” “would,” “will,” “continue,” and other future-oriented terms. The identification of certain statements as “forward-looking” does not mean that other statements not specifically identified are not forward-looking. Forward-looking statements include but are not limited to statements that relate to: trends and opportunities in the global economic environment and the semiconductor industry; the anticipated levels of, and rates of change in, margins, market share, served addressable market, capital expenditures, research and development expenditures, international sales, revenue (actual and/or deferred), operating expenses and earnings generally; management's plans and objectives for our current and future operations and business focus; volatility in our quarterly results; customer and end user requirements and our ability to satisfy those requirements; customer capital spending and their demand for our products and services, and the reliability of indicators of change in customer spending and demand; the effect of variability in our customers' business plans or demand for our equipment and services; changes in demand for our products and in our market share resulting from, among other things, any changes in our customers' proportion of capital expenditure (with respect to certain technology inflections); hedging transactions; debt or financing arrangements; our competition, and our ability to defend our market share and to gain new market share; our ability to obtain and qualify alternative sources of supply; changes in state, federal and international tax laws, our estimated annual tax rate and the factors that affect our tax rates; anticipated growth or decline in the industry and the total market for wafer fabrication equipment, our growth relative thereto and the resulting impact on us from such growth or decline; the success of joint development and collaboration relationships with customers, suppliers, or others; outsourced activities; the role of component suppliers in our business; our leadership and competency, and our ability to facilitate innovation; our ability to continue to, including the underlying factors that, create sustainable differentiation; the resources invested to comply with evolving standards and the impact of such efforts; legal and regulatory compliance; the estimates we make, and the accruals we record, in order to implement our critical accounting policies (including but not limited to the adequacy of prior tax payments, future tax benefits or liabilities, and the adequacy of our accruals relating to them); our investment portfolio; our access to capital markets; uses of, payments of, and impact of interest rate fluctuations on, our debt; our intention to pay quarterly dividends and the amounts thereof, if any; our ability and intention to repurchase our shares; credit risks; controls and procedures; recognition or amortization of expenses; our ability to manage and grow our cash position; our strategic relevance with our customers; our ability to scale our operations to respond to changes in our business; the value of our patents; the materiality of potential losses arising from legal proceedings; the probability of making payments under our guarantees; and the sufficiency of our financial resources or liquidity to support future business activities (including but not limited to operations, investments, debt service requirements, dividends, and capital expenditures). Such statements are based on current expectations and are subject to risks, uncertainties, and changes in condition, significance, value, and effect, including without limitation those discussed below under the heading “Risk Factors” within Item 1A and elsewhere in this report and other documents we file from time to time with the Securities and Exchange Commission (“SEC”), such as our quarterly reports on Form 10-Q and our current reports on Form 8-K. Such risks, uncertainties, and changes in condition, significance, value, and effect could cause our actual results to differ materially from those expressed in this report and in ways not readily foreseeable. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof and are based on information currently and reasonably known to us. We do not undertake any obligation to release the results of any revisions to these forward-looking statements, which may be made to reflect events or circumstances that occur after the date of this report or to reflect the occurrence or effect of anticipated or unanticipated events.

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Item 1. Business

Incorporated in 1980, Lam Research Corporation (“Lam Research,” “Lam,” “we,” “our,” “us,” or the “Company”) is a Delaware corporation, headquartered in Fremont, California. We maintain a network of facilities throughout Asia, Europe, and the United States in order to meet the needs of our dynamic customer base.

Additional information about Lam Research is available on our website at www.lamresearch.com. The content on any website referred to in this Form 10-K is not a part of or incorporated by reference in this Form 10-K unless expressly noted.

Our Annual Report on Form 10-K, Quarterly Reports on Forms 10-Q, Current Reports on Forms 8-K, Proxy Statements and all other filings we make with the SEC are available on our website, free of charge, as soon as reasonably practical after we file them with or furnish them to the SEC and are also available online at the SEC’s website at www.sec.gov.

The Lam Research logo, Lam Research, and all product and service names used in this report are either registered trademarks or trademarks of Lam Research Corporation or its subsidiaries in the United States and/or other countries. All other marks mentioned herein are the property of their respective holders.

We are a global supplier of innovative wafer fabrication equipment and services to the semiconductor industry. We have built a strong global presence with core competencies in areas like nanoscale applications enablement, chemistry, plasma and fluidics, advanced systems engineering and a broad range of operational disciplines. Our products and services are designed to help our customers build smaller, faster, and better performing devices that are used in a variety of electronic products, including mobile phones, personal computers, servers, wearables, automotive vehicles, and data storage devices. Our vision is to realize full value from natural technology extensions of our Company.

Our customer base includes leading semiconductor memory, foundry, and integrated device manufacturers (“IDMs”) that make products such as non-volatile memory (“NVM”), dynamic random-access memory (“DRAM”), and logic devices. We aim to increase our strategic relevance with our customers by contributing more to their continued success. Our core technical competency is integrating hardware, process, materials, software, and process control enabling results on the wafer.

Semiconductor manufacturing, our customers’ business, involves the complete fabrication of multiple dies or integrated circuits (“ICs”) on a wafer. This involves the repetition of a set of core processes and can require hundreds of individual steps. Fabricating these devices requires highly sophisticated process technologies to integrate an increasing array of new materials with precise control at the atomic scale. Along with meeting technical requirements, wafer processing equipment must deliver high productivity and be cost-effective.

Demand from cloud computing (the “Cloud”), the Internet of Things (“IoT”), and other markets is driving the need for increasingly powerful and cost-efficient semiconductors. At the same time, there are growing technical challenges with traditional two-dimensional scaling. These trends are driving significant inflections in semiconductor manufacturing, such as the increasing importance of vertical scaling strategies like three-dimensional (“3D”) architectures as well as multiple patterning to enable shrinks.

We believe we are in a strong position with our leadership and competency in deposition, etch, and clean to facilitate some of the most significant innovations in semiconductor device manufacturing. Several factors create opportunity for sustainable differentiation for us: (i) our focus on research and development, with several on-going programs relating to sustaining engineering, product and process development, and concept and feasibility; (ii) our ability to effectively leverage cycles of learning from our broad installed base; (iii) our collaborative focus with semi-ecosystem partners; (iv) our ability to identify and invest in the breadth of our product portfolio to meet technology inflections; and (v) our focus on delivering our multi-product solutions with a goal to enhance the value of Lam’s solutions to our customers.

We also address processes for back-end wafer-level packaging (“WLP”), which is an alternative to traditional wire bonding and can offer a smaller form factor, increased interconnect speed and bandwidth, and lower power consumption, among other benefits. In addition, our products are well-suited for related markets that rely on

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semiconductor processes and require production-proven manufacturing capability, such as complementary metal-oxide-semiconductor image sensors (“CIS”) and micro-electromechanical systems (“MEMS”).

Our Customer Support Business Group (“CSBG”) provides products and services to maximize installed equipment performance, predictability, and operational efficiency. We offer a broad range of services to deliver value throughout the lifecycle of our equipment, including customer service, spares, upgrades, and refurbishment of our deposition, etch, and clean products. Many of the technical advances that we introduce in our newest products are also available as upgrades, which provide customers with a cost-effective strategy for extending the performance and capabilities of their existing wafer fabrication lines. Service offerings include addressing productivity needs for our customers including, but not limited to, system uptime or availability optimization, throughput improvements, and defect reduction. Additionally, within CSBG, our Reliant product line offers new and refurbished non-leading-edge products in Clean, Deposition, and Etch markets for those applications that do not require the most advanced wafer processing capability.

Products

Market	Process/Application	Technology	Products
Deposition	Metal Films	Electrochemical Deposition (“ECD”) (Copper & Other)	SABRE® family
		Chemical Vapor Deposition (“CVD”) Atomic Layer Deposition (“ALD”) (Tungsten)	ALTUS® family
	Dielectric Films	Plasma-enhanced CVD (“PECVD”) ALD Gapfill High-Density Plasma CVD (“HDP-CVD”)	VECTOR® family Striker® family SPEED® family
	Film Treatment	Ultraviolet Thermal Processing (“ULTP”)	SOLA® family
Etch	Conductor Etch	Reactive Ion Etch	Kiyo® family, Versys® Metal family
	Dielectric Etch	Reactive Ion Etch	Flex® family
	Through-silicon Via (“TSV”) Etch	Deep Reactive Ion Etch	Syndion® family
Clean	Wafer Cleaning	Wet Clean	EOS®, DV-Prime®, Da Vinci®, SP Series
	Bevel Cleaning	Dry Plasma Clean	Coronus® family
Mass Metrology	Deposition, Etch, Clean	Sub-milligram Mass Measurement	Metryx® Family

Deposition Processes and Product Families

Deposition processes create layers of dielectric (insulating) and metal (conducting) materials used to build a semiconductor device. Depending on the type of material and structure being made, different techniques are employed. Electrochemical deposition creates the copper wiring (interconnect) that links devices in an integrated circuit (“IC” or “chip”). Plating of copper and other metals is also used for TSV and WLP applications. Tiny tungsten connectors and thin barriers are made with the precision of chemical vapor deposition and atomic layer deposition, which adds only a few layers of atoms at a time. Plasma-enhanced CVD, high-density plasma CVD, and ALD are used to form the critical insulating layers that isolate and protect all of these electrical structures. Lastly, post-deposition treatments such as ultraviolet thermal processing are used to improve dielectric film properties.

ALTUS® Product Family

Tungsten deposition is used to form conductive features such as contacts, vias, and wordlines on a chip. These features are small, often narrow, and use only a small amount of metal, so minimizing resistance and achieving complete fill can be difficult. At these nanoscale dimensions, even slight imperfections can impact device

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performance or cause a chip to fail. Our ALTUS® systems combine CVD and ALD technologies to deposit the highly conformal films needed for advanced tungsten metallization applications. The Multi-Station Sequential Deposition architecture enables nucleation layer formation and bulk CVD fill to be performed in the same chamber ("in situ"). PNL®, our ALD technology, is used in the deposition of tungsten nitride films to achieve high step coverage with reduced thickness relative to conventional barrier films.

SABRE® Product Family

Copper deposition lays down the electrical wiring for most semiconductor devices. Even the smallest defect - say, a microscopic pinhole or dust particle - in these conductive structures can impact device performance, from loss of speed to complete failure. The SABRE® ECD product family, which helped pioneer the copper interconnect transition, offers the precision needed for copper damascene manufacturing in logic and memory. System capabilities include cobalt deposition for logic applications and copper deposition directly on various liner materials, which is important for next-generation metallization schemes. For advanced WLP applications, such as forming conductive bumps and redistribution layers, and for filling TSVs, the SABRE® 3D family combines Lam's SABRE Electrofill® technology with additional innovation to deliver the high-quality films needed at high productivity. The modular architecture can be configured with multiple plating and pre/post-treatment cells, providing flexibility to address a variety of packaging applications.

SOLA® Product Family

Dielectric materials designed to meet the insulation requirements of logic chips often have attributes that make them unusually difficult to use. These films are easily damaged and vulnerable to losing some of their insulating capability, which can lead to poor device performance. To enable these applications, some films can be stabilized - and others enhanced to improve device performance - using specialized post-deposition film treatments available with Lam's SOLA® UVTP product family. SOLA® products offer process flexibility through independent control of temperature, wavelength, and intensity at each station of the wafer path, enabled by Multi-Station Sequential Processing architecture.

SPEED® Product Family

Dielectric gapfill processes deposit critical insulation layers between conductive and/or active areas by filling openings of various aspect ratios between conducting lines and between devices. With advanced devices, the structures being filled can be very tall and narrow. As a result, high-quality dielectric films are especially important due to the ever-increasing possibility of cross-talk and device failure. Our SPEED® HDP-CVD products provide a multiple dielectric film solution for high-quality gapfill with industry-leading throughput and reliability. SPEED® products have excellent particle performance, and their design allows large batch sizes between cleans and faster cleans.

Striker® Product Family

The latest memory, logic, and imaging devices require extremely thin, highly conformal dielectric films for continued device performance improvement and scaling. For example, ALD films are critical for spacer-based multiple patterning schemes where the spacers help define critical dimensions, as well as for insulating liners and gapfill in high aspect ratio features, which have little tolerance for voids and even the smallest defect. The Striker® single-wafer ALD products provide dielectric film solutions for these challenging requirements through application-specific material, process and hardware options that deliver film technology and defect performance.

VECTOR® Product Family

Dielectric film deposition processes are used to form some of the most difficult-to-produce insulating layers in a semiconductor device, including those used in the latest transistors and 3D structures. In some applications, these films require dielectric films to be exceptionally smooth and defect free since slight imperfections are multiplied greatly in subsequent layers. Our VECTOR® PECVD products are designed to provide the performance and flexibility needed to create these enabling structures within a wide range of challenging device applications. As a result of its design, VECTOR® produces superior thin film quality, along with exceptional within-wafer and wafer-to-wafer uniformity.

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Etch Processes and Product Families

Etch processes help create chip features by selectively removing both dielectric (insulating) and metal (conducting) materials that have been added during deposition. These processes involve fabricating increasingly small, complex, and narrow features using many types of materials. The primary technology, reactive ion etch, bombards the wafer surface with ions (charged particles) to remove material. For the smallest features, atomic-layer etching ("ALE") removes a few atomic layers of material at a time. While conductor etch processes precisely shape critical electrical components like transistors, dielectric etch forms the insulating structures that protect conducting parts. Etch processes also create the tall, column-like features used, for example, in TSVs that link chips together and in MEMS.

Flex® Product Family

Dielectric etch carves patterns in insulating materials to create barriers between the electrically conductive parts of a semiconductor device. For advanced devices, these structures can be extremely tall and thin and involve complex, sensitive materials. Slight deviations from the target feature profile - even at the atomic level - can negatively affect electrical properties of the device. To precisely create these challenging structures, our Flex® product family offers differentiated technologies and application-focused capabilities for critical dielectric etch applications. Uniformity, repeatability, and tunability are enabled by a unique multi-frequency, small-volume, confined plasma design. Flex® offers in situ multi-step etch and continuous plasma capability that delivers high productivity with low defectivity.

Kiyo® Product Family

Conductor etch helps shape the electrically active materials used in the parts of a semiconductor device. Even a slight variation in these miniature structures can create an electrical defect that impacts device performance. In fact, these structures are so tiny that etch processes are pushing the boundaries of the basic laws of physics and chemistry. Our Kiyo® product family delivers the high-performance capabilities needed to precisely and consistently form these conductive features with high productivity. Proprietary Hydra technology in Kiyo® products improves critical dimension ("CD") uniformity by correcting for incoming pattern variability, and atomic-scale variability control with production-worthy throughput is achieved with plasma-enhanced ALE capability.

Syndion® Product Family

Plasma etch processes used to remove silicon and other materials deep into the wafer are collectively referred to as deep silicon etch. These may be deep trenches for CMOS image sensor pixel isolation, trenches for power and other devices, TSVs, and other high aspect ratio features. These are created by etching through multiple materials sequentially, where each new material involves a change in the etch process. The Syndion® etch product family is optimized for deep silicon etch, providing the fast process switching with depth and cross-wafer uniformity control required to achieve precision etch results. The systems support both conventional single-step etch and rapidly alternating process, which minimizes damage and delivers precise depth uniformity.

Versys® Metal Product Family

Metal etch processes play a key role in connecting the individual components that form an IC, such as forming wires and electrical connections. These processes can also be used to drill through metal hardmasks that pattern features too small for conventional masks, allowing continued shrinking of feature dimensions. To enable these critical etch steps, the Versys® Metal product family provides high-productivity capability on a flexible platform. Superior CD and profile uniformity are enabled by a symmetrical chamber design with independent process tuning features.

Clean Processes and Product Families

Clean techniques are used between manufacturing steps to clear away particles, contaminants, residues and other unwanted material that could later lead to defects and to prepare the wafer surface for subsequent processing. Wet processing technologies can be used for wafer cleaning and etch applications. Plasma bevel cleaning is used to enhance die yield by removing unwanted materials from the wafer's edge that could impact the device area.

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Coronus® Product Family

Bevel cleaning removes unwanted masks, residues, and films from the edge of a wafer between manufacturing steps. If not cleaned, these materials become defect sources. For instance, they can flake off and re-deposit on the device area during subsequent processes. Even a single particle that lands on a critical part of a device can ruin the entire chip. By inserting bevel clean processes at strategic points, these potential defect sources can be eliminated and more functional chips produced. By combining the precise control and flexibility of plasma with technology that protects the active die area, the Coronus® bevel clean family cleans the wafer's edge to enhance die yield. The systems provide active die area protection by using plasma processing with proprietary confinement technology. Applications include post-etch, pre- and post-deposition, pre-lithography, and metal film removal to prevent arcing during plasma etch or deposition steps.

DV-Prime®, Da Vinci®, EOS®, and SP Series Product Families

Wafer cleaning is performed repeatedly during semiconductor device manufacturing and is a critical process that affects product yield and reliability. Unwanted microscopic materials - some no bigger than the tiny structures themselves - need to be cleaned effectively. At the same time, these processes must selectively remove residues that are chemically similar to the device films. For advanced WLP, the wet clean steps used between processes that form the package and external wiring have surprisingly complex requirements. These processes are called on to completely remove specific materials and leave other fragile structures undisturbed. In IoT products that include power devices, MEMS and image sensors, there is a unique requirement for wafer backside wet etch to uniformly thin the silicon wafer while protecting the device side of the wafer.

Based on our pioneering single-wafer spin technology, the DV-Prime® and Da Vinci® products provide the process flexibility needed with high productivity to address a wide range of wafer cleaning steps throughout the manufacturing process flow. As the latest of Lam's wet clean products, EOS® delivers exceptionally low on-wafer defectivity and high throughput to address progressively demanding wafer cleaning applications, including emerging 3D structures. With a broad range of process capability, our SP Series products deliver cost-efficient, production-proven wet clean and silicon wet etch solutions for challenging WLP and IoT applications.

Mass Metrology Processes and Product

Mass metrology measures the change in mass following deposition, etch, and clean processes to enable monitoring and control of these often-repeated core manufacturing steps. For design components like thin film stacks, high aspect-ratio structures, and complex 3D architectures, optical techniques are limited in their ability to measure accurately the thick, deep, or otherwise visually obscured features. Measuring the change in mass for these applications provides a straightforward high-precision solution for monitoring and control of the critical features in advanced device structures, where there is often little tolerance for variation. Our line of high-precision mass metrology systems provides in-line monitoring and control of deposition, etch, and clean steps in real time - recording minute changes in mass to enable advanced detection of potential process excursions.

Metryx® Product Family

Metryx® mass metrology systems provide high precision in-line mass measurement for semiconductor wafer manufacturing. Nearly all semiconductor processes (e.g., deposition, etch and clean) either add or remove materials from the wafer. Measuring mass change of a wafer before and after a process therefore is a simple and direct means of monitoring and controlling the process. It is widely used to identify production wafer trends and excursions as they occur, allowing corrections to be implemented quickly to prevent further yield loss. It is particularly useful for ultra-thin, ultra-thick and opaque films, and complex 3D geometries of newer chip designs, where traditional metrology and inspection techniques are ineffective.

The Metryx® mass metrology systems are available as both platform-integrated modules and as stand-alone systems. Key applications include high aspect ratio etch (DRAM cell, 3D NAND channel hole, carbon mask open), conformal and ALD sidewall deposition, horizontal processing (recess etch, fill), film density monitoring, and wafer cleaning/polymer removal.

Fiscal Periods Presented

All references to fiscal years apply to our fiscal years, which ended June 30, 2019, June 24, 2018, and June 25, 2017.

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Research and Development

The market for semiconductor capital equipment is characterized by rapid technological change and product innovation. Our ability to achieve and maintain our competitive advantage depends in part on our continued and timely development of new products and enhancements to existing products. Accordingly, we devote a significant portion of our personnel and financial resources to research and development ("R&D") programs and seek to maintain close and responsive relationships with our customers and suppliers.

We believe current challenges for customers at various points in the semiconductor manufacturing process present opportunities for us. We expect to continue to make substantial investments in R&D to meet our customers' product needs, support our growth strategy and enhance our competitive position.

Marketing, Sales, and Service

Our marketing, sales, and service efforts are focused on building long-term relationships with our customers and targeting product and service solutions designed to meet their needs. These efforts are supported by a team of product marketing and sales professionals as well as equipment and process engineers who work closely with individual customers to develop solutions for their wafer processing needs. We maintain ongoing service relationships with our customers and have an extensive network of service engineers in place throughout the United States, China, Europe, Japan, Korea, Southeast Asia, and Taiwan. We believe that comprehensive support programs and close working relationships with customers are essential to maintaining high customer satisfaction and our competitiveness in the marketplace.

We provide standard warranties for our systems. The warranty provides that systems will be free from defects in material and workmanship and will conform to agreed-upon specifications. The warranty is limited to repair of the defect or replacement with new or like-new equivalent goods and is valid when the buyer provides prompt notification within the warranty period of the claimed defect or non-conformity and also makes the items available for inspection and repair. We also offer extended warranty packages to our customers to purchase as desired.

International Sales

A significant portion of our sales and operations occur outside the United States and, therefore, may be subject to certain risks, including but not limited to tariffs and other barriers; difficulties in staffing and managing non-U.S. operations; adverse tax consequences; foreign currency exchange rate fluctuations; changes in currency controls; compliance with U.S. and international laws and regulations, including U.S. export restrictions; and economic and political conditions. Any of these factors may have a material adverse effect on our business, financial position, and results of operations and cash flows. For geographical reporting, revenue is attributed to the geographic location in which the customers' facilities are located. Refer to Note 19 of our Consolidated Financial Statements, included in Item 8 of this report, for the attribution of revenue by geographic region.

Long-lived Assets

Refer to Note 19 of our Consolidated Financial Statements, included in Item 8 of this report, for information concerning the geographic locations of long-lived assets.

Customers

Our customers include all of the world's leading semiconductor manufacturers. Customers continue to establish joint ventures, alliances, and licensing arrangements which have the potential to positively or negatively impact our competitive position and market opportunities. Customers accounting for greater than 10% of total revenues in fiscal year 2019 included Micron Technology, Inc.; Samsung Electronics Company, Ltd.; SK hynix Inc.; and Toshiba, Inc. Customers accounting for greater than 10% of total revenues in fiscal year 2018 included Intel Corporation; Micron Technology, Inc.; Samsung Electronics Company, Ltd.; SK hynix Inc.; and Toshiba, Inc. Customers accounting for greater than 10% of total revenues in fiscal year 2017 included Micron Technology, Inc.; Samsung Electronics Company, Ltd.; SK hynix Inc.; Taiwan Semiconductor Manufacturing Company, Ltd.; and Toshiba, Inc.

A material reduction in orders from our customers could adversely affect our results of operations and projected financial condition. Our business depends upon the expenditures of semiconductor manufacturers. Semiconductor manufacturers' businesses, in turn, depend on many factors, including their economic capability,

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the current and anticipated market demand for ICs, and the availability of equipment capacity to support that demand.

Backlog

In general, we schedule production of our systems based upon our customers' delivery requirements and forecasts. In order for a system to be included in our backlog, the following conditions must be met: (1) we have received a written customer request that has been accepted, (2) we have an agreement on prices and product specifications, and (3) there is a scheduled shipment within the next 12 months. In order for spares and services to be included in our backlog, the following conditions must be met: (1) we have received a written customer request that has been accepted and (2) delivery of products or provision of services is anticipated within the next 12 months. Where specific spare parts and customer service purchase contracts do not contain discrete delivery dates, we use volume estimates at the contract price and over the contract period, not to exceed 12 months, in calculating backlog amounts. Our policy is to revise our backlog for order cancellations and to make adjustments to reflect, among other things, changes in spares volume estimates and customer delivery date changes. As of June 30, 2019, and June 24, 2018, our backlog was \$1.6 billion and \$2.0 billion, respectively. Generally, orders for our products and services are subject to cancellation by our customers with limited penalties. Because some orders are received and shipped in the same quarter and because customers may change delivery dates and cancel orders, our backlog at any particular date is not necessarily indicative of business volumes or actual revenue levels for succeeding periods.

Manufacturing

Our manufacturing operations mainly consist of assembling and testing components, sub-assemblies, and modules that are then integrated into finished systems prior to shipment to or at the location of our customers. The assembly and testing of our products is conducted predominately in cleanroom environments.

We have agreements with third parties to outsource certain aspects of our manufacturing, production warehousing, and logistics functions. These outsourcing contracts provide us more flexibility to scale our operations up or down in a timely and cost-effective manner, enabling us to respond quickly to any changes in our business. We believe that we have selected reputable providers and have secured their performance on terms documented in written contracts. However, it is possible that one or more of these providers could fail to perform as we expect, and such failure could have an adverse impact on our business and have a negative effect on our operating results and financial condition. Overall, we believe we have effective mechanisms to manage risks associated with our outsourcing relationships. Refer to Note 16 of our Consolidated Financial Statements, included in Item 8 of this report, for further information concerning our outsourcing commitments, reported as a component of purchase obligations.

Certain components and sub-assemblies that we include in our products may only be obtained from a single supplier. We believe that, in many cases, we could obtain and qualify alternative sources to supply these products. Nevertheless, any prolonged inability to obtain these components could have an adverse effect on our operating results and could unfavorably impact our customer relationships.

Environmental Matters

We are subject to a variety of governmental regulations related to the management of hazardous materials that we use in our business operations. We are currently not aware of any pending notices of violations, fines, lawsuits, or investigations arising from environmental matters that would have a material effect on our business. We believe that we are generally in compliance with these regulations and that we have obtained (or will obtain or are otherwise addressing) all necessary environmental permits to conduct our business. Nevertheless, the failure to comply with present or future regulations could result in fines being imposed on us, require us to suspend production or cease operations, or cause our customers to not accept our products. These regulations could require us to alter our current operations, to acquire significant additional equipment, or to incur substantial other expenses to comply with environmental regulations. Our failure to control the use, sale, transport, or disposal of hazardous substances could subject us to future liabilities.

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Employees

As of August 15, 2019, we had approximately 10,700 regular employees globally. Although we have employment-related agreements with a number of key employees, these agreements do not guarantee continued service. Each of our employees is required to comply with our policies relating to maintaining the confidentiality of our non-public information. As noted previously, we outsource certain aspects of our manufacturing, field service, production warehousing, and logistics functions to provide us more flexibility to scale our operations up or down in a timely and cost-effective manner, enabling us to respond quickly to any changes in our business.

In the semiconductor and semiconductor capital equipment industries, competition for highly skilled employees is intense. Our future success depends, to a significant extent, upon our continued ability to attract and retain qualified employees, particularly in the R&D and customer support functions.

Competition

The semiconductor capital equipment industry is characterized by rapid change and is highly competitive throughout the world. To compete effectively, we invest significant financial resources targeted to strengthen and enhance our product and services portfolio and to maintain customer service and support locations globally. Semiconductor manufacturers evaluate capital equipment suppliers in many areas, including but not limited to process performance, productivity, defect control, customer support, and overall cost of ownership, which can be affected by many factors such as equipment design, reliability, software advancements, and similar factors. Our ability to succeed in the marketplace depends upon our ability to maintain existing products and introduce product enhancements and new products that meet customer requirements on a timely basis. In addition, semiconductor manufacturers must make a substantial investment to qualify and integrate new capital equipment into semiconductor production lines. As a result, once a semiconductor manufacturer has selected a particular supplier's equipment and qualified it for production, the manufacturer generally maintains that selection for that specific production application and technology node as long as the supplier's products demonstrate performance to specification in the installed base. Accordingly, we may experience difficulty in selling to a given customer if that customer has qualified a competitor's equipment. We must also continue to meet the expectations of our installed base of customers through the delivery of high-quality and cost-efficient spare parts in the presence of competition from third-party spare parts providers.

We face significant competition with all of our products and services. Our primary competitor in the dielectric and metals deposition market is Applied Materials, Inc. For ALD and PECVD, we also compete against ASM International and Wonik IPS. In the etch market, our primary competitors are Applied Materials, Inc.; Hitachi, Ltd.; and Tokyo Electron, Ltd., and our primary competitors in the wet clean market are Screen Holding Co., Ltd.; Semes Co., Ltd.; and Tokyo Electron, Ltd.

We face competition from a number of established and emerging companies in the industry. We expect our competitors to continue to improve the design and performance of their current products and processes, to introduce new products and processes with enhanced price/performance characteristics, and to provide more comprehensive offerings of products. If our competitors make acquisitions or enter into strategic relationships with leading semiconductor manufacturers, or other entities, covering products similar to those we sell, our ability to sell our products to those customers could be adversely affected. Strategic investments to encourage local semiconductor manufacturing and supply chain in China could increase competition from domestic equipment manufacturers in China. There can be no assurance that we will continue to compete successfully in the future.

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Patents and Licenses

Our policy is to seek patents on inventions relating to new or enhanced products and processes developed as part of our ongoing research, engineering, manufacturing, and support activities. We currently hold a number of U.S. and foreign patents covering various aspects of our products and processes. Our patents, which cover material aspects of our past and present core products, have current durations ranging from approximately one to twenty years. We believe that, although the patents we own and may obtain in the future will be of value, they alone will not determine our success. Our success depends principally upon our research and development, engineering, marketing, support, and delivery skills. However, in the absence of patent protection, we may be vulnerable to competitors who attempt to imitate our products, manufacturing techniques, and processes. In addition, other companies and inventors may receive patents that contain claims applicable or similar to our products and processes. The sale of products covered by patents of others could require licenses that may not be available on terms acceptable to us, or at all. For further discussion of legal matters, see Item 3, "Legal Proceedings," of this report.

Information about our Executive Officers

As of August 15, 2019, the executive officers of Lam Research were as follows:

Name	Age	Title
Timothy M. Archer	52	President and Chief Executive Officer
Douglas R. Bettinger	52	Executive Vice President, Chief Financial Officer, and Chief Accounting Officer
Richard A. Gottscho	67	Executive Vice President, Chief Technology Officer
Kevin D. Jennings	54	Senior Vice President, Global Operations
Patrick J. Lord	53	Senior Vice President and General Manager, CSBG
Scott G. Meikle	57	Senior Vice President, Global Customer Operations
Sarah A. O'Dowd	69	Senior Vice President, Chief Legal Officer and Secretary
Vahid Vahedi	53	Senior Vice President and General Manager, Etch Business Unit
Seshasayee (Sesha) Varadarajan	44	Senior Vice President and General Manager, Deposition Business Unit

Timothy M. Archer has been our president and chief executive officer since December 2018. Prior to this, he served as our president and chief operating officer, from January 2018 to November 2018. Mr. Archer joined us in June 2012 as our executive vice president, chief operating officer. Prior to joining us, he spent 18 years at Novellus Systems, Inc., ("Novellus") in various technology development and business leadership roles, including most recently as chief operating officer from January 2011 to June 2012; executive vice president of Worldwide Sales, Marketing, and Customer Satisfaction from September 2009 to January 2011; and executive vice president of the PECVD and Electrofill Business Units from November 2008 to September 2009. His tenure at Novellus also included assignments as senior director of technology for Novellus Systems Japan from 1999 to 2001 and senior director of technology for the Electrofill Business Unit from April 2001 to April 2002. He started his career in 1989 at Tektronix, where he was responsible for process development for high-speed bipolar ICs. Mr. Archer completed the Program for Management Development at the Harvard Graduate School of Business and earned a B.S. degree in applied physics from the California Institute of Technology.

Douglas R. Bettinger is our executive vice president, chief financial officer, and chief accounting officer with responsibility for Finance, Tax, Treasury, Information Technology, and Investor Relations. Prior to joining the Company in 2013, Mr. Bettinger served as senior vice president and chief financial officer of Avago Technologies from 2008 to 2013. From 2007 to 2008, he served as vice president of Finance and corporate controller at Xilinx, Inc., and from 2004 to 2007, he was chief financial officer at 24/7 Customer, a privately held company. Mr. Bettinger worked at Intel Corporation from 1993 to 2004, where he held several senior-level finance positions, including corporate planning and reporting controller and Malaysia site operations controller. Mr. Bettinger earned an M.B.A. degree in finance from the University of Michigan and a B.S. degree in economics from the University of Wisconsin in Madison.

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Richard A. Gottscho is our executive vice president, chief technology officer, a position he has held since May 2017. Dr. Gottscho previously served as executive vice president, Global Products Group beginning in August 2010; and group vice president and general manager, Etch Businesses beginning in March 2007. He joined us in January 1996 and has held various director and vice president roles spanning across deposition, etch, and clean products. Prior to joining us, he was a member of Bell Laboratories for 15 years, where he headed research departments in electronics materials, electronics packaging, and flat panel displays. In 2016, Dr. Gottscho was elected to the U.S. National Academy of Engineering. He is the recipient of many awards, including the American Vacuum Society's Peter Mark Memorial Award, the Plasma Science and Technology Division Prize, the Dry Process Symposium Nishizawa Award, and the Tegal Thinker Award. He is a fellow of the American Physical and American Vacuum Societies. He has authored numerous papers, patents, and lectures, and has served on editorial boards of peer-reviewed technical publications and program committees for major conferences in plasma science and engineering. He served as vice-chair of a National Research Council study on plasma science. Dr. Gottscho earned Ph.D. and B.S. degrees in physical chemistry from the Massachusetts Institute of Technology and Pennsylvania State University, respectively.

Kevin D. Jennings is our senior vice president, global operations, a position he has held since February 2018 in which he is responsible for worldwide manufacturing, supply chain, logistics, and facilities. Prior to that time, he had been group vice president, global operations beginning in June 2013; and vice president, strategic development, beginning in June 2012. Prior to our acquisition of Novellus in June 2012, he held a variety of executive roles covering engineering, business development, marketing, product line general management, and operations at Novellus. Mr. Jennings has over 30 years of experience in the semiconductor capital equipment industry that includes KLA-Tencor and began in 1986 at Applied Materials. He earned an M.B.A. from Pepperdine University and an undergraduate degree in electrical engineering technology from DeVry University.

Patrick J. Lord is our senior vice president and general manager of the Customer Support Business Group, a position he has held since December 2016. Previously, Dr. Lord held the position of group vice president and deputy general manager of the Global Products Group from September 2013 to December 2016. He served as the head of the Direct Metals, GapFill, Surface Integrity Group, and Integrated Metals ("DGS") Business Units between June 2012 and September 2013. Prior to our acquisition of Novellus in June 2012, Dr. Lord was senior vice president and general manager of the DGS Business Units at Novellus. Additionally, Dr. Lord held the position of senior vice president of Business Development and Strategic Planning. He joined Novellus in 2001 and held a number of other positions, including executive vice president and general manager of the CMP Business Unit, senior director of Business Development, senior director of Strategic Marketing, and acting vice president of Corporate Marketing. Before joining Novellus, Dr. Lord spent six years at KLA-Tencor Corporation ("KLA-Tencor") in various product marketing and management roles. He earned his Ph.D., M.S., and B.S. degrees in mechanical engineering from the Massachusetts Institute of Technology.

Scott G. Meikle is our senior vice president of Global Customer Operations, a position he has held since September 2017. Before joining us, he was an independent consultant for a year and director, special projects at Micron Technology, Inc. for seven months. Prior to that time, he spent over five and a half years at Inotera Memories, Inc., most recently as its president from August 2012 to December 2015. Dr. Meikle started his career in process R&D and advanced to various leadership roles in business operations across multiple geographies for Micron Technology, and has over 25 years of experience in the memory devices sector of the semiconductor industry. He earned his Ph.D. and M. Eng. degrees in engineering physics from Shizuoka University and McMaster University, respectively, and a B.S. degree in physics from the University of Calgary.

Sarah A. O'Dowd is our senior vice president, chief legal officer and secretary. She joined us in September 2008 as group vice president and chief legal officer, responsible for general legal matters, intellectual property and ethics, and compliance. In addition to her Legal function, in April 2009 she was appointed vice president of Human Resources and served in this dual capacity through May 2012. Prior to joining us, she was vice president and general counsel for FibroGen, Inc., from February 2007 until September 2008. Until February 2007, Ms. O'Dowd was a shareholder in the law firm of Heller Ehrman LLP for more than 20 years, practicing in the areas of corporate securities, governance, and mergers and acquisitions for a variety of clients, principally publicly traded high-technology companies. She served in a variety of leadership and management roles at Heller Ehrman, including managing partner of the Silicon Valley and San Diego offices, member of the firm's Policy Committee, and, as head of the firm's business practice groups, a member of the firm's Executive Committee. Ms. O'Dowd earned her J.D. and M.A. degrees in communications from Stanford Law School and Stanford University, respectively, and her B.A. degree in mathematics from Immaculata College.

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Vahid Vahedi is our senior vice president and general manager of the Etch Business Unit, a position he has held since February 2018. Prior to that time, he was group vice president of the Etch product group since March 2012. Previously, he served as vice president of Etch Business Product Management and Marketing, vice president of Dielectric Etch, vice president of Conductor and 3DIC Etch, and director of Conductor Etch Technology Development. He joined us in 1995. He earned his Ph.D., M.S., and B.S. degrees in electrical engineering and computer science from the University of California at Berkeley.

Sesha Varadarajan is our senior vice president and general manager of the Deposition Business Unit, a position he has held since February 2018. Prior that time, he was group vice president of the Deposition product group since September 2013. Previously, he served as the head of the PECVD/Electrofill Business Unit between June 2012 and September 2013. Prior to our acquisition of Novellus in June 2012, Mr. Varadarajan was senior vice president and general manager of Novellus' PECVD and Electrofill Business Units. He joined Novellus in 1999 as a process engineer with the Electrofill Business Unit and held various roles in that business unit before being appointed director of technology in 2004. Between 2006 and 2008, he worked in the PECVD Business Unit, initially as director of technology, until being promoted to product general manager. In 2009, he returned to the Electrofill Business Unit as vice president and general manager. In mid-2011, he was promoted to senior vice president and general manager, where he was also responsible for the PECVD Business Unit. Mr. Varadarajan earned an M.S. degree in manufacturing engineering and material science from Boston University and a B.S. degree in mechanical engineering from the University of Mysore.

Item 1A. Risk Factors

In addition to the other information in this Annual Report on Form 10-K ("2019 Form 10-K"), the following risk factors should be carefully considered in evaluating us and our business because such factors may significantly impact our business, operating results, and financial condition. As a result of these risk factors, as well as other risks discussed in our other SEC filings, our actual results could differ materially from those projected in any forward-looking statements. No priority or significance is intended by, nor should be attached to, the order in which the risk factors appear.

The Semiconductor Capital Equipment Industry Is Subject to Variability and Periods of Rapid Growth or Decline; We Therefore Face Risks Related to Our Strategic Resource Allocation Decisions

The semiconductor capital equipment industry has historically been characterized by rapid changes in demand. The industry environment has moved toward being more characterized by variability across segments and customers, accentuated by consolidation within the industry. Variability in our customers' business plans may lead to changes in demand for our equipment and services, which could negatively impact our results. The variability in our customers' investments during any particular period is dependent on several factors, including but not limited to electronics demand, economic conditions (both general and in the semiconductor and electronics industries), industry supply and demand, prices for semiconductors, and our customers' ability to develop and manufacture increasingly complex and costly semiconductor devices. The changes in demand may require our management to adjust spending and other resources allocated to operating activities.

During periods of rapid growth or decline in demand for our products and services, we face significant challenges in maintaining adequate financial and business controls, management processes, information systems, and procedures for training, assimilating, and managing our workforce, and in appropriately sizing our supply chain infrastructure and facilities, work force, and other components of our business on a timely basis. If we do not adequately meet these challenges during periods of increasing or declining demand, our gross margins and earnings may be negatively impacted.

We continuously reassess our strategic resource allocation choices in response to the changing business environment. If we do not adequately adapt to the changing business environment, we may lack the infrastructure and resources to scale up our business to meet customer expectations and compete successfully during a period of growth, or we may expand our capacity too rapidly and/or beyond what is appropriate for the actual demand environment, resulting in excess fixed costs.

Especially during transitional periods, resource allocation decisions can have a significant impact on our future performance, particularly if we have not accurately anticipated industry changes. Our success will depend, to a

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significant extent, on the ability of our executive officers and other members of our senior management to identify and respond to these challenges effectively.

Future Declines in the Semiconductor Industry, and the Overall World Economic Conditions on Which It Is Significantly Dependent, Could Have a Material Adverse Impact on Our Results of Operations and Financial Condition

Our business depends on the capital equipment expenditures of semiconductor manufacturers, which in turn depend on the current and anticipated market demand for integrated circuits. With the consolidation of customers within the industry, the semiconductor capital equipment market may experience rapid changes in demand driven both by changes in the market generally and the plans and requirements of particular customers. The economic, political, and business conditions occurring nationally, globally, or in any of our key sales regions, which are often unpredictable, have historically impacted customer demand for our products and normal commercial relationships with our customers, suppliers, and creditors. Additionally, in times of economic uncertainty, our customers' budgets for our products, or their ability to access credit to purchase them, could be adversely affected. This would limit their ability to purchase our products and services. As a result, changing economic, political or business conditions can cause material adverse changes to our results of operations and financial condition, including but not limited to:

- a decline in demand for our products or services;
- an increase in reserves on accounts receivable due to our customers' inability to pay us;
- an increase in reserves on inventory balances due to excess or obsolete inventory as a result of our inability to sell such inventory;
- valuation allowances on deferred tax assets;
- restructuring charges;
- asset impairments including the potential impairment of goodwill and other intangible assets;
- a decline in the value of our investments;
- exposure to claims from our suppliers for payment on inventory that is ordered in anticipation of customer purchases that do not come to fruition;
- a decline in the value of certain facilities we lease to less than our residual value guarantee with the lessor; and
- challenges maintaining reliable and uninterrupted sources of supply.

Fluctuating levels of investment by semiconductor manufacturers may materially affect our aggregate shipments, revenues, operating results, and earnings. Where appropriate, we will attempt to respond to these fluctuations with cost management programs aimed at aligning our expenditures with anticipated revenue streams, which sometimes result in restructuring charges. Even during periods of reduced revenues, we must continue to invest in R&D and maintain extensive ongoing worldwide customer service and support capabilities to remain competitive, which may temporarily harm our profitability and other financial results.

Our Revenues and Operating Results Are Variable

Our revenues and operating results may fluctuate significantly from quarter to quarter or year to year due to a number of factors, not all of which are in our control. We manage our expense levels based in part on our expectations of future revenues. Because our operating expenses are based in part on anticipated future revenues, and a certain amount of those expenses are relatively fixed, a change in the timing of recognition of revenue and/or the level of gross profit from a small number of transactions can unfavorably affect operating results in a particular quarter or year. Factors that may cause our financial results to fluctuate unpredictably include but are not limited to:

- economic conditions in the electronics and semiconductor industries in general and specifically the semiconductor equipment industry;
- the size and timing of orders from customers;
- consolidation of the customer base, which may result in the investment decisions of one customer or market having a significant effect on demand for our products or services;
- procurement shortages;
- the failure of our suppliers or outsource providers to perform their obligations in a manner consistent with our expectations;
- manufacturing difficulties;

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- customer cancellations or delays in shipments, installations, and/or customer acceptances;
- the extent that customers continue to purchase and use our products and services in their business;
- our customers' reuse of existing and installed products, to the extent that such reuse decreases their need to purchase new products or services;
- changes in average selling prices, customer mix, and product mix;
- our ability to develop, introduce, and market new, enhanced, and competitive products in a timely manner;
- our competitors' introduction of new products;
- legal or technical challenges to our products and technologies;
- transportation, communication, demand, information technology, or supply disruptions based on factors outside our control, such as strikes, acts of God, wars, terrorist activities, and natural or man-made disasters;
- legal, tax, accounting, or regulatory changes (including but not limited to change in import/export regulations and tariffs) or changes in the interpretation or enforcement of existing requirements;
- changes in our estimated effective tax rate;
- foreign currency exchange rate fluctuations; and
- the dilutive impact of our Convertible Notes (as defined below) on our earnings per share.

We May Incur Impairments to Goodwill or Long-lived Assets

We review our long-lived assets, including goodwill and intangible assets identified in business combinations and other intangible assets, for impairment annually or whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Negative industry or economic trends, including reduced market prices of our Common Stock, reduced estimates of future cash flows, disruptions to our business, slower growth rates, or lack of growth in our relevant business units, could lead to impairment charges against our long-lived assets, including goodwill and other intangible assets. If, in any period, our stock price decreases to the point where our fair value, as determined by our market capitalization, is less than the book value of our assets, this could also indicate a potential impairment, and we may be required to record an impairment charge in that period, which could adversely affect our result of operations.

Our valuation methodology for assessing impairment requires management to make judgments and assumptions based on historical experience and to rely heavily on projections of future operating performance. We operate in a highly competitive environment and projections of future operating results and cash flows may vary significantly from actual results. Additionally, if our analysis indicates potential impairment to goodwill in one or more of our business units, we may be required to record additional charges to earnings in our financial statements, which could negatively affect our results of operations.

Our Leverage and Debt Service Obligations and Potential Note Conversion or Related Hedging Activities May Adversely Affect Our Financial Condition, Results of Operations, and Earnings per Share

We have \$4.5 billion in aggregate principal amount of senior unsecured notes, convertible notes, and commercial paper instruments outstanding. Additionally, we have funding available to us under our \$1.25 billion commercial paper program and our \$1.25 billion revolving credit facility, which serves as a backstop to our commercial paper program. Our revolving credit facility also includes an option to increase the amount up to an additional \$600 million, for a potential total commitment of \$1.85 billion. We may, in the future, decide to enter into additional debt arrangements.

In addition, we have entered, and in the future may enter, into derivative instrument arrangements to hedge against the variability of cash flows due to changes in the benchmark interest rate of fixed rate debt. We could be exposed to losses in the event of nonperformance by the counterparties to our derivative instruments.

Our indebtedness could have adverse consequences, including:

- risk associated with any inability to satisfy our obligations;
- a portion of our cash flows that may have to be dedicated to interest and principal payments and may not be available for operations, working capital, capital expenditures, expansion, acquisitions, or general corporate or other purposes; and
- impairing our ability to obtain additional financing in the future.

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Our ability to meet our expenses and debt obligations will depend on our future performance, which will be affected by financial, business, economic, regulatory, and other factors. Furthermore, our operations may not generate sufficient cash flows, to enable us to meet our expenses and service our debt. As a result, we may need to enter into new financing arrangements to obtain the necessary funds. If we determine it is necessary to seek additional funding for any reason, we may not be able to obtain such funding or, if funding is available, obtain it on acceptable terms. If we fail to make a payment on our debt, we could be in default on such debt, and this default could cause us to be in default on our other outstanding indebtedness.

Conversion of our Convertible Notes may cause dilution to our stockholders and to our earnings per share. The number of shares of our Common Stock into which the Convertible Notes are convertible may be adjusted from time to time, including increases in such rates as a result of dividends that we pay to our stockholders. Upon conversion of any Convertible Notes, we will deliver cash in the amount of the principal amount of the Convertible Notes and, with respect to any excess conversion value greater than the principal amount of the Convertible Notes, shares of our Common Stock, which would result in dilution to our stockholders. Prior to the maturity of the Convertible Notes, if the price of our Common Stock exceeds the conversion price, U.S. generally accepted accounting principles require that we report an increase in diluted share count, which would result in lower reported earnings per share. The price of our Common Stock could also be affected by sales of our Common Stock by investors who view the Convertible Notes as a more attractive means of equity participation in our company and also by hedging activity that may develop involving our Common Stock by holders of the Convertible Notes.

Our Credit Agreements Contain Covenant Restrictions That May Limit Our Ability to Operate Our Business

We may be unable to respond to changes in business and economic conditions, engage in transactions that might otherwise be beneficial to us, or obtain additional financing because our debt agreements contain, and any of our other future similar agreements may contain, covenant restrictions that limit our ability to, among other things:

- incur additional debt, assume obligations in connection with letters of credit, or issue guarantees;
- create liens;
- enter into transactions with our affiliates;
- sell certain assets; and
- merge or consolidate with any person.

Our ability to comply with these covenants is dependent on our future performance, which will be subject to many factors, some of which are beyond our control, including prevailing economic conditions. In addition, our failure to comply with these covenants could result in a default under the Senior Notes, the Convertible Notes, or our other debt, which could permit the holders to accelerate such debt. If any of our debt is accelerated, we may not have sufficient funds available to repay such debt, which could materially and negatively affect our financial condition and results of operation.

We Have a Limited Number of Key Customers

Sales to a limited number of large customers constitute a significant portion of our overall revenue, shipments, cash flows, collections, and profitability. As a result, the actions of even one customer may subject us to variability in those areas that is difficult to predict. In addition, large customers may be able to negotiate requirements that result in decreased pricing, increased costs, and/or lower margins for us; compliance with specific environmental, social, and corporate governance standards; and limitations on our ability to share technology with others. Similarly, significant portions of our credit risk may, at any given time, be concentrated among a limited number of customers so that the failure of even one of these key customers to pay its obligations to us could significantly impact our financial results.

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We Depend on Creating New Products and Processes and Enhancing Existing Products and Processes for Our Success; Consequently, We Are Subject to Risks Associated with Rapid Technological Change

Rapid technological changes in semiconductor manufacturing processes subject us to increased pressure to develop technological advances that enable those processes. We believe that our future success depends in part upon our ability to develop and offer new products with improved capabilities and to continue to enhance our existing products. If new products or existing products have reliability, quality, design, or safety problems, our performance may be impacted by reduced orders, higher manufacturing costs, delays in acceptance of and payment for new products, and additional service and warranty expenses. We may be unable to develop and manufacture products successfully, or products that we introduce may fail in the marketplace. For more than 25 years, the primary driver of technology advancement in the semiconductor industry has been to shrink the lithography that prints the circuit design on semiconductor chips. That driver could be approaching its technological limit, leading semiconductor manufacturers to investigate more complex changes in multiple technologies in an effort to continue technology development. In the face of uncertainty on which technology solutions will become successful, we will need to focus our efforts on developing the technology changes that are ultimately successful in supporting our customer requirements. Our failure to develop and offer the correct technology solutions in a timely manner with productive and cost-effective products could adversely affect our business in a material way. Our failure to commercialize new products in a timely manner could result in loss of market share, unanticipated costs, and inventory obsolescence, which would adversely affect our financial results.

In order to develop new products and processes and enhance existing products and processes, we expect to continue to make significant investments in R&D, to investigate the acquisition of new products and technologies, to invest in or acquire such business or technologies, and to pursue joint development relationships with customers, suppliers, or other members of the industry. Our investments and acquisitions may not be as successful as we may expect, particularly as we seek to invest or acquire product lines and technologies that are new to us. We may find that acquisitions are not available to us, for regulatory or other reasons, and that we must therefore limit ourselves to collaboration and joint venture development activities, which do not have the same benefits as acquisitions. Pursuing development through collaboration and/or joint development activities rather than through an acquisition poses substantial challenges for management, including those related to aligning business objectives; sharing confidential information, intellectual property and data; sharing value with third parties; and realizing synergies that might have been available in an acquisition but are not available through a joint development project. We must manage product transitions and joint development relationships successfully, as the introduction of new products could adversely affect our sales of existing products and certain jointly developed technologies may be subject to restrictions on our ability to share that technology with other customers, which could limit our market for products incorporating those technologies. Future technologies, processes, or product developments may render our current product offerings obsolete, leaving us with non-competitive products, obsolete inventory, or both. Moreover, customers may adopt new technologies or processes to address the complex challenges associated with next-generation devices. This shift may result in a reduction in the size of our addressable markets or could increase the relative size of markets in which we either do not compete or have relatively low market share.

We Are Subject to Risks Relating to Product Concentration and Lack of Product Revenue Diversification

We derive a substantial percentage of our revenues from a limited number of products. Our products are priced up to approximately \$11 million per system. As a result, the inability to recognize revenue on even a few systems can cause a significantly adverse impact on our revenues for a given quarter, and, in the longer term, the continued market acceptance of these products is critical to our future success. Our business, operating results, financial condition, and cash flows could therefore be adversely affected by:

- a decline in demand for even a limited number of our products,
- a failure to achieve continued market acceptance of our key products,
- export restrictions or other regulatory or legislative actions that could limit our ability to sell those products to key customers or customers within certain markets,
- an improved version of products being offered by a competitor in the markets in which we participate,
- increased pressure from competitors that offer broader product lines,
- increased pressure from regional competitors,
- technological changes that we are unable to address with our products, or

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- a failure to release new or enhanced versions of our products on a timely basis.

In addition, the fact that we offer limited product lines creates the risk that our customers may view us as less important to their business than our competitors that offer additional products and/or product capabilities. This may impact our ability to maintain or expand our business with certain customers. Such product concentration may also subject us to additional risks associated with technology changes. Our business is affected by our customers' use of our products in certain steps in their wafer fabrication processes. Should technologies change so that the manufacture of semiconductors requires fewer steps using our products, this could have a larger impact on our business than it would on the business of our less concentrated competitors.

Strategic Alliances and Customer Consolidation May Have Negative Effects on Our Business

Increasingly, semiconductor manufacturing companies are entering into strategic alliances or consolidating with one another to expedite the development of processes and other manufacturing technologies and/or achieve economies of scale. The outcomes of such an alliance can be the definition of a particular tool set for a certain function and/or the standardization of a series of process steps that use a specific set of manufacturing equipment, while the outcomes of consolidation can lead to an overall reduction in the market for semiconductor manufacturing equipment as customers' operations achieve economies of scale and/or increased purchasing power based on their higher volumes. In certain instances, this could work to our disadvantage if a competitor's tools or equipment become the standard equipment for such functions or processes. Additional outcomes of such consolidation may include our customers re-evaluating their future supplier relationships to consider our competitors' products and/or gaining additional influence over the pricing of products and the control of intellectual property or data.

Similarly, our customers may partner with, or follow the lead of, educational or research institutions that establish processes for accomplishing various tasks or manufacturing steps. If those institutions utilize a competitor's equipment when they establish those processes, it is likely that customers will tend to use the same equipment in setting up their own manufacturing lines. Even if they select our equipment, the institutions and the customers that follow their lead could impose conditions on acceptance of that equipment, such as adherence to standards and requirements or limitations on how we license our proprietary rights, that increase our costs or require us to take on greater risk. These actions could adversely impact our market share and financial results.

We Depend on a Limited Number of Key Suppliers and Outsource Providers, and We Run the Risk That They Might Not Perform as We Expect

Outsource providers and component suppliers have played and will continue to play a key role in our product development, manufacturing operations, field installation and support, and many of our transactional and administrative functions, such as information technology, facilities management, and certain elements of our finance organization. These providers and suppliers might suffer financial setbacks, be acquired by third parties, become subject to exclusivity arrangements that preclude further business with us, or be unable to meet our requirements or expectation due to their independent business decisions or *force majeure* events that could interrupt or impair their continued ability to perform as we expect.

Although we attempt to select reputable providers and suppliers and we attempt to secure their performance on terms documented in written contracts, it is possible that one or more of these providers or suppliers could fail to perform as we expect, or fail to secure or protect intellectual property rights, and such failure could have an adverse impact on our business. In some cases, the requirements of our business mandate that we obtain certain components and sub-assemblies included in our products from a single supplier or a limited group of suppliers. Where practical, we endeavor to establish alternative sources to mitigate the risk that the failure of any single provider or supplier will adversely affect our business, but this is not feasible in all circumstances. There is therefore a risk that a prolonged inability to obtain certain components or secure key services could impair our ability to manage operations, ship products, and generate revenues, which could adversely affect our operating results and damage our customer relationships.

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We Face Risks Related to the Disruption of Our Primary Manufacturing Facilities

While we maintain business continuity plans, our manufacturing facilities are concentrated in a limited number of locations. These locations are subject to disruption for a variety of reasons, such as natural or man-made disasters, terrorist activities, disruptions of our information technology resources, utility interruptions, or other events beyond our control. Such disruptions may cause delays in shipping our products, which could result in the loss of business or customer trust, adversely affecting our business and operating results.

Once a Semiconductor Manufacturer Commits to Purchase a Competitor's Semiconductor Manufacturing Equipment, the Manufacturer Typically Continues to Purchase That Competitor's Equipment, Making It More Difficult for Us to Sell Our Equipment to That Customer

Semiconductor manufacturers must make a substantial investment to qualify and integrate wafer processing equipment into a semiconductor production line. We believe that once a semiconductor manufacturer selects a particular supplier's processing equipment, the manufacturer generally relies upon that equipment for that specific production line application for an extended period of time, especially for customers that are more focused on tool reuse. Accordingly, we expect it to be more difficult to sell our products to a given customer for a product line application if that customer initially selects a competitor's equipment for the same product line application.

We Face a Challenging and Complex Competitive Environment

We face significant competition from multiple competitors, and with increased consolidation efforts in our industry, as well as the emergence and strengthening of new, regional competitors, we may face increasing competitive pressures. Other companies continue to develop systems and/or acquire businesses and products that are competitive to ours and may introduce new products and product capabilities that may affect our ability to sell and support our existing products. We face a greater risk if our competitors enter into strategic relationships with leading semiconductor manufacturers covering products similar to those we sell or may develop, as this could adversely affect our ability to sell products to those manufacturers.

We believe that to remain competitive we must devote significant financial resources to offer products that meet our customers' needs, to maintain customer service and support centers worldwide, and to invest in product and process R&D. Certain of our competitors, including those that are created and financially backed by foreign governments, have substantially greater financial resources and more extensive engineering, manufacturing, marketing, and customer service and support resources than we do and therefore have the potential to offer customers a more comprehensive array of products and/or product capabilities and to therefore achieve additional relative success in the semiconductor equipment industry. These competitors may deeply discount or give away products similar to those that we sell, challenging or even exceeding our ability to make similar accommodations and threatening our ability to sell those products. We also face competition from our own customers, who in some instances have established affiliated entities that manufacture equipment similar to ours. In addition, we face competition from companies that exist in a more favorable legal or regulatory environment than we do, allowing the freedom of action in ways that we may be unable to match. In many cases speed to solution is necessary for customer satisfaction and our competitors may be better positioned to achieve these objectives. For these reasons, we may fail to continue to compete successfully worldwide.

In addition, our competitors may be able to develop products comparable or superior to those we offer or may adapt more quickly to new technologies or evolving customer requirements. In particular, while we continue to develop product enhancements that we believe will address future customer requirements, we may fail in a timely manner to complete the development or introduction of these additional product enhancements successfully, or these product enhancements may not achieve market acceptance or be competitive. Accordingly, competition may intensify, and we may be unable to continue to compete successfully in our markets, which could have a material adverse effect on our revenues, operating results, financial condition, and/or cash flows.

Our Future Success Depends Heavily on International Sales and the Management of Global Operations

Non-U.S. sales, as reflected in Part II Item 7. Results of Operation of this 2019 Form 10-K, accounted for approximately 92%, 93%, and 92% of total revenue in fiscal years 2019, 2018, and 2017, respectively. We expect that international sales will continue to account for a substantial majority of our total revenue in future years.

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We are subject to various challenges related to international sales and the management of global operations including, but not limited to:

- domestic and international trade policies, practices, relations, disputes and issues;
- domestic and international tariffs, export controls and other barriers;
- developing customers and/or suppliers, who may have limited access to capital resources.
- global or national economic and political conditions;
- changes in currency controls;
- differences in the enforcement of intellectual property and contract rights in varying jurisdictions;
- our ability to respond to customer and foreign government demands for locally sourced systems, spare parts, and services and develop the necessary relationships with local suppliers;
- compliance with U.S. and international laws and regulations affecting foreign operations, including U.S. and international trade restrictions and sanctions, anti-bribery, anti-corruption, environmental, tax, and labor laws;
- fluctuations in interest and foreign currency exchange rates;
- the need for technical support resources in different locations; and
- our ability to secure and retain qualified people, and effectively manage people, in all necessary locations for the successful operation of our business.

There is inherent risk, based on the complex relationships among China, Japan, Korea, Taiwan, and the United States, that political, diplomatic and national security influences might lead to trade disputes, impacts and/or disruptions, in particular those affecting the semiconductor industry. This would adversely affect our business with China, Japan, Korea, and/or Taiwan and perhaps the entire Asia Pacific region or global economy. A significant trade dispute, impact and/or disruption in any area where we do business could have a materially adverse impact on our future revenue and profits. Tariffs, export controls, additional taxes, trade barriers or sanctions may 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 conditions. In addition, there are risks that foreign governments may, among other things, insist on the use of local suppliers; compel companies to partner with local companies to design and supply equipment on a local basis, requiring the transfer of intellectual property rights and/or local manufacturing; utilize their influence over their judicial systems to respond to intellectual property disputes or issues; and provide special incentives to government-backed local customers to buy from local competitors, even if their products are inferior to ours; all of which could adversely impact our revenues and margins. Certain international sales depend on our ability to obtain export licenses from the U.S. or foreign governments. Our failure or inability to obtain such licenses, or an expansion of the number or kinds of sales for which export licenses are required, could potentially limit our markets and impact our revenues. Many of the challenges noted above are applicable in China, which is a fast-developing market for the semiconductor equipment industry and therefore an area of anticipated growth for our business.

We are exposed to potentially adverse movements in foreign currency exchange rates. The majority of our sales and expenses are denominated in U.S. dollars. However, we are exposed to foreign currency exchange rate fluctuations primarily related to revenues denominated in Japanese yen and expenses denominated in euro and Korean won. Currently, we hedge certain anticipated foreign currency cash flows, primarily anticipated revenues denominated in Japanese yen and expenses dominated in euro and Korean won. In addition, we enter into foreign currency hedge contracts to minimize the short-term impact of the foreign currency exchange rate fluctuations on certain foreign currency denominated monetary assets and liabilities, primarily third-party accounts receivables, accounts payables, and intercompany receivables and payables. We believe these are our primary exposures to currency rate fluctuation. We expect to continue to enter into hedging transactions, for the purposes outlined, for the foreseeable future. However, these hedging transactions may not achieve their desired effect because differences between the actual timing of the underlying exposures and our forecasts of those exposures may leave us either over or under hedged on any given transaction. Moreover, by hedging these foreign currency denominated revenues, expenses, monetary assets, and liabilities, we may miss favorable currency trends that would have been advantageous to us but for the hedges. Additionally, we are exposed to short-term foreign currency exchange rate fluctuations on non-U.S. dollar-denominated monetary assets and liabilities (other than those currency exposures previously discussed), and currently we do not enter into foreign currency hedge contracts against these exposures. Therefore, we are subject to potential unfavorable foreign currency exchange rate fluctuations to the extent that we transact business (including intercompany transactions) in these currencies.

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The magnitude of our overseas business also affects where our cash is generated. Certain uses of cash, such as share repurchases, payment of dividends, or the repayment of our notes, can usually only be made with onshore cash balances. Since the majority of our cash is generated outside of the United States, this may impact certain business decisions and outcomes.

Our Ability to Attract, Retain, and Motivate Key Employees Is Critical to Our Success

Our ability to compete successfully depends in large part on our ability to attract, retain, and motivate key employees with the appropriate skills, experiences and competencies. This is an ongoing challenge due to intense competition for top talent, fluctuations in industry or business economic conditions, as well as increasing geographic expansion, and these factors in combination may result in cycles of hiring activity and workforce reductions. Our success in hiring depends on a variety of factors, including the attractiveness of our compensation and benefit programs, global economic or political and industry conditions, our organizational structure, global competition for talent and the availability of qualified employees, the availability of career development opportunities, the ability to obtain necessary authorizations for workers to provide services outside their home countries, and our ability to offer a challenging and rewarding work environment. We periodically evaluate our overall compensation and benefit programs and make adjustments, as appropriate, to maintain or enhance their competitiveness. If we are not able to successfully attract, retain, and motivate key employees, we may be unable to capitalize on market opportunities and our operating results may be materially and adversely affected.

Certain Critical Information Systems, That We Rely on for the Operation of Our Business and Products That We Sell, Are Susceptible to Cybersecurity and Other Threats or Incidents

We maintain and rely upon certain critical information systems for the effective operation of our business. These information systems include but are not limited to, telecommunications, the Internet, our corporate intranet, various computer hardware and software applications, (some of which may be integrated into the products that we sell or be required in order to provide the services that we offer), network communications, and email. These information systems may be owned and maintained by us, our outsourced providers, or third parties such as vendors, contractors, customers and Cloud providers. In addition, we make use of Software-As-A-Service (SAAS) products for certain important business functions that are provided by third parties and hosted on their own networks and servers, or third-party networks and servers, all of which rely on networks, email and/or the Internet for their function. All of these information systems are subject to disruption, breach or failure from various sources, including those using techniques that change frequently or may be disguised or difficult to detect, or designed to remain dormant until a triggering event, or that may continue undetected for an extended period of time. Those sources may include mistakes or unauthorized actions by our employees or contractors, phishing schemes and other third-party attacks, and degradation or loss of service or access to data due to viruses, malware, denial of service attacks, destructive or inadequate code, power failures, or physical damage to computers, hard drives, communication lines, or networking equipment.

We have experienced cyber threats and incidents in the past. Although past threats and incidents have not resulted in a material adverse effect, we may incur material losses related to cyber threats or incidents in the future. If we were subject to a cyber incident, it could have a material adverse effect on our business. Such adverse effects might include:

- Loss of (or inability to access, e.g. through ransomware) confidential and/or sensitive information stored on these critical information systems or transmitted to or from those systems;
- The disruption of the proper function of our products, services and/or operations;
- The failure of our or our customers' manufacturing processes;
- Errors in the output of our work or our customers' work;
- The loss or public exposure of the personal information of our employees, customers or other parties;
- The public release of customer orders, financial and business plans, and operational results;
- Exposure to claims from third parties who are adversely impacted by such incidents;
- Misappropriation or theft of our or a customer, supplier or other party's assets or resources, and costs associated therewith;
- Diminution in the value of our investment in research, development and engineering; or
- Our failure to meet, or violation of, regulatory or other legal obligations, such as the timely publication or filing of financial statements, tax information and other required communications.

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While we have implemented ISO 27001 compliant security procedures and virus protection software, intrusion prevention systems, identity and access control, and emergency recovery processes, and we carefully select our third-party providers of information systems, to mitigate risks to the information systems that we rely on, those mitigation and protection systems cannot be guaranteed to be fail-safe and we may still suffer cyber-related incidents.

Our Financial Results May Be Adversely Impacted by Higher than Expected Tax Rates or Exposure to Additional Tax Liabilities

We are subject to income, transaction, and other taxes in the United States and various foreign jurisdictions, and significant judgment is required to determine worldwide tax liabilities. The amount of taxes we pay is subject to ongoing audits in various jurisdictions, and a material assessment by a governing tax authority could affect our profitability. As a global company, our effective tax rate is highly dependent upon the geographic composition of worldwide earnings and tax regulations governing each region. Our effective tax rate could be adversely affected by changes in the split of earnings between countries with differing statutory tax rates, in the valuation allowance of deferred tax assets, in tax laws, by material audit assessments, or by changes in or expirations of agreements with tax authorities. These factors could affect our profitability. In particular, the carrying value of deferred tax assets, which are predominantly in the United States, is dependent on our ability to generate future taxable income in the United States.

A Failure to Comply with Environmental Regulations May Adversely Affect Our Operating Results

We are subject to a variety of domestic and international governmental regulations related to the handling, discharge, and disposal of toxic, volatile, or otherwise hazardous chemicals. Failure to comply with present or future environmental regulations could result in fines being imposed on us, require us to undertake remediation activities, suspend production, and/or cease operations, or cause our customers to not accept our products. These regulations could require us to alter our current operations, acquire significant additional equipment, incur substantial other expenses to comply with environmental regulations, or take other actions. Any failure to comply with regulations governing the use, handling, sale, transport, or disposal of hazardous substances could subject us to future liabilities that may adversely affect our operating results, financial condition, and ability to operate our business.

If We Choose to Acquire or Dispose of Businesses, Product Lines, and Technologies, We May Encounter Unforeseen Costs and Difficulties That Could Impair Our Financial Performance

An important element of our management strategy is to review acquisition prospects that would complement our existing products, augment our market coverage and distribution ability, enhance our technological capabilities, or accomplish other strategic objectives. As a result, we may seek to make acquisitions of complementary companies, products, or technologies, or we may reduce or dispose of certain product lines or technologies that no longer fit our long-term strategies. For regulatory or other reasons, we may not be successful in our attempts to acquire or dispose of businesses, products, or technologies, resulting in significant financial costs, reduced or lost opportunities, and diversion of management's attention. Managing an acquired business, disposing of product technologies, or reducing personnel entails numerous operational and financial risks, including difficulties in assimilating acquired operations and new personnel or separating existing business or product groups, diversion of management's attention away from other business concerns, amortization of acquired intangible assets, adverse customer reaction to our decision to cease support for a product, and potential loss of key employees or customers of acquired or disposed operations. There can be no assurance that we will be able to achieve and manage successfully any such integration of potential acquisitions, disposition of product lines or technologies, or reduction in personnel, or that our management, personnel, or systems will be adequate to support continued operations. Any such inabilities or inadequacies could have a material adverse effect on our business, operating results, financial condition, and/or cash flows.

In addition, any acquisition could result in changes such as potentially dilutive issuances of equity securities, the incurrence of debt and contingent liabilities, the amortization of related intangible assets, and goodwill impairment charges, any of which could materially adversely affect our business, financial condition, results of operations, cash flows, and/or the price of our Common Stock.

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***The Market for Our Common Stock Is Volatile, Which May Affect Our Ability to Raise Capital or Make Acquisitions or May Subject Our Business to Additional Costs***

The market price for our Common Stock is volatile and has fluctuated significantly over the past years. The trading price of our Common Stock could continue to be highly volatile and fluctuate widely in response to a variety of factors, many of which are not within our control or influence. These factors include but are not limited to the following:

- general market, semiconductor, or semiconductor equipment industry conditions;
- economic or political events, trends, and unexpected developments occurring nationally, globally, or in any of our key sales regions;
- variations in our quarterly operating results and financial condition, including our liquidity;
- variations in our revenues, earnings, or other business and financial metrics from forecasts by us or securities analysts or from those experienced by other companies in our industry;
- announcements of restructurings, reductions in force, departure of key employees, and/or consolidations of operations;
- government regulations;
- developments in, or claims relating to, patent or other proprietary rights;
- technological innovations and the introduction of new products by us or our competitors;
- commercial success or failure of our new and existing products;
- disruptions of relationships with key customers or suppliers; or
- dilutive impacts of our Convertible Notes.

In addition, the stock market experiences significant price and volume fluctuations. Historically, we have witnessed significant volatility in the price of our Common Stock due in part to the price of and markets for semiconductors. These and other factors have adversely affected and may again adversely affect the price of our Common Stock, regardless of our actual operating performance. In the past, following volatile periods in the price of their stock, many companies became the object of securities class action litigation. If we are sued in a securities class action, we could incur substantial costs, and it could divert management's attention and resources and have an unfavorable impact on our financial performance and the price for our Common Stock.

Intellectual Property, Indemnity, and Other Claims Against Us Can Be Costly and We Could Lose Significant Rights That Are Necessary to Our Continued Business and Profitability

Third parties may assert infringement, misappropriation, unfair competition, product liability, breach of contract, or other claims against us. From time to time, other persons send us notices alleging that our products infringe or misappropriate their patent or other intellectual property rights. In addition, law enforcement authorities may seek criminal charges relating to intellectual property or other issues. We also face risks of claims arising from commercial and other relationships. In addition, our bylaws and other indemnity obligations provide that we will indemnify officers and members of our Board of Directors against losses that they may incur in legal proceedings resulting from their service to us. From time to time, in the normal course of business, we indemnify third parties with whom we enter into contractual relationships, including customers and suppliers, with respect to certain matters. We have agreed, under certain conditions, to hold these third parties harmless against specified losses, such as those arising from a breach of representations or covenants, other third-party claims that our products when used for their intended purposes infringe the intellectual property rights of such other third parties, or other claims made against certain parties. In such cases, it is our policy either to defend the claims or to negotiate licenses or other settlements on commercially reasonable terms. However, we may be unable in the future to negotiate necessary licenses or reach agreement on other settlements on commercially reasonable terms, or at all, and any litigation resulting from these claims by other parties may materially and adversely affect our business and financial results, and we may be subject to substantial damage awards and penalties. Moreover, although we have insurance to protect us from certain claims and cover certain losses to our property, such insurance may not cover us for the full amount of any losses, or at all, and may be subject to substantial exclusions and deductibles.

We May Fail to Protect Our Critical Proprietary Technology Rights, Which Could Affect Our Business

Our success depends in part on our proprietary technology and our ability to protect key components of that technology through patents, copyrights, trade secrets and other forms of protection. Protecting our key proprietary technology helps us achieve our goals of developing technological expertise and new products and

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systems that give us a competitive advantage; increasing market penetration and growth of our installed base; and providing comprehensive support and service to our customers. As part of our strategy to protect our technology, we currently hold a number of U.S. and foreign patents and pending patent applications, and we keep certain information, processes, and techniques confidential and/or as trade secrets. However, other parties may challenge or attempt to invalidate or circumvent any patents the U.S. or foreign governments issue to us; these governments may fail to issue patents for pending applications; or we may lose trade secret protection over valuable information due to our or third parties' intentional or unintentional actions or omissions or even those of our own employees. Additionally, intellectual property litigation can be expensive and time-consuming and even when patents are issued, or trade secret processes are followed, the legal systems in certain of the countries in which we do business might not enforce patents and other intellectual property rights as rigorously or effectively as the United States or may favor local entities in their intellectual property enforcement. The rights granted or anticipated under any of our patents, pending patent applications, or trade secrets may be narrower than we expect or, in fact, provide no competitive advantages. Moreover, because we selectively file for patent protection in different jurisdictions, we may not have adequate protection in all jurisdictions based on such filing decisions. Any of these circumstances could have a material adverse impact on our business.

We Are Exposed to Various Risks from Our Regulatory Environment

We are subject to various risks related to (1) new, different, inconsistent, or even conflicting laws, rules, and regulations that may be enacted by legislative or executive bodies and/or regulatory agencies in the countries that we operate; (2) disagreements or disputes related to international trade; and (3) the interpretation and application of laws, rules, and regulations. As a public company with global operations, we are subject to the laws of multiple jurisdictions and the rules and regulations of various governing bodies, including those related to export controls, financial and other disclosures, corporate governance, privacy, anti-corruption, such as the Foreign Corrupt Practices Act and other local laws prohibiting corrupt payments to governmental officials, conflict minerals or other social responsibility legislation, immigration or travel regulations, and antitrust regulations, among others. Each of these laws, rules, and regulations imposes costs on our business, including financial costs and potential diversion of our management's attention associated with compliance, and may present risks to our business, including potential fines, restrictions on our actions, and reputational damage if we are unable to fully comply.

To maintain high standards of corporate governance and public disclosure, we intend to invest appropriate resources to comply with evolving standards. Changes in or ambiguous interpretations of laws, regulations, and standards may create uncertainty regarding compliance matters. Efforts to comply with new and changing regulations have resulted in, and are likely to continue to result in, increased selling, general, and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If we are found by a court or regulatory agency not to be in compliance with the laws and regulations, our business, financial condition, and/or results of operations could be adversely affected.

There Can Be No Assurance That We Will Continue to Declare Cash Dividends or Repurchase Our Shares at All or in Any Particular Amounts

Our Board of Directors has declared quarterly dividends since April 2014. Our intent to continue to pay quarterly dividends and to repurchase our shares is subject to capital availability and periodic determinations by our Board of Directors that cash dividends and share repurchases are in the best interest of our stockholders and are in compliance with all laws and agreements applicable to the declaration and payment of cash dividends or the repurchasing of shares by us. Future dividends and share repurchases may also be affected by, among other factors, our views on potential future capital requirements for investments in acquisitions and the funding of our research and development; legal risks; changes in federal, state, and international tax laws or corporate laws; contractual restrictions, such as financial or operating covenants in our debt arrangements; availability of onshore cash flow; and changes to our business model. Our dividend payments and share repurchases may change from time to time, and we cannot provide assurance that we will continue to declare dividends or repurchase shares at all or in any particular amounts. A reduction or suspension in our dividend payments or share repurchases could have a negative effect on the price of our Common Stock.

Item 1B. *Unresolved Staff Comments*

None.

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Item 2. *Properties*

Our executive offices and principal operating and R&D facilities are located in Fremont and Livermore, California; Tualatin, Oregon; and Villach, Austria. The majority of the Fremont and Livermore facilities are held under operating leases expiring in 2020 and 2021. The Villach facilities are held under capital leases expiring in calendar year 2021. Our Fremont, Livermore, and Villach leases include options to renew or purchase the facilities. In addition, we lease or own properties for our service, technical support, and sales personnel throughout the United States, China, Europe, Japan, Korea, Southeast Asia, and Taiwan and lease or own manufacturing facilities located in Ohio and Korea. The Company owns two properties in Fremont, as well as the majority of the Tualatin facilities. Our facilities lease obligations are subject to periodic increases. We believe that our existing facilities are well-maintained and in good operating condition.

Item 3. *Legal Proceedings*

While we are not currently party to any legal proceedings that we believe are material, we are either a defendant or plaintiff in various actions that have arisen from time to time in the normal course of business, including intellectual property claims. We accrue for a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Significant judgment is required in both the determination of probability and the determination as to whether a loss is reasonably estimable. These accruals are reviewed at least quarterly and adjusted to reflect the effects of negotiations, settlements, rulings, advice of legal counsel, and other information and events pertaining to a particular matter. To the extent there is a reasonable possibility that the losses could exceed the amounts already accrued, we believe that the amount of any such additional loss would be immaterial to our business, financial condition, and results of operations.

Item 4. *Mine Safety Disclosures*

Not applicable.

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PART II

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

Stock Information

Our Common Stock is traded on the Nasdaq Global Select MarketSM under the symbol "LRCX." As of August 15, 2019, we had 401 stockholders of record.

Dividends

Our Board of Directors has declared quarterly dividends since April 2014. Our intent to continue to pay quarterly dividends is subject to capital availability and periodic determinations by our Board of Directors that cash dividends are in the best interest of our stockholders and are in compliance with all laws and agreements applicable to the declaration and payment of cash dividends by us. During fiscal year 2019, our quarterly dividend was \$1.10 per share.

Repurchase of Company Shares

In November 2018, the Board of Directors authorized management to repurchase up to an additional \$5.0 billion of Common Stock on such terms and conditions as it deems appropriate. These repurchases can be conducted on the open market or as private purchases and may include the use of derivative contracts with large financial institutions, in all cases subject to compliance with applicable law. This repurchase program has no termination date and may be suspended or discontinued at any time. Funding for this share repurchase program may be through a combination of cash on hand, cash generation, and borrowings. As of June 30, 2019, we have purchased approximately \$2.0 billion of shares under this authorization, \$0.5 billion via open market trading and \$1.5 billion utilizing accelerated share repurchase arrangements.

Accelerated Share Repurchase Agreements

On June 4, 2019, we entered into four separate accelerated share repurchase agreements (collectively, the "June 2019 ASR") with two financial institutions to repurchase a total of \$750 million of Common Stock. We took an initial delivery of approximately 3.1 million shares, which represented 75% of the prepayment amount divided by our closing stock price on June 4, 2019. The total number of shares received under the June 2019 ASR will be based upon the average daily volume weighted average price of our Common Stock during the repurchase period, less an agreed upon discount. Final settlement of the June 2019 ASR is anticipated to occur no later than November 20, 2019.

On January 31, 2019, we entered into two separate accelerated share repurchase agreements (collectively, the "January 2019 ASR") with two financial institutions to repurchase a total of \$760 million of Common Stock. We took an initial delivery of approximately 3.3 million shares, which represented 75% of the prepayment amount divided by our closing stock price on January 30, 2019. The total number of shares received under the January 2019 ASR was based upon the average daily volume weighted average price of our Common Stock during the repurchase period, less an agreed upon discount. Final settlement of the agreements occurred during May 2019, resulted in the receipt of approximately 0.8 million additional shares, which yielded a weighted-average share price of approximately \$182.32 for the transaction period.

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Share repurchases, including those under the repurchase program, were as follows:

Period	Total Number of Shares Repurchased ⁽¹⁾	Average Price Paid per Share ⁽²⁾	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Amount Available Under Repurchase Program
(in thousands, except per share data)				
Available balance as of June 24, 2018			\$	1,733,638
Quarter ended September 23, 2018	7,821	\$ 183.46	7,807	108
Board authorization, \$5.0 billion, November 2018				5,000,000
Quarter ended December 23, 2018	1,693	\$ 145.30	1,683	5,000,000
Quarter ended March 31, 2019	6,125	\$ 172.06	5,702	4,138,494
April 1, 2019 - April 28, 2019	3	\$ 193.52	—	4,138,494
April 29, 2019 - May 26, 2019	1,147	\$ 190.89	1,143	3,920,258
May 27, 2019 - June 30, 2019	4,728	\$ 176.68	4,724	3,033,500
Total	21,517	\$ 181.72	21,059	\$ 3,033,500

- (1) During the fiscal year ended June 30, 2019, we acquired 0.5 million shares at a total cost of \$80.5 million which we withheld through net share settlements to cover minimum tax withholding obligations upon the vesting of restricted stock unit awards granted under our equity compensation plans. The shares retained by us through these net share settlements are not a part of the Board-authorized repurchase program but instead are authorized under our equity compensation plan.
- (2) Average price paid per share excludes effect of accelerated share repurchases, see additional disclosure above regarding our accelerated share repurchase activity during the fiscal year.

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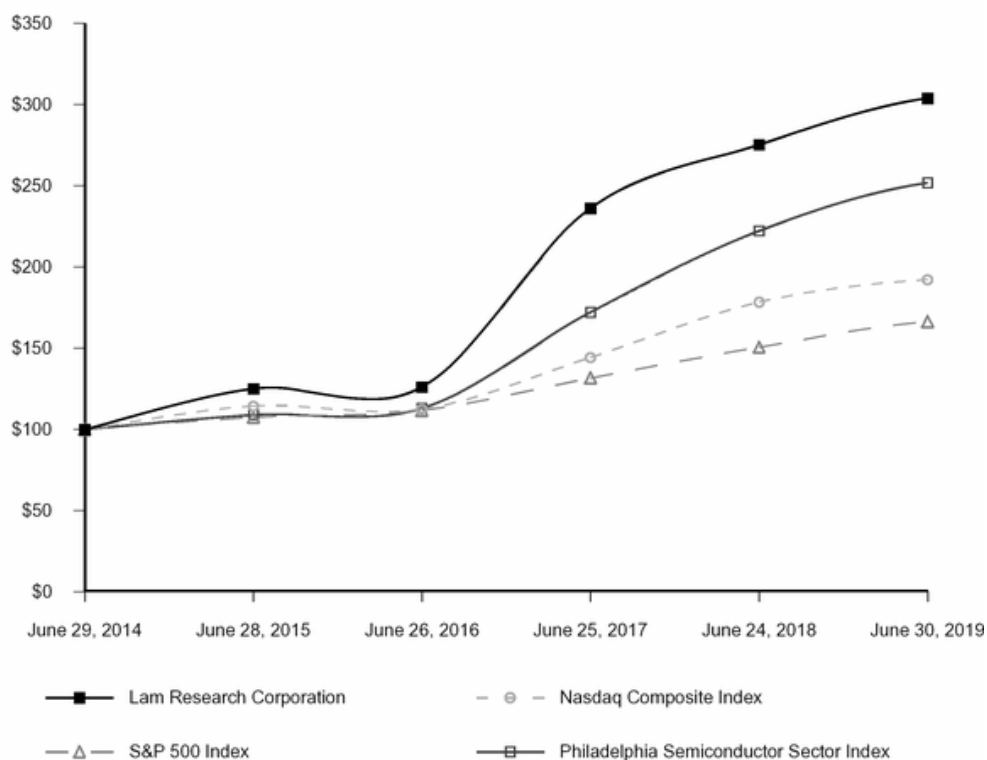


Cumulative Five-Year Return

The graph below compares Lam Research Corporation's cumulative five-year total shareholder return on Common Stock with the cumulative total returns of the Nasdaq Composite index, the Standard & Poor's ("S&P") 500 index, and the Philadelphia Semiconductor Sector Index. The graph tracks the performance of a \$100 investment in our Common Stock and in each of the indices (with the reinvestment of all dividends) for the five years ended June 30, 2019.

COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL RETURN*

Among Lam Research Corporation, the Nasdaq Composite Index, the S&P 500 Index, and the Philadelphia Semiconductor Index



*\$100 invested on June 29, 2014 in stock or June 30, 2014 in index, including reinvestment of dividends. Indexes calculated on month-end basis.

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	June 29, 2014	June 28, 2015	June 26, 2016	June 25, 2017	June 24, 2018	June 30, 2019
Lam Research Corporation	100.00	125.08	126.17	236.07	275.33	303.92
Nasdaq Composite Index	100.00	114.44	112.51	144.35	178.42	192.30
S&P 500 Index	100.00	107.42	111.71	131.70	150.64	166.33
Philadelphia Semiconductor Sector Index	100.00	108.97	113.07	172.12	222.22	251.80

Item 6. Selected Financial Data

	Year Ended				
	June 30, 2019	June 24, 2018	June 25, 2017	June 26, 2016	June 28, 2015
(in thousands, except per share data)					
OPERATIONS:					
Revenue	\$ 9,653,559	\$ 11,076,998	\$ 8,013,620	\$ 5,885,893	\$ 5,259,312
Gross margin	4,358,459	5,165,032	3,603,359	2,618,922	2,284,336
Goodwill impairment (1)	—	—	—	—	79,444
Operating income	2,464,732	3,213,299	1,902,132	1,074,256	788,039
Net income	2,191,430	2,380,681	1,697,763	914,049	655,577
Net income per share:					
Basic	\$ 14.37	\$ 14.73	\$ 10.47	\$ 5.75	\$ 4.11
Diluted	\$ 13.70	\$ 13.17	\$ 9.24	\$ 5.22	\$ 3.70
Cash dividends declared per common share	\$ 4.40	\$ 2.55	\$ 1.65	\$ 1.20	\$ 0.84
BALANCE SHEET:					
Working capital	\$ 6,188,759	\$ 5,999,603	\$ 6,192,383	\$ 6,795,109	\$ 3,639,488
Total assets	12,001,333	12,479,478	12,122,765	12,264,315 ⁽²⁾	9,358,904 ⁽²⁾
Long-term obligations, less current portion	4,906,379	2,749,127	2,185,338	3,744,205 ⁽²⁾	1,386,536 ⁽²⁾
Current portion of long-term debt and capital leases	667,131	610,030	908,439	947,733 ⁽²⁾	1,355,705 ⁽²⁾

(1) Goodwill impairment analysis during fiscal year 2015 resulted in a non-cash impairment charge to our Clean reporting unit, extinguishing the goodwill ascribed to the reporting unit.

(2) Adjusted for effects of retrospective implementation of ASU 2015-3 in the first quarter of fiscal 2017.

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	Three Months Ended ⁽¹⁾			
	June 30, 2019	March 31, 2019	December 23, 2018	September 23, 2018
unaudited (in thousands, except per share data)				
QUARTERLY FISCAL YEAR 2019:				
Revenue	\$ 2,361,147	\$ 2,439,048	\$ 2,522,673	\$ 2,330,691
Gross margin	1,080,891	1,074,337	1,145,033	1,058,198
Operating income	617,085	565,517	690,379	591,751
Net income	541,825	547,390	568,855	533,360
Net income per share				
Basic	\$ 3.66	\$ 3.62	\$ 3.67	\$ 3.43
Diluted	\$ 3.51	\$ 3.47	\$ 3.51	\$ 3.23
Number of shares used in per share calculations:				
Basic	148,131	151,201	155,022	155,658
Diluted	154,474	157,849	162,170	165,327

	Three Months Ended ⁽¹⁾			
	June 24, 2018	March 25, 2018	December 24, 2017	September 24, 2017
unaudited (in thousands, except per share data)				
QUARTERLY FISCAL YEAR 2018:				
Revenue	\$ 3,125,928	\$ 2,892,115	\$ 2,580,815	\$ 2,478,140
Gross margin	1,479,408	1,330,714	1,205,567	1,149,343
Operating income	955,195	827,511	737,371	693,222
Net income (loss)	1,021,146 ⁽²⁾	778,800	(9,955) ⁽²⁾	590,690
Net income (loss) per share				
Basic	\$ 6.35	\$ 4.80	\$ (0.06) ⁽²⁾	\$ 3.64
Diluted	\$ 5.82	\$ 4.33	\$ (0.06) ⁽²⁾	\$ 3.21
Number of shares used in per share calculations:				
Basic	160,916	162,378	161,135	162,141
Diluted	175,432	179,779	161,135	183,880

(1) Our reporting period is a 52/53-week fiscal year. The fiscal years ended June 30, 2019, and June 24, 2018, included 53 and 52 weeks, respectively. All quarters presented above included 13 weeks, except for the quarter ended March 31, 2019, which includes 14 weeks.

(2) The comparability of our quarter ended December 24, 2017 was affected by a \$757 million provisional charge associated with the December 2017 U.S. tax reform. During the quarter ended June 24, 2018, \$116 million of this provisional charge was reversed.

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

The following discussion of our financial condition and results of operations contains forward-looking statements, which are subject to risks, uncertainties, and changes in condition, significance, value, and effect. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of certain factors, including but not limited to those discussed in "Risk Factors" and elsewhere in this 2019 Form 10-K and other documents we file from time to time with the Securities and Exchange Commission. (See "Cautionary Statement Regarding Forward-Looking Statements" in Part I of this 2019 Form 10-K.)

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") provides a description of our results of operations and should be read in conjunction with our Consolidated Financial Statements and accompanying Notes to Consolidated Financial Statements included in Part II, Item 8 of this 2019 Form 10-K. MD&A consists of the following sections:

Executive Summary provides a summary of the key highlights of our results of operations and our management's assessment of material trends and uncertainties relevant to our business.

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Results of Operations provides an analysis of operating results.

Critical Accounting Policies and Estimates discusses accounting policies that reflect the more significant judgments and estimates used in the preparation of our Consolidated Financial Statements.

Liquidity and Capital Resources provides an analysis of cash flows, contractual obligations, and financial position.

Executive Summary

Lam Research Corporation is a global supplier of innovative wafer fabrication equipment and services to the semiconductor industry. We have built a strong global presence with core competencies in areas like nanoscale applications enablement, chemistry, plasma and fluidics, advanced systems engineering and a broad range of operational disciplines. Our products and services are designed to help our customers build smaller, faster, and better performing devices that are used in a variety of electronic products, including mobile phones, personal computers, servers, wearables, automotive vehicles, and data storage devices.

Our customer base includes leading semiconductor memory, foundry, and integrated device manufacturers that make products such as NVM, DRAM, and logic devices. We aim to increase our strategic relevance with our customers by contributing more to their continued success. Our core technical competency is integrating hardware, process, materials, software, and process control enabling results on the wafer.

Semiconductor manufacturing, our customers' business, involves the complete fabrication of multiple dies or integrated circuits on a wafer. This involves the repetition of a set of core processes and can require hundreds of individual steps. Fabricating these devices requires highly sophisticated process technologies to integrate an increasing array of new materials with precise control at the atomic scale. Along with meeting technical requirements, wafer processing equipment must deliver high productivity and be cost-effective.

Demand from the Cloud, IoT, and other markets is driving the need for increasingly powerful and cost-efficient semiconductors. At the same time, there are growing technical challenges with traditional scaling. These trends are driving significant inflections in semiconductor manufacturing, such as the increasing importance of vertical 3D scaling strategies as well as multiple patterning to enable shrinks.

We believe we are in a strong position with our leadership and competency in deposition, etch, and clean to facilitate some of the most significant innovations in semiconductor device manufacturing. Several factors create opportunity for sustainable differentiation for us: (i) our focus on research and development, with several on-going programs relating to sustaining engineering, product and process development, and concept and feasibility; (ii) our ability to effectively leverage cycles of learning from our broad installed base; (iii) our collaborative focus with ecosystem partners; and (iv) our focus on delivering our multi-product solutions with a goal to enhance the value of Lam's solutions to our customers.

Despite recent semiconductor capital investment volatility, over the longer term, we believe that technology inflections in our industry, including 3D device scaling, multiple patterning, process flow, and advanced packaging chip integration, will lead to an increase in our served addressable market for our products and services in deposition, etch, and clean. While there could be continued variability in the near-term, we believe that demand for our products and services will increase faster than overall spending on wafer fabrication equipment, as the proportion of customers' capital expenditures rises in these technology inflection areas, and as we gain market share.

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The following table summarizes certain key financial information for the periods indicated below:

	Year Ended				Change							
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18		FY18 vs. FY17						
	(in thousands, except per share data and percentages)											
Revenue	\$	9,653,559	\$	11,076,998	\$	8,013,620	\$	(1,423,439)	(12.9)%	\$	3,063,378	38.2%
Gross margin	\$	4,358,459	\$	5,165,032	\$	3,603,359	\$	(806,573)	(15.6)%	\$	1,561,673	43.3%
Gross margin as a percent of total revenue		45.1%		46.6%		45.0%		(1.5)%			1.6%	
Total operating expenses	\$	1,893,727	\$	1,951,733	\$	1,701,227	\$	(58,006)	(3.0)%	\$	250,506	14.7%
Net income	\$	2,191,430	\$	2,380,681	\$	1,697,763	\$	(189,251)	(7.9)%	\$	682,918	40.2%
Net income per diluted share	\$	13.70	\$	13.17	\$	9.24	\$	0.53	4.0 %	\$	3.93	42.5%

Fiscal year 2019 revenue decreased 13% compared to fiscal year 2018, reflecting lower customer demand for semiconductor equipment. Gross margin as a percentage of revenue decreased primarily due to lower factory utilization. The decrease in operating expenses in fiscal year 2019 compared to fiscal year 2018 was mainly driven by lower employee-related costs and amortization related to intangibles acquired through business combinations, partially offset by restructuring charges.

Fiscal year 2018 revenue increased 38% compared to fiscal year 2017, reflecting an increase in technology and capacity investments by our customers. Gross margin as a percentage of revenue improved primarily due to favorable margin mix and higher revenue. Operating expenses in fiscal year 2018 increased as compared to fiscal year 2017 primarily as a result of higher employee headcount and increased investment in research and development.

Our cash and cash equivalents, investments, and restricted cash and investments balances totaled approximately \$5.7 billion as of June 30, 2019, compared to \$5.2 billion as of June 24, 2018. Cash flow provided from operating activities was \$3.2 billion for fiscal year 2019 compared to \$2.7 billion for fiscal year 2018. Cash flow provided from operating activities in fiscal year 2019 was primarily used for \$3.8 billion in treasury stock purchases, \$678 million in dividends paid to our stockholders, and \$303 million of capital expenditures. These cash outflows were partially offset by \$2.0 billion of net proceeds from issuance of debt and \$85 million of treasury stock reissuance and Common Stock issuance resulting from our employee equity-based compensation programs.

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Results of Operations

Revenue

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Revenue (in millions)	\$ 9,654	\$ 11,077	\$ 8,014
Korea	23%	35%	31%
China	22%	16%	13%
Japan	20%	17%	13%
Taiwan	17%	13%	26%
United States	8%	7%	8%
Southeast Asia	6%	7%	5%
Europe	4%	5%	4%

Revenue decreased in fiscal year 2019 compared to fiscal year 2018, but increased compared to fiscal year 2017, primarily as a result of the volatility of semiconductor capital investments by our customers. The overall Asia region continued to account for a majority of our revenues as a substantial amount of the worldwide capacity investments for semiconductor manufacturing continued to occur in this region.

Our deferred revenue balance was \$449 million as of June 30, 2019, compared to \$994 million as of June 24, 2018. The deferred revenue at the end of June 2019 is recognized under Accounting Standard Codification ("ASC") 606, while the same values as of June 2018 are recognized under ASC 605, which contributes to the change in value period over period. Our deferred revenue balance does not include shipments to customers in Japan, to whom title does not transfer until customer acceptance. Shipments to customers in Japan are classified as inventory at cost until the time of customer acceptance. The anticipated future revenue value from shipments to customers in Japan was approximately \$78 million as of June 30, 2019, compared to \$607 million as of June 24, 2018.

The percentage of total Lam semiconductor systems revenue to each of the markets we serve was as follows for fiscal year 2019:

	Year Ended June 30, 2019
Memory	70%
Foundry	20%
Logic/integrated device manufacturing	10%

Gross Margin

	Year Ended			Change	
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18	FY18 vs. FY17
(in thousands, except percentages)					
Gross margin	\$ 4,358,459	\$ 5,165,032	\$ 3,603,359	\$ (806,573) (15.6)%	\$ 1,561,673 43.3%
Percent of revenue	45.1%	46.6%	45.0%	(1.5)%	1.6%

The decrease in gross margin as a percentage of revenue for fiscal year 2019 compared to fiscal year 2018 was primarily due to lower factory utilization.

The increase in gross margin as a percentage of revenue for fiscal year 2018 compared to fiscal year 2017 was primarily due to favorable margin mix and higher revenue.

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Research and Development

	Year Ended			Change				
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18		FY18 vs. FY17		
(in thousands, except percentages)								
Research & development	\$ 1,191,320	\$ 1,189,514	\$ 1,033,742	\$ 1,806	0.2%	\$ 155,772	15.1%	
Percent of revenue	12.3%	10.7%	12.9%	1.6%		(2.2)%		

We continued to make significant R&D investments focused on leading-edge deposition, etch, clean, and other semiconductor manufacturing processes. R&D expense during fiscal year 2019 increased slightly compared to fiscal year 2018.

The increase in R&D expense during fiscal year 2018 compared to fiscal year 2017 was primarily due to an \$88 million increase in employee compensation and benefits related to increased headcount, a \$24 million increase in supplies, and a \$23 million increase in outside services and miscellaneous expenses.

Selling, General, and Administrative

	Year Ended			Change								
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18		FY18 vs. FY17						
(in thousands, except percentages)												
Selling, general, and administrative ("SG&A")	\$	702,407	\$	762,219	\$	667,485	\$	(59,812)	(7.8)%	\$	94,734	14.2%
Percent of revenue		7.3%		6.9%		8.3%		0.4%			(1.4)%	

The decrease in SG&A expense during fiscal year 2019 compared to fiscal year 2018 was primarily due to a \$65 million decrease in employee variable compensation and a \$17 million decrease in amortization related to intangibles acquired through business combinations, partially offset by an increase of \$10 million in depreciation and \$8 million in restructuring charges.

The increase in SG&A expense during fiscal year 2018 compared to fiscal year 2017 was primarily due to a \$44 million increase in employee compensation and benefits from increased headcount, a \$28 million increase in outside services, and a \$15 million increase in rent, utilities and repairs.

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Other Expense, Net

Other expense, net, consisted of the following:

	Year Ended			Change	
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18	FY18 vs. FY17
(in thousands, except percentages)					
Interest income	\$ 98,771	\$ 85,813	\$ 57,858	\$ 12,958	15.1 %
Interest expense	(117,263)	(97,387)	(117,734)	\$ (19,876)	20.4 %
Gains on deferred compensation plan related assets, net	10,464	14,692	17,880	\$ (4,228)	(28.8)%
Loss on impairment of investments	—	(42,456)	—	\$ 42,456	(100.0)%
Gains (losses) on extinguishment of debt, net	118	542	(36,252)	\$ (424)	(78.2)%
Foreign exchange gains (losses), net	826	(3,382)	(569)	\$ 4,208	(124.4)%
Other, net	(11,077)	(19,332)	(11,642)	\$ 8,255	(42.7)%
	<u>\$ (18,161)</u>	<u>\$ (61,510)</u>	<u>\$ (90,459)</u>	<u>\$ 43,349</u>	<u>(70.5)%</u>

Interest income increased in fiscal year 2019 compared to fiscal years 2018 and 2017 primarily as a result of higher yield. Interest expense in the year ended June 30, 2019, increased compared to the year ended June 24, 2018, primarily due to issuance of \$2.5 billion of senior notes. The decrease in interest expense during fiscal year 2018 compared to fiscal year 2017 was primarily due to the conversions of 2018 and 2041 Convertible Notes as well as the retirement of the 2018 Convertible Notes in May 2018.

The gain on deferred compensation plan related assets in fiscal years 2019, 2018 and 2017 was driven by an improvement in the fair market value of the underlying funds.

The loss on impairment of investments during fiscal year 2018 is the result of a decision to sell selected investments held in foreign jurisdictions in connection with our cash repatriation strategy following the December 2017 U.S. tax reform.

Loss on extinguishment of debt during fiscal year 2017 related to the special mandatory redemption of certain senior notes issued, as well as the termination of the Amended and Restated Term Loan Agreement following the termination of the Agreement and Plan of Merger and Reorganization with KLA-Tencor.

Income Tax Expense

As discussed in Note 7, "Income Taxes," to our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K, the "Tax Cuts & Jobs Act" (hereafter referred to as "U.S. tax reform") was signed into law on December 22, 2017 and was effective starting in our quarter ended December 24, 2017. U.S. tax reform reduced the U.S. federal statutory tax rate from 35% to 21%, assessed a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred, and created new taxes on certain foreign sourced earnings. The impact on income taxes due to a change in legislation is required under the authoritative guidance of Accounting Standards Codification ("ASC") 740, Income Taxes, to be recognized in the period in which the law is enacted. In conjunction, the SEC issued Staff Accounting Bulletin ("SAB") 118, which allowed for the recording of provisional amounts related to U.S. tax reform and subsequent adjustments related to U.S. tax reform during an up to one-year measurement period that is similar to the measurement period used when accounting for business combinations. We recorded what we believed to be reasonable estimates during the SAB 118 measurement period. During the December 2018 quarter, we finalized the accounting of the income tax effects of U.S. tax reform. Although the SAB 118 measurement period has ended, there may be some aspects of U.S. tax reform that remain subject to future regulations and/or notices which may further clarify certain provisions of U.S.

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tax reform. We may need to adjust our previously recorded amounts to reflect the recognition and measurement of our tax accounting positions in accordance with ASC 740; such adjustments could be material.

The below discussion around the provision for income taxes and effective tax rate are significantly impacted by U.S. tax reform.

Our provision for income taxes and effective tax rate for the periods indicated were as follows:

	Year Ended			Change	
	June 30, 2019	June 24, 2018	June 25, 2017	FY19 vs. FY18	FY18 vs. FY17
(in thousands, except percentages)					
Income tax expense	\$ 255,141	\$ 771,108	\$ 113,910	\$ (515,967)	\$ 657,198
Effective tax rate	10.4%	24.5%	6.3%	(14.1)%	18.2%

The decrease in the effective tax rate in fiscal year 2019 as compared to fiscal year 2018 was primarily due to the impact of U.S. tax reform and its mandated one-time transition tax on accumulated unrepatriated foreign earnings in fiscal year 2018.

The increase in the effective tax rate in fiscal year 2018 as compared to fiscal year 2017 was primarily due to the impact of U.S. tax reform and its mandated one-time transition tax on accumulated unrepatriated foreign earnings.

In July 2015, the U.S. Tax Court issued an opinion favorable to Altera Corporation ("Altera") with respect to Altera's litigation with the Internal Revenue Service ("IRS"). The litigation related to the treatment of stock-based compensation expense in an intercompany cost-sharing arrangement with Altera's foreign subsidiary. In its opinion, the U.S. Tax Court accepted Altera's position of excluding stock-based compensation from its intercompany cost-sharing arrangement. In June 2019, the U.S. Court of Appeals for the Ninth Circuit ("Ninth Circuit"), through a three-judge panel, reversed the 2015 decision of the U.S. Tax Court. Altera has petitioned the Ninth Circuit for an en banc rehearing of a larger panel of eleven Ninth Circuit judges. We will continue to monitor and evaluate the potential impact of this litigation on our fiscal year 2020 Consolidated Financial Statements. The estimated potential impact is in the range of \$75 million, which may result in a decrease in deferred tax assets and an increase in tax expense.

International revenues account for a significant portion of our total revenues, such that a material portion of our pre-tax income is earned and taxed outside the United States. Due to the Global Intangible Low-Taxed Income ("GILTI") provision described in Note 7 - Income Taxes, international pre-tax income is taxable in the United States at a lower effective tax rate than the federal statutory tax rate. Please refer to Note 7 of our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K.

Deferred Income Taxes

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effect of carryforwards. Our gross deferred tax assets were \$471 million and \$437 million at the end of fiscal years 2019 and 2018, respectively. These gross deferred tax assets were offset by gross deferred tax liabilities of \$160 million and \$169 million at the end of fiscal years 2019 and 2018, respectively, and a valuation allowance of \$227 million and \$200 million at the end of fiscal years 2019 and 2018, respectively. The increase in the gross deferred tax assets and valuation allowance between fiscal year 2019 and 2018 is primarily due to increases in tax carryforwards.

As of our fiscal year ended June 30, 2019, we continue to record a valuation allowance to offset the entire California deferred tax asset balance due to the single sales factor apportionment resulting in lower taxable income in California. The valuation allowances were \$227 million and \$200 million at the end of fiscal years 2019 and 2018, respectively.

We evaluate if the deferred tax assets are realizable on a quarterly basis and will continue to assess the need for changes in valuation allowances, if any.

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Uncertain Tax Positions

We re-evaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit, and new audit activity. Any change in recognition or measurement would result in the recognition of a tax benefit or an additional charge to the tax provision.

Critical Accounting Policies and Estimates

A critical accounting policy is defined as one that has both a material impact on our financial condition and results of operations and requires us to make difficult, complex and/or subjective judgments, often as a result of the need to make estimates about matters that are inherently uncertain. The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires management to make certain judgments, estimates and assumptions that could affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. We base our estimates and assumptions on historical experience and on various other assumptions we believe to be applicable and evaluate them on an ongoing basis to ensure they remain reasonable under current conditions. Actual results could differ significantly from those estimates, which could have a material impact on our business, results of operations, and financial condition. Our critical accounting estimates include:

- the recognition and valuation of revenue from arrangements with multiple performance obligations which impacts revenue;
- the valuation of inventory, which impacts gross margin;
- the valuation of warranty reserves, which impacts gross margin;
- the recognition and measurement of current and deferred income taxes, including the measurement of uncertain tax positions, which impact our provision for income tax expenses; and
- the valuation and recoverability of long-lived assets, which impacts gross margin and operating expenses when we record asset impairments or accelerate their depreciation or amortization.

We believe that the following critical accounting policies reflect the more significant judgments and estimates used in the preparation of our consolidated financial statements regarding the critical accounting estimates indicated above. See Note 2, "Summary of Significant Accounting Policies," of our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K for additional information regarding our accounting policies.

Revenue Recognition: On June 25, 2018, we adopted FASB ASU No. 2014-09 (ASC 606) - Revenue From Contracts with Customers which provides guidance for revenue recognition that superseded the revenue recognition requirements in ASC 605, Revenue Recognition and most industry specific guidance.

We recognize revenue when promised goods or services are transferred to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services by following a five-step process, (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price, and (5) recognize revenue when or as we satisfy a performance obligation, as further described below.

Identify the contract with a customer. We generally consider documentation of terms with an approved purchase order as a customer contract, provided that collection is considered probable, which is assessed based on the creditworthiness of the customer as determined by credit checks, payment histories, and/or other circumstances.

Identify the performance obligations in the contract. Performance obligations include sales of systems, spare parts, and services. In addition, our customer contracts contain provisions for installation and training services which have been deemed immaterial in the context of the contract.

Determine the transaction price. The transaction price for our contracts with customers consists of both fixed and variable consideration provided it is probable that a significant reversal of revenue will not occur when the uncertainty related to variable consideration is resolved. Fixed consideration includes amounts to be contractually billed to the customer while variable consideration includes estimates for discounts and credits for future usage which are based on contractual terms outlined in volume purchase agreements and other factors known at the time. We generally invoice customers at shipment and for professional services either as provided or upon meeting certain milestones. Customer invoices are generally due within 30 to 90 days after issuance.

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Our contracts with customers typically do not include significant financing components as the period between the transfer of performance obligations and timing of payment are generally within one year.

Allocate the transaction price to the performance obligations in the contract. For contracts that contain multiple performance obligations, we allocate the transaction price to the performance obligations on a relative standalone selling price basis. Standalone selling prices are based on multiple factors including, but not limited to historical discounting trends for products and services and pricing practices in different geographies.

Recognize revenue when or as we satisfy a performance obligation. Revenue for systems and spares are recognized at a point in time, which is generally upon shipment or delivery. Revenue from services is recognized over time as services are completed or ratably over the contractual period of generally one year or less.

Inventory Valuation: Our policy is to assess the valuation of all inventories including manufacturing raw materials, work-in-process, finished goods, and spare parts in each reporting period. Obsolete inventory or inventory in excess of management's estimated usage requirement is written down to its estimated net realizable value if less than cost. Estimates of market value include but are not limited to management's forecasts related to our future manufacturing schedules, customer demand, technological and/or market obsolescence, general semiconductor market conditions, and possible alternative uses. If future customer demand or market conditions are less favorable than our projections, additional inventory write-downs may be required and would be reflected in cost of goods sold in the period in which we make the revision.

Warranty: We record a provision for estimated warranty expenses to cost of sales for each system when we recognize revenue. We periodically monitor the performance and cost of warranty activities, if actual costs incurred are different than our estimates, we may recognize adjustments to provisions in the period in which those differences arise or are identified. We do not maintain general or unspecified reserves; all warranty reserves are related to specific systems.

Income Taxes: Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effect of carryforwards. We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Realization of our net deferred tax assets is dependent on future taxable income. We believe it is more likely than not that such assets will be realized; however, ultimate realization could be negatively impacted by market conditions and other variables not known or anticipated at this time. In the event that we determine that we will not be able to realize all or part of our net deferred tax assets, an adjustment will be charged to earnings in the period such determination is made. Likewise, if we later determine that it is more likely than not that the deferred tax assets will be realized, then the previously provided valuation allowance will be reversed.

We recognize the benefit from a tax position only if it is more likely than not that the position will be sustained upon audit based solely on the technical merits of the tax position. Our policy is to include interest and penalties related to unrecognized tax benefits as a component of income tax expense.

Long-lived Assets: We review goodwill at least annually for impairment. If certain events or indicators of impairment occur between annual impairment tests, we will perform an impairment test at that date. In testing for a potential impairment of goodwill, we: (1) allocate goodwill to the reporting units to which the acquired goodwill relates; (2) estimate the fair value of our reporting units; and (3) determine the carrying value (book value) of those reporting units. Prior to this allocation of the assets to the reporting units, we assess long-lived assets for impairment. Furthermore, if the estimated fair value of a reporting unit is less than the carrying value, we must estimate the fair value of all identifiable assets and liabilities of that reporting unit, in a manner similar to a purchase price allocation for an acquired business. This can require independent valuations of certain internally generated and unrecognized intangible assets such as in-process R&D and developed technology. Only after this process is completed can the amount of goodwill impairment, if any, be determined. In our goodwill impairment process we first assess qualitative factors to determine whether it is necessary to perform a quantitative analysis. We do not calculate the fair value of a reporting unit unless we determine, based on a qualitative assessment, that it is more likely than not that the reporting unit's fair value is less than its carrying amount.

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The process of evaluating the potential impairment of goodwill is subjective and requires significant judgment at many points during the analysis. We determine the fair value of our reporting units by using an income approach. Under the income approach, we determine fair value based on estimated future cash flows of each reporting unit, discounted by an estimated weighted-average cost of capital, which reflects the overall level of inherent risk of a reporting unit and the rate of return an outside investor would expect to earn.

In estimating the fair value of a reporting unit, we make estimates and judgments about the future cash flows of our reporting units, including estimated growth rates and assumptions about the economic environment. Although our cash flow forecasts are based on assumptions that are consistent with the plans and estimates we are using to manage the underlying businesses, there is significant judgment involved in determining the cash flows attributable to a reporting unit. In addition, we make certain judgments about allocating shared assets to the estimated balance sheets of our reporting units. Changes in judgment on these assumptions and estimates could result in a goodwill impairment charge.

As a result, several factors could result in an impairment of a material amount of our goodwill balance in future periods, including but not limited to: (1) weakening of the global economy, weakness in the semiconductor equipment industry, or our failure to reach internal forecasts, which could impact our ability to achieve our forecasted levels of cash flows and reduce the estimated discounted cash flow value of our reporting units; and (2) a decline in our Common Stock price and resulting market capitalization, to the extent we determine that the decline is sustained and indicates a reduction in the fair value of our reporting units below their carrying value. Further, the value assigned to intangible assets, other than goodwill, is based on estimates and judgments regarding expectations such as the success and lifecycle of products and technology acquired. If actual product acceptance differs significantly from the estimates, we may be required to record an impairment charge to write down the asset to its realizable value.

For other long-lived assets, we routinely consider whether indicators of impairment are present. If such indicators are present, we determine whether the sum of the estimated undiscounted cash flows attributable to the assets is less than their carrying value. If the sum is less, we recognize an impairment loss based on the excess of the carrying amount of the assets over their respective fair values. Fair value is determined by discounted future cash flows, appraisals or other methods. We recognize an impairment charge to the extent the present value of anticipated net cash flows attributable to the asset are less than the asset's carrying value. The fair value of the asset then becomes the asset's new carrying value, which we depreciate over the remaining estimated useful life of the asset. Assets to be disposed of are reported at the lower of the carrying amount or fair value.

[Recent Accounting Pronouncements](#)

For a description of recent accounting pronouncements, including the expected dates of adoption and estimated effects, if any, on our consolidated financial statements, see Note 3, "Recent Accounting Pronouncements," of our Consolidated Financial Statements, included in Part II, Item 8 of this 2019 Form 10-K.

[Liquidity and Capital Resources](#)

Total gross cash, cash equivalents, investments, and restricted cash and investments balances were \$5.7 billion at the end of fiscal year 2019 compared to \$5.2 billion at the end of fiscal year 2018. This increase was primarily due to cash provided by operating activities and the issuance of \$2.5 billion of senior notes, partially offset by Common Stock repurchases in connection with our stock repurchase program and dividends paid.

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Cash Flow from Operating Activities

Net cash provided by operating activities of \$3.2 billion during fiscal year 2019 consisted of (in millions):

Net income	\$	2,191
Non-cash charges:		
Depreciation and amortization		309
Equity-based compensation expense		187
Deferred income taxes		(5)
Amortization of note discounts and issuance costs		7
Changes in operating asset and liability accounts		492
Other		(5)
	\$	3,176

Significant changes in operating asset and liability accounts, net of foreign exchange impact, included the following sources of cash: decreases in accounts receivable of \$732 million and inventories of \$281 million; partially offset by uses of cash: decreases in accrued expenses and other liabilities of \$195 million, deferred profit of \$178 million, accounts payable of \$131 million, and prepaid assets of \$18 million.

Cash Flow from Investing Activities

Net cash used by investing activities during fiscal year 2019 was \$1.6 billion, primarily consisting of net purchases of available-for-sale securities of \$1.3 billion, along with capital expenditures of \$303 million.

Cash Flow from Financing Activities

Net cash used by financing activities during fiscal year 2019 was \$2.4 billion, primarily consisting of \$3.8 billion in Common Stock repurchases, \$678 million of dividends paid, \$2.0 billion of net proceeds from issuance of debt, and \$85 million of stock issuance and treasury stock reissuances associated with our employee stock-based compensation plans.

Liquidity

Given that the semiconductor industry is highly competitive and has historically experienced rapid changes in demand, we believe that maintaining sufficient liquidity reserves is important to support sustaining levels of investment in R&D and capital infrastructure. Anticipated cash flows from operations based on our current business outlook, combined with our current levels of cash, cash equivalents, and short-term investments as of June 30, 2019, are expected to be sufficient to support our anticipated levels of operations, investments, debt service requirements, capital expenditures, capital redistributions, and dividends through at least the next twelve months. However, uncertainty in the global economy and the semiconductor industry, as well as disruptions in credit markets, have in the past, and could in the future, impact customer demand for our products, as well as our ability to manage normal commercial relationships with our customers, suppliers, and creditors.

In the longer term, liquidity will depend to a great extent on our future revenues and our ability to appropriately manage our costs based on demand for our products and services. While we have substantial cash balances, we may require additional funding and need or choose to raise the required funds through borrowings or public or private sales of debt or equity securities. We believe that, if necessary, we will be able to access the capital markets on terms and in amounts adequate to meet our objectives. However, given the possibility of changes in market conditions or other occurrences, there can be no assurance that such funding will be available in needed quantities or on terms favorable to us.

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Off-Balance Sheet Arrangements and Contractual Obligations

We have certain obligations to make future payments under various contracts, some of which are recorded on our balance sheet and some of which are not. Obligations that are recorded on our balance sheet in accordance with GAAP include our long-term debt which is outlined in the following table. Our off-balance sheet arrangements are presented as operating leases and purchase obligations in the table. Our contractual obligations and commitments as of June 30, 2019, relating to these agreements and our guarantees are included in the following table based on their contractual maturity date.

The amounts in the table below exclude \$373 million of liabilities related to uncertain tax benefits as we are unable to reasonably estimate the ultimate amount or time of settlement. See Note 7 of our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K for further discussion. The amounts in the table below also exclude \$10 million associated with funding commitments related to non-marketable equity investments as we are unable to make a reasonable estimate regarding the timing of capital calls.

	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
(in thousands)					
Operating leases	\$ 98,389	\$ 37,427	\$ 36,581	\$ 12,556	\$ 11,825
Capital leases (1)	50,049	7,729	17,422	10,097	14,801
Purchase obligations	424,561	345,498	28,946	13,442	36,675
Long-term debt and interest expense (2)	6,468,517	660,840	1,079,096	257,630	4,470,951
One-time transition tax on accumulated unrepatriated foreign earnings (3)	798,892	69,469	138,938	199,723	390,762
Other long-term liabilities (4)	190,821	4,785	13,692	7,802	164,542
Total	\$ 8,031,229	\$ 1,125,748	\$ 1,314,675	\$ 501,250	\$ 5,089,556

- (1) Excludes \$26.5 million associated with our build-to-suit lease arrangements that are classified as capital leases in the Consolidated Balance Sheets in Part II, Item 8 of this 2019 Form 10-K for which cash payment is not anticipated.
- (2) The conversion period for the 2.625% Convertible Senior Notes due May 2041 (the "2041 Notes") was open as of June 30, 2019, and as such the net carrying value of the 2041 Notes is included within current liabilities on our Consolidated Balance Sheet. The principal balances of the 2041 Notes are reflected in the payment period in the table above based on the contractual maturity assuming no conversion. See Note 14 of our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K for additional information concerning the 2041 Notes and associated conversion features.
- (3) We may choose to apply existing tax credits, thereby reducing the actual cash payment.
- (4) Certain tax-related liabilities and post-retirement benefits classified as other non-current liabilities on the Consolidated Balance Sheet are included in the "More than 5 Years" category due to the uncertainty in the timing and amount of future payments. Additionally, the balance excludes contractual obligations recorded in our Consolidated Balance Sheet as current liabilities.

Operating Leases

We lease most of our administrative, R&D, and manufacturing facilities; regional sales/service offices; and certain equipment under non-cancelable operating leases. Certain of our facility leases for buildings located in Fremont and Livermore, California; Tualatin, Oregon; and certain other facility leases provide us with an option to extend the leases for additional periods or to purchase the facilities. Certain of our facility leases provide for periodic rent increases based on the general rate of inflation. In addition to amounts included in the table above, we have guaranteed residual values for certain of our Fremont and Livermore facility leases of up to \$250 million. See Note 16 to our Consolidated Financial Statements in Part II, Item 8 of this 2019 Form 10-K for further discussion.

Capital Leases

Capital leases reflect building and office equipment lease obligations. The amounts in the table above include the interest portion of payment obligations.

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Purchase Obligations

Purchase obligations consist of significant contractual obligations either on an annual basis or over multi-year periods related to our outsourcing activities or other material commitments, including vendor-consigned inventories. The contractual cash obligations and commitments table presented above contains our minimum obligations at June 30, 2019, under these arrangements and others. For obligations with cancellation provisions, the amounts included in the preceding table were limited to the non-cancelable portion of the agreement terms or the minimum cancellation fee. Actual expenditures will vary based on the volume of transactions and length of contractual service provided.

Income Taxes

During the December 2017 quarter, a one-time transition tax on accumulated unrepatriated foreign earnings, estimated at \$991 million, was recognized associated with the December 2017 U.S. tax reform. In accordance with SAB 118, we finalized the amount of the transition tax during the period ended December 23, 2018. The final amount is \$868.4 million. The Company elected to pay the one-time transition tax over a period of eight years with 8% of the transition tax to be paid each September 15 for years 2018 through 2022, and 15%, 20%, and 25%, respectively, to be paid each September 15 for years 2023 through 2025.

Long-Term Debt

In June 2012, with the acquisition of Novellus, we assumed \$700 million in aggregate principal amount of 2.625% Convertible Senior Notes due May 2041. We pay cash interest on the 2041 Notes at an annual rate of 2.625%, on a semi-annual basis. The 2041 Notes may be converted, under certain circumstances, into our Common Stock.

During the quarter-ended June 30, 2019, the market value of our Common Stock was greater than or equal to 130% of the 2041 Notes conversion prices for 20 or more trading days of the 30 consecutive trading days preceding the quarter end. As a result, the 2041 Notes are convertible at the option of the holder and are classified as current liabilities in our Consolidated Balance Sheets for fiscal year 2019.

On March 12, 2015, we completed a public offering of \$500 million aggregate principal amount of Senior Notes due March 15, 2020 (the "2020 Notes") and \$500 million aggregate principal amount of Senior Notes due March 15, 2025 (the "2025 Notes"). We pay interest at an annual rate of 2.75% and 3.80%, respectively, on the 2020 Notes and 2025 Notes, on a semi-annual basis on March 15 and September 15 of each year.

On June 7, 2016, we completed a public offering of \$800.0 million aggregate principal amount of Senior Notes due June 15, 2021, (the "2021 Notes"), together with the 2020 Notes, and 2021 Notes, the "Senior Notes", and collectively with the Convertible Notes, the "Notes"). We pay interest at an annual rate of 2.80% on the 2021 Notes on a semi-annual basis on June 15 and December 15 of each year.

On March 4, 2019, we completed a public offering of \$750 million aggregate principal amount of the Company's Senior Notes due March 15, 2026 (the "2026 Notes"), \$1 billion aggregate principal amount of the Company's Senior Notes due March 15, 2029 (the "2029 Notes"), and \$750 million aggregate principal amount of the Company's Senior Notes due March 15, 2049 (the "2049 Notes", collectively with the 2026 and 2029 Notes, the "Senior Notes issued in 2019"). We will pay interest at an annual rate of 3.75%, 4.00%, and 4.875%, respectively on the 2026, 2029 and 2049 Notes, on a semi-annual basis on March 15 and September 15 of each year, beginning September 15, 2019.

We may redeem the 2020, 2021, 2025, 2026, 2029 and 2049 Notes (collectively the "Senior Notes") at a redemption price equal to 100% of the principal amount of such series ("par"), plus a "make whole" premium as described in the indenture in respect to the Senior Notes and accrued and unpaid interest before February 15, 2020, for the 2020 Notes, before May 15, 2021 for the 2021 Notes, before December 15, 2024 for the 2025 Notes, before January 15, 2026 for the 2026 Notes, before December 15, 2028 for the 2029 Notes, and before September 15, 2048 for the 2049 Notes. We may redeem the Senior Notes at par, plus accrued and unpaid interest at any time on or after February 15, 2020, for the 2020 Notes, on or after May 15, 2021 for the 2021 Notes, on or after December 24, 2024, for the 2025 Notes, on or after January 15, 2026 for the 2026 Notes, on or after December 15, 2028 for the 2029 Notes, and on or after September 15, 2048 for the 2049 Notes. In addition, upon the occurrence of certain events, as described in the indenture, we will be required to make an

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offer to repurchase the Senior Notes at a price equal to 101% of the principal amount of the respective note, plus accrued and unpaid interest.

During fiscal year 2019, 2018, and 2017, we made \$117 million, \$753 million, and \$1.7 billion, respectively, in principal payments on long-term debt and capital leases.

Revolving Credit Arrangements

On March 12, 2014, the Company established an unsecured Credit Agreement. This agreement was amended on November 10, 2015 (the “Amended and Restated Credit Agreement”), October 13, 2017 (the “2nd Amendment”), and February 25, 2019 (the “3rd Amendment”). Under the Amended and Restated Credit Agreement (as amended by the 2nd and 3rd Amendment), the Company has a revolving credit facility of \$1.25 billion with a syndicate of lenders with an expansion option that will allow the Company, subject to certain requirements, to request an increase in the facility of up to an additional \$600 million, for a potential total commitment of \$1.85 billion. The facility matures on October 13, 2022.

Interest on amounts borrowed under the credit facility is, at our option, based on (1) a base rate, defined as the greatest of (a) prime rate, (b) Federal Funds rate plus 0.5%, or (c) one-month London Interbank Offered Rate (“LIBOR”) plus 1.0%, plus a spread of 0.0% to 0.5%, or (2) LIBOR multiplied by the statutory reserve rate, plus a spread of 0.9% to 1.5%, in each case as the applicable spread is determined based on the rating of our non-credit enhanced, senior unsecured long-term debt. Principal and any accrued and unpaid interest is due and payable upon maturity. Additionally, we will pay the lenders a quarterly commitment fee that varies based on our credit rating. The Amended Credit Agreement contains affirmative covenants, negative covenants, financial covenants, and events of default. As of June 30, 2019, we had no borrowings outstanding under the Amended Credit Agreement and were in compliance with all financial covenants.

Commercial Paper Program

On November 13, 2017, we established a commercial paper program (the “CP Program”) under which we may issue unsecured commercial paper notes on a private placement basis up to a maximum aggregate amount outstanding at any time of \$1.25 billion. Individual maturities may vary, but cannot not exceed 397 days from the date of issue. The net proceeds from the CP Program will be used for general corporate purposes, including repurchases of our Common Stock from time to time under our stock repurchase program. If at any time, funds are not available under favorable terms under the CP Program, we may utilize the Amended Credit Agreement for funding. Amounts available under the CP Program may be re-borrowed. The CP Program is backstopped by our Revolving Credit Arrangement. As of June 30, 2019, we had no outstanding borrowings under the CP Program.

Other Guarantees

We have issued certain indemnifications to our lessors for taxes and general liability under some of our agreements. We have entered into certain insurance contracts that may limit our exposure to such indemnifications. As of June 30, 2019, we had not recorded any liability on our Consolidated Financial Statements in connection with these indemnifications, as we do not believe, based on information available, that it is probable that we will pay any material amounts under these guarantees.

Generally, we indemnify, under pre-determined conditions and limitations, our customers for infringement of third-party intellectual property rights by our products or services. We seek to limit our liability for such indemnity to an amount not to exceed the sales price of the products or services subject to our indemnification obligations. We do not believe, based on information available, that it is probable that we will pay any material amounts under these guarantees.

We provide guarantees and standby letters of credit to certain parties as required for certain transactions initiated during the ordinary course of business. As of June 30, 2019, the maximum potential amount of future payments that we could be required to make under these arrangements and letters of credit was \$43 million. We do not believe, based on historical experience and information currently available, that it is probable that any material amounts will be required to be paid.

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We have entered into indemnification agreements with our officers and directors, consistent with our Bylaws and Certificate of Incorporation; and under local law, we may be required to provide indemnification to our employees for actions within the scope of their employment. Although we maintain insurance contracts that cover some of the potential liability associated with these indemnification agreements, there is no guarantee that all such liabilities will be covered. We do not believe, based on historical experience and information currently available, that it is probable that any material amounts will be required to be paid under such indemnification agreements or statutory obligations.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Investments

We maintain an investment portfolio of various holdings, types, and maturities. As of June 30, 2019, our mutual funds are classified as trading securities. Investments classified as trading securities are recorded at fair value based upon quoted market prices. Any material differences between the cost and fair value of trading securities is recognized as "Other income (expense)" in our Consolidated Statement of Operations. All of our other investments are classified as available-for-sale and consequently are recorded in the Consolidated Balance Sheets at fair value with unrealized gains or losses reported as a separate component of accumulated other comprehensive income, net of tax.

Interest Rate Risk

Fixed-Income Securities

Our investments in various interest-earning securities carry a degree of market risk for changes in interest rates. At any time, a sharp rise in interest rates could have a material adverse impact on the fair value of our fixed-income investment portfolio. Conversely, declines in interest rates could have a material adverse impact on interest income for our investment portfolio. We target a capital preservation-focused investment policy, which focuses on the safety and preservation of our capital by limiting default risk, market risk, reinvestment risk, and concentration risk. The following table presents the hypothetical fair values of fixed-income securities that would result from selected potential decreases and increases in interest rates. Market changes reflect immediate hypothetical parallel shifts in the yield curve of plus or minus 50 basis points ("BPS"), 100 BPS, and 150 BPS. The hypothetical fair values as of June 30, 2019, were as follows:

	Valuation of Securities Given an Interest Rate Decrease of X Basis Points			Fair Value as of June 30, 2019	Valuation of Securities Given an Interest Rate Increase of X Basis Points		
	(150 BPS)	(100 BPS)	(50 BPS)	—%	50 BPS	100 BPS	150 BPS
	(in thousands)						
U.S. Treasury and agencies	467,445	466,940	466,427	465,914	465,403	464,891	464,379
Government-sponsored enterprises	16,108	16,062	16,015	15,969	15,921	15,875	15,828
Foreign government bonds	24,592	24,542	24,493	24,443	24,394	24,344	24,294
Corporate notes and bonds	1,478,541	1,475,154	1,471,766	1,468,378	1,464,989	1,461,600	1,458,211
Mortgage backed securities - residential	6,240	6,208	6,176	6,144	6,112	6,080	6,048
Mortgage backed securities - commercial	30,157	30,014	29,871	29,727	29,585	29,442	29,299
Total	\$ 2,023,083	\$ 2,018,920	\$ 2,014,748	\$ 2,010,575	\$ 2,006,404	\$ 2,002,232	\$ 1,998,059

We mitigate default risk by investing in high credit quality securities and by positioning our portfolio to respond appropriately to a significant reduction in a credit rating of any investment issuer or guarantor. The portfolio includes only marketable securities with active secondary or resale markets to achieve portfolio liquidity and maintain a prudent amount of diversification.

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Long-Term Debt

As of June 30, 2019, we had \$4.5 billion in principal amount of fixed-rate long-term debt outstanding, with a fair value of \$5.7 billion. The fair value of our Notes is subject to interest rate risk, market risk, and other factors due to the convertible feature, as applicable. Generally, the fair value of Notes will increase as interest rates fall and decrease as interest rates rise. Additionally, the fair value of the 2041 Notes will increase as our Common Stock price increases and decrease as our Common Stock price decreases. The interest and market value changes affect the fair value of our Notes but do not impact our financial position, cash flows, or results of operations due to the fixed nature of the debt obligations. We do not carry the Notes at fair value, but present the fair value of the principal amount of our Notes for disclosure purposes.

Equity Price Risk

Publicly Traded Securities

The values of our investments in publicly traded securities, including mutual funds related to our obligations under our deferred compensation plans, are subject to market price risk. The following table presents the hypothetical fair values of our publicly traded securities that would result from potential decreases and increases in the price of each security in the portfolio. Potential fluctuations in the price of each security in the portfolio of plus or minus 10%, 15%, or 25% were selected based on potential near-term changes in those security prices. The hypothetical fair values as of June 30, 2019, were as follows:

	Valuation of Securities Given an X% Decrease in Stock Price			Fair Value as of June 30, 2019	Valuation of Securities Given an X% Increase in Stock Price		
	(25)%	(15)%	(10)%	—%	10%	15%	25%
	(in thousands)						
Mutual funds	\$ 58,306	\$ 66,080	\$ 69,967	77,741	\$ 85,515	\$ 89,402	\$ 97,176

Foreign Currency Exchange ("FX") Risk

We conduct business on a global basis in several major international currencies. As such, we are potentially exposed to adverse as well as beneficial movements in foreign currency exchange rates. The majority of our revenues and expenses are denominated in U.S. dollars. However, we are exposed to foreign currency exchange rate fluctuations primarily related to revenues denominated in Japanese yen and euro-denominated and Korean won-denominated expenses.

We enter into foreign currency forward contracts to minimize the short-term impact of exchange rate fluctuations on certain foreign currency denominated monetary assets and liabilities, primarily cash, third-party accounts receivable, accounts payable, and intercompany receivables and payables. In addition, we hedge certain anticipated foreign currency cash flows, primarily on revenues denominated in Japanese yen and expenses denominated in euro and Korean won.

To protect against adverse movements in value of anticipated revenues denominated in Japanese yen and expenses denominated in euro and Korean won, we enter into foreign currency forward and option contracts that generally expire within 12 months and no later than 24 months. The option contracts include collars, an option strategy that is comprised of a combination of a purchased put option and a written call option with the same expiration dates and Japanese yen notional amounts but with different strike prices. These foreign currency hedge contracts are designated as cash flow hedges and are carried on our balance sheet at fair value, with the effective portion of the contracts' gains or losses included in accumulated other comprehensive income (loss) and subsequently recognized in earnings in the same period the hedged revenue and/or expense is recognized. We also enter into foreign currency forward contracts to hedge the gains and losses generated by the remeasurement of certain non-U.S.-dollar denominated monetary assets and liabilities, primarily cash, third-party accounts receivable, accounts payable, and intercompany receivables and payables. The change in fair value of these balance sheet hedge contracts is recorded into earnings as a component of other income (expense), net, and offsets the change in fair value of the foreign currency denominated monetary assets and liabilities also recorded in other income (expense), net, assuming the hedge contract fully covers the hedged items. The notional amount and unrealized gain of our outstanding forward and option contracts that are

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designated as cash flow hedges, as of June 30, 2019, are shown in the table below. This table also shows the change in fair value of these cash flow hedges assuming a hypothetical foreign currency exchange rate movement of plus or minus 10 percent and plus or minus 15 percent.

				Unrealized FX Gain/(Loss) June 30, 2019	Valuation of FX Contracts Given an X% Increase (+)/Decrease(-) in Each				
					Notional Amount			= +/- (10%)	= +/- (15%)
(in millions)									
Forward contracts									
Sell	Japanese yen	\$	115.8	\$	(1.6)	\$	11.6	\$	17.4
Buy	Euro		43.8		(0.7)		4.8		7.5
Buy	Korean won		14.6		(0.3)		1.4		2.2
				\$	(2.6)	\$	17.8	\$	27.1

The notional amount and unrealized loss of our outstanding foreign currency forward contracts that are designated as balance sheet hedges, as of June 30, 2019, are shown in the table below. This table also shows the change in fair value of these balance sheet hedges, assuming a hypothetical foreign currency exchange rate movement of plus or minus 10 percent and plus or minus 15 percent. These changes in fair values would be offset in other income (expense), net, by corresponding change in fair values of the foreign currency denominated monetary assets and liabilities, assuming the hedge contract fully covers the intercompany and trade receivable balances.

				Unrealized FX Gain/(Loss) June 30, 2019	Valuation of FX Contracts Given an X% Increase (+)/Decrease(-) in Each				
					= +/- (10%)		= +/- (15%)		
(in millions)									
Forward contracts, balance sheet hedge									
Buy	British pound	\$	45.8	\$	—	\$	2.8	\$	4.3
Buy	Japanese yen		39.3		0.6		4.0		6.0
Buy	Taiwan dollar		29.0		—		2.9		4.3
Buy	Swiss francs		26.7		—		2.6		4.0
Buy	Euro		24.0		—		7.3		8.2
Buy	Chinese renminbi		14.4		—		1.4		2.2
Buy	Indian rupee		9.5		—		1.0		1.4
Buy	Singapore dollar		8.9		—		0.9		1.3
Buy	Korean won		7.8		—		0.8		1.2
				\$	0.6	\$	23.7	\$	32.9

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Interest Rate Contracts

Interest rate risk is present with both fixed- and floating-rate debt. Interest rate swap agreements designated as fair value hedges are used to mitigate our exposure to changes in the fair value of fixed-rate debt resulting from fluctuations in benchmark interest rates. Accordingly, benchmark interest rate fluctuations impact the fair value of our fixed-rate debt, which are offset by corresponding changes in the fair value of the swap agreements. Interest rate swaps may also be used to adjust interest rate exposures when appropriate, based on market conditions, and for qualifying hedges, the interest differential of swaps is included in interest expense. During the fiscal year ended June 26, 2016, we entered into a series of interest rate contracts with a total notional value of \$400 million where we received fixed rates and paid variable rates based on certain benchmark interest rates. Such interest rate swap arrangements were designated as fair value hedges of the fair value of the underlying debt instrument.

The following table shows the change in fair value of these fair value hedges, assuming a hypothetical benchmark interest rate movement of plus or minus 10 BPS and plus or minus 15 BPS.

	Fair Value as of June 30, 2019	Valuation of Fair Value Hedge Given an Interest rate increase (+)/Decrease (-) of X Basis Points	
		= +/- 10 BPS	= +/- 15 BPS
		(in millions)	
Interest Rate Contracts	\$ 3.6	\$ 2.1	\$ 3.2

Interest rate risk is also present on anticipated issuances of debt. We manage our interest rate exposure on anticipated issuances of debt through forward-starting interest rate swap agreements. Forward-starting interest rate swap agreements designated as cash flow hedges are used to mitigate our exposure to changes in future interest payments that results from fluctuations in benchmark interest rates prior to the issuance of the debt. Accordingly, benchmark interest rate fluctuations impact the interest cash flows of the Company's anticipated debt issuances, which are offset by corresponding changes in the fair value of the forward-starting interest rate swap agreements. During the fiscal year ended June 26, 2016, we entered into and settled a series of forward-starting interest rate swap agreements associated with our June 2016 debt offering. Such forward-starting interest rate swap agreements were designated as hedges of the cash flows associated with benchmark interest rates underlying future interest payments on the June 2016 debt issuances.

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**Item 8. Financial Statements and Supplementary Data**

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LAM RESEARCH CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Revenue	\$ 9,653,559	\$ 11,076,998	\$ 8,013,620
Cost of goods sold	5,295,100	5,911,966	4,410,261
Gross margin	4,358,459	5,165,032	3,603,359
Research and development	1,191,320	1,189,514	1,033,742
Selling, general, and administrative	702,407	762,219	667,485
Total operating expenses	1,893,727	1,951,733	1,701,227
Operating income	2,464,732	3,213,299	1,902,132
Other expense, net	(18,161)	(61,510)	(90,459)
Income before income taxes	2,446,571	3,151,789	1,811,673
Income tax expense	(255,141)	(771,108)	(113,910)
Net income	\$ 2,191,430	\$ 2,380,681	\$ 1,697,763
Net income per share:			
Basic	\$ 14.37	\$ 14.73	\$ 10.47
Diluted	\$ 13.70	\$ 13.17	\$ 9.24
Number of shares used in per share calculations:			
Basic	152,478	161,643	162,222
Diluted	159,915	180,782	183,770

See Notes to Consolidated Financial Statements

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LAM RESEARCH CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Net income	\$ 2,191,430	\$ 2,380,681	\$ 1,697,763
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustment	(6,648)	9,649	(2,843)
Cash flow hedges:			
Net unrealized gains (losses) during the period	2,461	(6,960)	5,841
Net (gains) losses reclassified into earnings	(2,749)	3,729	8,971
	(288)	(3,231)	14,812
Available-for-sale investments:			
Net unrealized gains (losses) during the period	3,535	(45,382)	(3,789)
Net (gains) losses reclassified into earnings	(199)	43,086	(1)
	3,336	(2,296)	(3,790)
Defined benefit plans, net change in unrealized component	(2,981)	129	(546)
Other comprehensive (loss) income, net of tax	(6,581)	4,251	7,633
Comprehensive income	\$ 2,184,849	\$ 2,384,932	\$ 1,705,396

See Notes to Consolidated Financial Statements

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LAM RESEARCH CORPORATION
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	June 30, 2019	June 24, 2018
ASSETS:		
Cash and cash equivalents	\$ 3,658,219	\$ 4,512,257
Investments	1,772,984	437,338
Accounts receivable, less allowance for doubtful accounts of \$5,021 as of June 30, 2019 and \$5,343 as of June 24, 2018	1,455,522	2,176,936
Inventories	1,540,140	1,876,162
Prepaid expenses and other current assets	133,544	147,218
Total current assets	8,560,409	9,149,911
Property and equipment, net	1,059,077	902,547
Restricted cash and investments	255,177	256,301
Goodwill	1,484,597	1,484,904
Intangible assets, net	216,950	317,836
Other assets	425,123	367,979
Total assets	\$ 12,001,333	\$ 12,479,478
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Trade accounts payable	\$ 376,561	\$ 510,983
Accrued expenses and other current liabilities	946,641	1,309,209
Deferred profit	381,317	720,086
Commercial paper and current portion of convertible notes and capital leases	667,131	610,030
Total current liabilities	2,371,650	3,150,308
Senior notes, convertible notes, and capital leases, less current portion	3,822,768	1,806,562
Income taxes payable	892,790	851,936
Other long-term liabilities	190,821	90,629
Total liabilities	7,278,029	5,899,435
Commitments and contingencies		
Temporary equity, convertible notes	49,439	78,192
Stockholders' equity:		
Preferred stock, at par value of \$0.001 per share; authorized - 5,000 shares, none outstanding	—	—
Common stock, at par value of \$0.001 per share; authorized - 400,000 shares; issued and outstanding 144,433 shares at June 30, 2019, and 156,892 shares at June 24, 2018	144	157
Additional paid-in capital	6,409,405	6,144,425
Treasury stock, at cost, 140,573 shares at June 30, 2019, and 119,679 shares at June 24, 2018	(11,602,573)	(7,846,476)
Accumulated other comprehensive loss	(64,030)	(57,449)
Retained earnings	9,930,919	8,261,194
Total stockholders' equity	4,673,865	6,501,851
Total liabilities and stockholders' equity	\$ 12,001,333	\$ 12,479,478

See Notes to Consolidated Financial Statements

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LAM RESEARCH CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	\$ 2,191,430	\$ 2,380,681	\$ 1,697,763
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	309,281	326,395	306,905
Deferred income taxes	(4,980)	3,046	104,936
Equity-based compensation expense	187,234	172,216	149,975
Income tax benefit on equity-based compensation plans	—	—	38,747
Excess tax benefits on equity-based compensation plans	—	—	(38,635)
Impairment of investments	—	42,456	—
(Gains) losses on extinguishment of debt, net	(118)	(542)	36,252
Amortization of note discounts and issuance costs	7,343	14,428	25,282
Gain on sale of assets	—	—	(163)
Other, net	(5,701)	34,260	19,052
Changes in operating asset and liability accounts:			
Accounts receivable, net of allowance	732,138	(501,628)	(411,287)
Inventories	281,355	(701,008)	(307,875)
Prepaid expenses and other assets	(17,864)	(14,391)	(27,269)
Trade accounts payable	(131,472)	35,655	126,819
Deferred profit	(178,074)	112,413	258,473
Accrued expenses and other liabilities	(194,559)	751,766	50,307
Net cash provided by operating activities	3,176,013	2,655,747	2,029,282
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital expenditures and intangible assets	(303,491)	(273,469)	(157,419)
Business acquisition, net of cash acquired	—	(115,697)	—
Purchases of available-for-sale securities	(2,930,049)	(2,532,829)	(4,581,851)
Proceeds from maturities of available-for-sale securities	466,539	650,255	891,002
Proceeds from sales of available-for-sale securities	1,137,302	5,035,460	1,806,963
Proceeds from sale of assets	—	—	1,291
Other, net	(7,355)	(15,184)	(12,815)
Net cash (used for) provided by investing activities	(1,637,054)	2,748,536	(2,052,829)

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	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
CASH FLOWS FROM FINANCING ACTIVITIES:			
Principal payments on long-term debt and capital lease obligations and payments for debt issuance costs	(117,653)	(755,694)	(1,688,313)
Net proceeds from issuance of long-term debt	2,476,720	—	—
Net (repayment) proceeds from commercial paper	(361,754)	359,604	—
Proceeds from borrowings on revolving credit facility	—	750,000	—
Repayment of borrowings on revolving credit facility	—	(750,000)	—
Excess tax benefits on equity-based compensation plans	—	—	38,635
Treasury stock purchases	(3,780,611)	(2,653,249)	(811,672)
Dividends paid	(678,348)	(307,609)	(243,495)
Reissuances of treasury stock related to employee stock purchase plan	77,961	75,624	59,663
Proceeds from issuance of common stock	6,813	9,258	12,913
Other, net	(13,208)	9	(125)
Net cash used for financing activities	\$ (2,390,080)	\$ (3,272,057)	\$ (2,632,394)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	\$ (4,041)	\$ 2,593	\$ (63)
Net (decrease) increase in cash, cash equivalents and restricted cash	(855,162)	2,134,819	(2,656,004)
Cash, cash equivalents and restricted cash at beginning of year	4,768,558	2,633,739	5,289,743
Cash, cash equivalents and restricted cash at end of year	\$ 3,913,396	\$ 4,768,558	\$ 2,633,739
Schedule of non-cash transactions			
Accrued payables for stock repurchases	\$ 29	\$ 116	\$ —
Accrued payables for capital expenditures	23,185	24,001	17,285
Dividends payable	158,868	174,372	72,738
Transfers of finished goods inventory to property and equipment, net	54,533	57,886	46,855
Supplemental disclosures:			
Cash payments for interest	\$ 76,933	\$ 84,401	\$ 104,619
Cash payments for income taxes, net	300,268	142,800	28,104
Reconciliation of cash, cash equivalents, and restricted cash			
Cash and cash equivalents	3,658,219	4,512,257	2,377,534
Restricted cash and investments	255,177	256,301	256,205
Total cash, cash equivalents, and restricted cash	3,913,396	4,768,558	2,633,739

See Notes to Consolidated Financial Statements

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LAM RESEARCH CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except per common share data)

	Common Stock Shares	Common Stock	Additional Paid-in Capital	Treasury Stock	Accumulated Other Comprehensive Income(Loss)	Retained Earnings	Total
Balance at June 26, 2016	160,201	\$ 160	\$ 5,572,898	\$ (4,429,317)	\$ (69,333)	\$ 4,820,109	\$ 5,894,517
Sale of common stock	2,661	3	12,910	—	—	—	12,913
Purchase of treasury stock	(5,322)	(5)	—	(811,667)	—	—	(811,672)
Income tax benefits on equity-based compensation plans	—	—	38,747	—	—	—	38,747
Reissuance of treasury stock	825	1	34,865	24,797	—	—	59,663
Equity-based compensation expense	—	—	149,975	—	—	—	149,975
Effect of conversion of convertible notes	1,388	1	(1,596)	—	—	—	(1,595)
Exercise of warrants	1,970	2	(5)	—	—	—	(3)
Reclassification from temporary to permanent equity	—	—	37,691	—	—	—	37,691
Net income	—	—	—	—	—	1,697,763	1,697,763
Other comprehensive income	—	—	—	—	7,633	—	7,633
Cash dividends declared (\$1.65 per common share)	—	—	—	—	—	(268,181)	(268,181)
Balance at June 25, 2017	161,723	162	5,845,485	(5,216,187)	(61,700)	6,249,691	6,817,451
Sale of common stock	1,934	2	9,256	—	—	—	9,258
Purchase of treasury stock	(14,786)	(15)	—	(2,653,350)	—	—	(2,653,365)
Reissuance of treasury stock	677	1	52,562	23,061	—	—	75,624
Equity-based compensation expense	—	—	172,216	—	—	—	172,216
Effect of conversion of convertible notes	10,199	10	(26,776)	—	—	—	(26,766)
Effect of bond hedge, cash in lieu of shares	(2,855)	(3)	13	—	—	—	10
Reclassification from temporary to permanent equity	—	—	91,669	—	—	—	91,669
Adoption of ASU 2016-09	—	—	—	—	—	40,065	40,065
Net income	—	—	—	—	—	2,380,681	2,380,681
Other comprehensive income	—	—	—	—	4,251	—	4,251
Cash dividends declared (\$2.55 per common share)	—	—	—	—	—	(409,243)	(409,243)
Balance at June 24, 2018	156,892	157	6,144,425	(7,846,476)	(57,449)	8,261,194	6,501,851

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	Common Stock Shares	Common Stock	Additional Paid-in Capital	Treasury Stock	Accumulated Other Comprehensive Income(Loss)	Retained Earnings	Total
Sale of common stock	1,090	1	6,812	—	—	—	6,813
Purchase of treasury stock	(21,059)	(21)	—	(3,780,503)	—	—	(3,780,524)
Reissuance of treasury stock	622	—	53,555	24,406	—	—	77,961
Equity-based compensation expense	—	—	187,234	—	—	—	187,234
Effect of conversion of convertible notes	2,783	3	(11,361)	—	—	—	(11,358)
Exercise of warrants	4,105	4	(12)	—	—	—	(8)
Reclassification from temporary to permanent equity	—	—	28,752	—	—	—	28,752
Adoption of ASU 2014-09 ⁽¹⁾	—	—	—	—	—	139,355	139,355
Adoption of ASU 2016-16 ⁽¹⁾	—	—	—	—	—	(443)	(443)
Adoption of ASU 2018-02 ⁽¹⁾	—	—	—	—	(2,227)	2,227	—
Net income	—	—	—	—	—	2,191,430	2,191,430
Other comprehensive loss	—	—	—	—	(4,354)	—	(4,354)
Cash dividends declared (\$4.40 per common share)	—	—	—	—	—	(662,844)	(662,844)
Balance at June 30, 2019	144,433	\$ 144	\$ 6,409,405	\$ (11,602,573)	\$ (64,030)	\$ 9,930,919	\$ 4,673,865

¹⁾ Refer to Note 3 - Recent Accounting Pronouncements for more information regarding these FASB Accounting Standard Updates.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

June 30, 2019

Note 1: Company and Industry Information

The Company designs, manufactures, markets, refurbishes, and services semiconductor processing equipment used in the fabrication of integrated circuits. Semiconductor manufacturing, our customers' business, involves the complete fabrication of multiple dies or integrated circuits on a wafer. This involves the repetition of a set of core processes and can require hundreds of individual steps. Fabricating these devices requires highly sophisticated process technologies to integrate an increasing array of new materials with precise control at the atomic scale. Along with meeting technical requirements, wafer processing equipment must deliver high productivity and be cost-effective.

The Company sells its products and services primarily to companies involved in the production of semiconductors in the United States, China, Europe, Japan, Korea, Southeast Asia, and Taiwan.

The semiconductor industry is cyclical in nature and has historically experienced periodic downturns and upturns. Today's leading indicators of changes in customer investment patterns, such as electronics demand, memory pricing, and foundry utilization rates, may not be any more reliable than in prior years. Demand for the Company's equipment can vary significantly from period to period as a result of various factors including, but not limited to economic conditions; supply, demand, and prices for semiconductors; customer capacity requirements; and the Company's ability to develop and market competitive products. For these and other reasons, the Company's results of operations for fiscal years 2019, 2018, and 2017 may not necessarily be indicative of future operating results.

Reclassification: Certain amounts for the fiscal years 2018 and 2017 Consolidated Statement of Cash Flows, and certain amounts within the 2017 footnotes have been reclassified to conform to the fiscal year 2019 presentation.

Note 2: Summary of Significant Accounting Policies

The preparation of financial statements in conformity with GAAP requires management to make judgments, estimates, and assumptions that could affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. The Company bases its estimates and assumptions on historical experience and on various other assumptions it believes to be applicable and evaluates them on an ongoing basis to ensure they remain reasonable under current conditions. Actual results could differ significantly from those estimates.

Revenue Recognition: On June 25, 2018, the Company adopted FASB ASU No. 2014-09 (ASC 606) - Revenue From Contracts with Customers which provides guidance for revenue recognition that superseded the revenue recognition requirements in ASC 605, Revenue Recognition and most industry specific guidance.

The Company recognizes revenue when promised goods or services are transferred to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services by following a five-step process, (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price, and (5) recognize revenue when or as the Company satisfies a performance obligation, as further described below.

Identify the contract with a customer. The Company generally considers documentation of terms with an approved purchase order as a customer contract provided that collection is considered probable, which is assessed based on the creditworthiness of the customer as determined by credit checks, payment histories, and/or other circumstances.

Identify the performance obligations in the contract. Performance obligations include sales of systems, spare parts, and services. In addition, customer contracts contain provisions for installation and training services which have been deemed immaterial in the context of the contract.

Determine the transaction price. The transaction price for the Company's contracts with its customers consists of both fixed and variable consideration provided it is probable that a significant reversal of revenue will not occur when the uncertainty related to variable consideration is resolved. Fixed consideration includes amounts to be

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contractually billed to the customer while variable consideration includes estimates for discounts and credits for future usage which are based on contractual terms outlined in volume purchase agreements and other factors known at the time. The Company generally invoices customers at shipment and for professional services either as provided or upon meeting certain milestones. Customer invoices are generally due within 30 to 90 days after issuance. The Company's contracts with customers typically do not include significant financing components as the period between the transfer of performance obligations and timing of payment are generally within one year.

Allocate the transaction price to the performance obligations in the contract. For contracts that contain multiple performance obligations, the Company allocates the transaction price to the performance obligations on a relative standalone selling price basis. Standalone selling prices are based on multiple factors including, but not limited to historical discounting trends for products and services and pricing practices in different geographies.

Recognize revenue when or as the Company satisfies a performance obligation. Revenue for systems and spares are recognized at a point in time, which is generally upon shipment or delivery. Revenue from services is recognized over time as services are completed or ratably over the contractual period of generally one year or less.

Inventory Valuation: Inventories are stated at the lower of cost or net realizable value using standard costs that approximate actual costs on a first-in, first-out basis. Finished goods are reported as inventories until the point of title transfer to the customer. Unless specified in the terms of sale, title generally transfers at the physical transfer of the products to the freight carriers. Transfer of title for shipments to Japanese customers occurs at the time of customer acceptance.

Management evaluates the need to record adjustments for impairment of inventory at least quarterly. The Company's policy is to assess the valuation of all inventories including manufacturing raw materials, work-in-process, finished goods, and spare parts in each reporting period. Obsolete inventory or inventory in excess of management's estimated usage requirement is written down to its estimated market value if less than cost. Estimates of market value include but are not limited to management's forecasts related to the Company's future manufacturing schedules, customer demand, technological and/or market obsolescence, general semiconductor market conditions, and possible alternative uses. If future customer demand or market conditions are less favorable than the Company's projections, additional inventory write-downs may be required and would be reflected in cost of goods sold in the period in which the revision is made.

Warranty: Typically, the sale of semiconductor capital equipment includes providing parts and service warranties to customers as part of the overall price of the system. The Company provides standard warranties for its systems. The Company records a provision for estimated warranty expenses to cost of sales for each system when it recognizes revenue. The Company does not maintain general or unspecified reserves; all warranty reserves are related to specific systems. All actual or estimated parts and labor costs incurred in subsequent periods are charged to those established reserves on a system-by-system basis.

While the Company periodically monitors the performance and cost of warranty activities, if actual costs incurred are different than its estimates, the Company may recognize adjustments to provisions in the period in which those differences arise or are identified. In addition to the provision of standard warranties, the Company offers customer-paid extended warranty services. Revenues for extended maintenance and warranty services with a fixed payment amount are recognized on a straight-line basis over the term of the contract. Related costs are recorded as incurred.

Equity-based Compensation — Employee Stock Plans: The Company recognizes the fair value of equity-based compensation expense. The Company determines the fair value of its RSUs, excluding market-based performance RSUs, based upon the fair market value of Company's Common Stock at the date of grant, discounted for dividends. The Company estimates the fair value of its market-based performance RSUs using a Monte Carlo simulation model at the date of the grant. The Company estimates the fair value of its stock options using a Black-Scholes option valuation model. This model requires the input of highly subjective assumptions, including expected stock price volatility and the estimated life of each award. The Company amortizes the fair value of equity-based awards over the vesting periods of the award, and the Company has elected to use the straight-line method of amortization.

Income Taxes: Deferred income taxes reflect the net tax effect of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes,

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as well as the tax effect of carryforwards. The Company records a valuation allowance to reduce its deferred tax assets to the amount that is more likely than not to be realized. Realization of its net deferred tax assets is dependent on future taxable income. The Company believes it is more likely than not that such assets will be realized; however, ultimate realization could be negatively impacted by market conditions and other variables not known or anticipated at this time. In the event that the Company determines that it will not be able to realize all or part of its net deferred tax assets, an adjustment will be charged to earnings in the period such determination is made. Likewise, if the Company later determines that it is more likely than not that the deferred tax assets will be realized, then the previously provided valuation allowance will be reversed.

The Company recognizes the benefit from a tax position only if it is more likely than not that the position will be sustained upon audit based solely on the technical merits of the tax position. The Company's policy is to include interest and penalties related to unrecognized tax benefits as a component of income tax expense.

Goodwill and Intangible Assets: The valuation of intangible assets acquired in a business combination requires the use of management estimates including but not limited to estimating future expected cash flows from assets acquired and determining discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable, and as a result, actual results may differ from estimates. Estimates associated with the accounting for acquisitions may change as additional information becomes available.

Goodwill represents the amount by which the purchase price in each business combination exceeds the fair value of the net tangible and identifiable intangible assets acquired. Each component of the Company for which discrete financial information is available and for which management regularly reviews the results of operations is considered a reporting unit. All goodwill acquired in a business combination is assigned to one or more reporting units as of the acquisition date. Goodwill is assigned to the Company's reporting units that are expected to benefit from the synergies of the combination. The goodwill assigned to a reporting unit is the difference between the acquisition consideration assigned to the reporting unit on a relative fair value basis and the fair value of acquired assets and liabilities that can be specifically attributed to the reporting unit. The Company tests goodwill and identifiable intangible assets with indefinite useful lives for impairment at least annually. The Company amortizes intangible assets with estimable useful lives over their respective estimated useful lives, and the Company reviews for impairment whenever events or changes in circumstances indicate that the carrying amount of the intangible asset may not be recoverable and the carrying amount exceeds its fair value.

The Company reviews goodwill at least annually for impairment. If certain events or indicators of impairment occur between annual impairment tests, the Company would perform an impairment test at that date. In testing for a potential impairment of goodwill, the Company (1) allocates goodwill to its reporting units to which the acquired goodwill relates, (2) estimates the fair value of its reporting units, and (3) determines the carrying value (book value) of those reporting units. Furthermore, if the estimated fair value of a reporting unit is less than the carrying value, the Company must estimate the fair value of all identifiable assets and liabilities of that reporting unit, in a manner similar to a purchase price allocation for an acquired business. This can require independent valuations of certain internally generated and unrecognized intangible assets such as in-process R&D and developed technology. Only after this process is completed can the amount of goodwill impairment, if any, be determined. In the Company's goodwill impairment process, it first assesses qualitative factors to determine whether it is necessary to perform a quantitative analysis. The Company does not calculate the fair value of a reporting unit unless the Company determines, based on a qualitative assessment, that it is more-likely-than-not that its fair value is less than its carrying amount. The Company performs an annual goodwill impairment analysis as of the first day of its fourth fiscal quarter. The Company did not record impairments of goodwill during the years ended June 30, 2019, June 24, 2018, or June 25, 2017.

The process of evaluating the potential impairment of goodwill is subjective and requires significant judgment at many points during the analysis. The Company determines the fair value of its reporting units by using an income approach. Under the income approach, the Company determines fair value based on estimated future cash flows of each reporting unit, discounted by an estimated weighted-average cost of capital, which reflects the overall level of inherent risk of a reporting unit and the rate of return an outside investor would expect to earn.

In estimating the fair value of a reporting unit, the Company makes estimates and judgments about the future cash flows of its reporting units, including estimated growth rates and assumptions about the economic environment. Although the Company's cash flow forecasts are based on assumptions that are consistent with the plans and estimates it is using to manage the underlying businesses, there is significant judgment involved in

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determining the cash flows attributable to a reporting unit. In addition, the Company makes certain judgments about allocating shared assets to the estimated balance sheets of its reporting units. Changes in judgment on these assumptions and estimates could result in a goodwill impairment charge.

As a result, several factors could result in impairment of a material amount of the Company's goodwill balance in future periods, including but not limited to: (1) weakening of the global economy, weakness in the semiconductor equipment industry, or failure of the Company to reach its internal forecasts, which could impact the Company's ability to achieve its forecasted levels of cash flows and reduce the estimated discounted cash flow value of its reporting units and (2) a decline in the Company's stock price and resulting market capitalization and to the extent the Company determines that the decline is sustained and indicates a reduction in the fair value of the Company's reporting units below their carrying value. Further, the value assigned to intangible assets, other than goodwill, is based on estimates and judgments regarding expectations such as the success and lifecycle of products and technology acquired. If actual product acceptance differs significantly from the estimates, the Company may be required to record an impairment charge to write down the asset to its realizable value.

Impairment of Long-lived Assets (Excluding Goodwill): The Company routinely considers whether indicators of impairment of long-lived assets are present. If such indicators are present, the Company determines whether the sum of the estimated undiscounted cash flows attributable to the assets is less than their carrying value. If the sum is less, the Company recognizes an impairment loss based on the excess of the carrying amount of the assets over their respective fair values. Fair value is determined by discounted future cash flows, appraisals, or other methods. The Company recognizes an impairment charge to the extent the present value of anticipated net cash flows attributable to the asset are less than the asset's carrying value. The fair value of the asset then becomes the asset's new carrying value, which the Company depreciates over the remaining estimated useful life of the asset. Assets to be disposed of are reported at the lower of the carrying amount or fair value. For the periods presented, there was no impairment of long-lived assets.

Fiscal Year: The Company follows a 52/53-week fiscal reporting calendar, and its fiscal year ends on the last Sunday of June each year. The Company's most recent fiscal year ended on June 30, 2019 included 53 weeks, and the fiscal years ended June 24, 2018, and June 25, 2017, each included 52 weeks.

Principles of Consolidation: The Consolidated Financial Statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Cash Equivalents and Investments: Investments purchased with an original maturity of three months or less are considered cash equivalents. The Company also invests in certain mutual funds, which include equity and fixed-income securities, related to its obligations under its deferred compensation plan, and such investments are classified as trading securities on the consolidated balance sheets. All of the Company's other investments are classified as available-for-sale at the respective balance sheet dates. The Company accounts for its investment portfolio at fair value. Investments classified as trading securities are recorded at fair value based upon quoted market prices. Differences between the cost and fair value of trading securities are recognized as "Other income (expense)" in the Consolidated Statement of Operations. The investments classified as available-for-sale are recorded at fair value based upon quoted market prices, and difference between the cost and fair value of available-for-sale securities is presented as a component of accumulated other comprehensive income (loss). Unrealized losses on available-for-sale securities are charged against other income (expense) when a decline in fair value is determined to be other than temporary. The Company considers several factors to determine whether a loss is other than temporary. These factors include but are not limited to (1) the extent to which the fair value is less than cost basis, (2) the financial condition and near-term prospects of the issuer, (3) the length of time a security is in an unrealized loss position, and (4) the Company's ability to hold the security for a period of time sufficient to allow for any anticipated recovery in fair value. The Company's ongoing consideration of these factors could result in additional impairment charges in the future, which could adversely affect its results of operation. An other-than-temporary impairment is triggered when there is an intent to sell the security, it is more-likely-than-not that the security will be required to be sold before recovery, or the security is not expected to recover the entire amortized cost basis of the security. Other-than-temporary impairments attributed to credit losses are recognized in the income statement. The specific identification method is used to determine the realized gains and losses on investments. The Company recorded a \$42.5 million other-than-temporary impairment charge during the year ended June 24, 2018. No other-than-temporary impairment charges were recognized during the years ended June 30, 2019 or June 25, 2017.

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Allowance for Doubtful Accounts: The Company evaluates its allowance for doubtful accounts based on a combination of factors. In circumstances where specific invoices are deemed uncollectible, the Company provides a specific allowance for bad debt against the amount due to reduce the net recognized receivable to the amount it reasonably believes will be collected. The Company also provides allowances based on its write-off history. Bad debt expense was not material for fiscal years ended June 30, 2019, June 24, 2018, and June 25, 2017.

Property and Equipment: Property and equipment is stated at cost. Equipment is depreciated by the straight-line method over the estimated useful lives of the assets, generally three to five years. Furniture and fixtures are depreciated by the straight-line method over the estimated useful lives of the assets, generally five years. Software is amortized by the straight-line method over the estimated useful lives of the assets, generally three to five years. Buildings are depreciated by the straight-line method over the estimated useful lives of the assets, generally twenty-five years. Leasehold improvements are generally amortized by the straight-line method over the shorter of the life of the related asset or the term of the underlying lease. Amortization of capital leases is included with depreciation expense.

Derivative Financial Instruments: In the normal course of business, the Company's financial position is routinely subjected to market risk associated with foreign currency exchange rate fluctuations. The Company's policy is to mitigate the effect of these exchange rate fluctuations on certain foreign currency denominated business exposures. The Company has a policy that allows the use of derivative financial instruments to hedge foreign currency exchange rate fluctuations on forecasted revenue and expenses and net monetary assets or liabilities denominated in various foreign currencies. The Company carries derivative financial instruments (derivatives) on the balance sheet at their fair values. The Company does not use derivatives for trading or speculative purposes. The Company does not believe that it is exposed to more than a nominal amount of credit risk in its interest rate and foreign currency hedges, as counterparties are large, global and well-capitalized financial institutions. The Company's exposures are in liquid currencies (Japanese yen, Swiss francs, euros, Taiwanese dollars, Chinese renminbi, Singapore dollars, and Korean won), so there is minimal risk that appropriate derivatives to maintain the Company's hedging program would not be available in the future.

To hedge foreign currency risks, the Company uses foreign currency exchange forward and option contracts, where possible and prudent. These hedge contracts are valued using standard valuation formulas with assumptions about future foreign currency exchange rates derived from existing exchange rates, interest rates, and other market factors.

The Company considers its most current forecast in determining the level of foreign currency denominated revenue and expenses to hedge as cash flow hedges. The Company combines these forecasts with historical trends to establish the portion of its expected volume to be hedged. The revenue and expenses are hedged and designated as cash flow hedges to protect the Company from exposures to fluctuations in foreign currency exchange rates. If the underlying forecasted transaction does not occur, or it becomes probable that it will not occur, the related hedge gains and losses on the cash flow hedge are reclassified from accumulated other comprehensive income (loss) to other income (expense), net on the Consolidated Statement of Operations at that time.

Guarantees: The Company has certain operating leases that contain provisions whereby the properties subject to the operating leases may be remarketed at lease expiration. The Company has guaranteed to the lessor an amount approximating the lessor's investment in the property. Also, the Company's guarantees generally include certain indemnifications to its lessors under operating lease agreements for environmental matters, potential overdraft protection obligations to financial institutions related to one of the Company's subsidiaries, indemnifications to the Company's customers for certain infringement of third-party intellectual property rights by its products and services, indemnifications for its officers and directors, and the Company's warranty obligations under sales of its products.

Foreign Currency Translation: The Company's non-U.S. subsidiaries that operate in a local currency environment, where that local currency is the functional currency, primarily generate and expend cash in their local currency. Accordingly, all balance sheet accounts of these local functional currency subsidiaries are translated into U.S. dollars at the fiscal period-end exchange rate, and income and expense accounts are translated into U.S. dollars using average rates in effect for the period, except for costs related to those balance sheet items that are translated using historical exchange rates. The resulting translation adjustments are recorded as cumulative translation adjustments and are a component of accumulated other comprehensive

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income (loss). Translation adjustments are recorded in other income (expense), net, where the U.S. dollar is the functional currency.

Note 3: Recent Accounting Pronouncements

Recently Adopted

In May 2014, the FASB released ASU 2014-09, "Revenue from Contracts with Customers," to supersede nearly all existing revenue recognition guidance under GAAP. The FASB issued subsequent amendments to the initial guidance in August 2015, March 2016, April 2016, May 2016 and December 2016 within ASU 2015-14, ASU 2016-08, ASU 2016-10, ASU 2016-12 and ASU 2016-20, respectively; all of which in combination with ASU 2014-09 were codified as Accounting Standard Codification Topic 606 ("ASC 606"). The core principle of the standard is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. The Company adopted ASC 606 on the first day of the current fiscal year, June 25, 2018, under the modified retrospective approach, applying the amendments to prospective reporting periods. Results for reporting periods beginning on or after June 25, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported in accordance with the historic accounting under ASC 605. In connection with the adoption of ASC 606, the Company's revenue recognition policy has been amended, refer to Note 2 - Summary of Significant Accounting Policies for a description of the policy.

The cumulative effect of the changes made to the Company's Consolidated Balance Sheet as of June 25, 2018 for the adoption of ASC 606 to all contracts with customers that were not completed as of June 24, 2018 was recorded as an adjustment to retained earnings as of the adoption date as follows:

	June 24, 2018		June 25, 2018			
	As reported	Adjustments	As Adjusted			
	(in thousands)					
Total assets	\$	12,479,478	\$	12,955	\$	12,492,433
Deferred profit	\$	720,086	\$	(160,695)	\$	559,391
Total liabilities	\$	5,899,435	\$	(126,400)	\$	5,773,035
Stockholder's equity	\$	6,501,851	\$	139,355	\$	6,641,206

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Upon adoption, the Company recorded a cumulative effect adjustment of \$139.4 million, net of tax adjustment of \$21.0 million, which increased the June 25, 2018 opening retained earnings balance on the Condensed Consolidated Balance Sheet, primarily as a result of changes in the timing of recognition of system sales. Under ASC 606, the Company recognizes revenue from sales of systems when the Company determines that control has passed to the customer which is generally (1) for products that have been demonstrated to meet product specifications prior to shipment upon shipment or delivery; (2) for products that have not been demonstrated to meet product specifications prior to shipment, revenue is recognized upon completion of installation and receipt of customer acceptance; (3) for transactions where legal title does not pass upon shipment or delivery and the Company does not have a right to payment, revenue is recognized when legal title passes to the customer and the Company has a right to payment, which is generally at customer acceptance.

The impact of adoption of ASC 606 on the Company's Consolidated Statement of Operations and Consolidated Balance Sheet was as follows:

	Year Ended					
	June 30, 2019					
	As Reported	Without adoption of ASC 606	Effect of Change Higher/(Lower)			
(in thousands)						
Revenue	\$	9,653,559	\$	9,049,790	\$	603,769
Cost of goods sold	\$	5,295,100	\$	5,016,679	\$	278,421

	June 30, 2019					
	As Reported	Without adoption of ASC 606	Effect of Change Higher/(Lower)			
	(in thousands)					
Deferred profit	\$	381,317	\$	846,422	\$	(465,105)
Retained earnings	\$	9,930,919	\$	9,465,814	\$	465,105

Except as disclosed above, the adoption of ASC 606 did not have a significant impact on the Company's Consolidated Statement of Operations for the year ended June 30, 2019.

In January 2016, the FASB released ASU 2016-01, "Financial Instruments – Overall – Recognition and Measurement of Financial Assets and Financial Liabilities." The FASB issued a subsequent amendment to the initial guidance in February 2018 within ASU 2018-03. These amendments change the accounting for and financial statement presentation of equity investments, other than those accounted for under the equity method of accounting or those that result in consolidation of the investee. The amendments provide clarity on the measurement methodology to be used for the required disclosure of fair value of financial instruments measured at amortized cost on the balance sheet and clarifies that an entity should evaluate the need for a valuation allowance on deferred tax assets related to available-for-sale securities in combination with the entity's other deferred tax assets, among other changes. The Company's adoption of this standard in the first quarter of fiscal year 2019 did not have a material impact on its Consolidated Financial Statements.

In August 2016, the FASB released ASU 2016-15, "Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments." The amendment provides and clarifies guidance on the classification of certain cash receipts and cash payments in the statement of cash flows to eliminate diversity in practice. The Company adopted the standard update in the first quarter of fiscal year 2019, using a retrospective transition method. The Company's adoption of this standard did not have a material impact on its Consolidated Financial Statements.

In October 2016, the FASB released ASU 2016-16, "Income Tax – Intra-Entity Transfers of Assets Other than Inventory." This standard update improves the accounting for the income tax consequences of intra-entity transfers of assets other than inventory. The Company adopted this standard in the first quarter of fiscal year 2019 using a modified-retrospective approach through a cumulative-effect adjustment directly to retained earnings. The Company's adoption of this standard resulted in a \$0.4 million decrease to retained earnings and a corresponding \$0.4 million offset to other assets on its Consolidated Financial Statements.

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In November 2016, the FASB released ASU 2016-18, "Statement of Cash Flows – Restricted Cash." This standard update requires that restricted cash and restricted cash equivalents be included in cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown in the statement of cash flows. The Company adopted this standard in the first quarter of fiscal year 2019, using a retrospective transition method to each period presented. The adoption of this standard did not have a material impact on its Consolidated Financial Statements.

In February 2018, the FASB released ASU 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." This standard update addresses a specific consequence of the Tax Cuts and Jobs Act ("U.S. Tax Reform") and allows a reclassification from accumulated other comprehensive income to retained earnings for the stranded tax effects resulting from U.S. tax reform. Consequently, the update eliminates the stranded tax effects that were created as a result of the historical U.S. federal corporate income tax rate to the newly enacted U.S. federal corporate income tax rate. The Company adopted this standard in the first quarter of fiscal year 2019 using a modified-retrospective approach through a cumulative-effect adjustment directly to retained earnings. The adoption of this standard resulted in a \$2.2 million increase to retained earnings, with a corresponding \$2.2 million decrease to other comprehensive income.

In August 2018, the Securities and Exchange Commission ("SEC") adopted amendments to eliminate, integrate, update or modify certain of its disclosure requirements. The amendments are part of the SEC's efforts to improve disclosure effectiveness and were focused on eliminating disclosure requirements that have become redundant, duplicative, overlapping, outdated, or superseded. The Company adopted these amendments in the first quarter of fiscal Year 2019. The adoption of these amendments resulted in minor changes within its Consolidated Financial Statements.

Updates Not Yet Effective

In February 2016, the FASB issued ASU 2016-02, "Leases." The amendment establishes the principles that lessees and lessors shall apply to report useful information to users of financial statements about the amount, timing, and uncertainty of cash flows arising from a lease. In January 2018 and July 2018 the FASB issued ASU 2018-01 and ASU 2018-11 amending the effects of ASU 2016-02. The standard requires lessees to reflect the majority of leases on their balance sheets as assets and obligations. The Company is required to adopt this standard starting in the first quarter of fiscal year 2020 using a modified-retrospective approach.

The standard provides for certain practical expedients. Among the practical expedients is an optional transition method that allows companies to apply the guidance at the adoption date and recognize a cumulative-effect adjustment to retained earnings/(deficit) on the adoption date. The Company plans to elect this practical expedient upon adoption. The Company also plans to elect the package of practical expedients that will allow it to carry forward its determination of whether a lease exists, the classification of a lease, and whether initial direct lease costs exist for purposes of transition to the new standard. The Company does not expect to use the hindsight practical expedient. The Company also plans to elect the short-term lease exemption whereby we will not record an asset or liability for short-term leases.

The Company has completed its scoping reviews, identified its significant leases by geography and by asset type, and developed its accounting policies and expected policy elections, which will take effect upon adoption of the standard. The Company's implementation of its identified accounting system, which will support the future state leasing process, is almost completed. The Company currently estimates that, upon adoption, it will have total lease assets and total lease liabilities consistent with its existing disclosures.

In June 2016, the FASB released ASU 2016-13, "Financial Instruments – Credit Losses." The amendment revises the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology, which will result in more timely recognition of losses on financial instruments, including but not limited to available-for-sale debt securities and accounts receivable. The Company is required to adopt this standard starting in the first quarter of fiscal year 2021 using a modified-retrospective approach. Early adoption is permitted. The Company is currently in the process of evaluating the impact of adoption on its Consolidated Financial Statements.

In November 2018, the FASB issued ASU 2018-18, "Collaborative Arrangements (Topic 808)." The amendment clarifies that certain transactions between participants in a collaborative arrangement should be accounted for under Topic 606 when the counterparty is a customer for a good or service that is a distinct unit of account. The

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amendment also precludes entities from presenting consideration from transactions with a collaborator that is not a customer together with revenue recognized from contracts with customers. The Company is required to adopt this standard starting in the first quarter of fiscal year 2021. The standard should be applied retrospectively to the period when the Company initially adopted ASC 606. The Company is currently evaluating the impact of adoptions on its Consolidated Financial Statements.

In April 2019, the FASB issued ASU 2019-04, "Codification Improvements to Topic 326, Financial Instruments-Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments", that clarifies and improves areas of guidance related to the recently issued standards on credit losses (ASU 2016-13), hedging (ASU 2017-12), and recognition and measurement of financial instruments (ASU 2016-01). The amendments generally have the same effective dates as their related standards. If already adopted, the amendments of ASU 2016-01 and ASU 2016-13 are effective for fiscal years beginning after December 15, 2019 and the amendments of ASU 2017-12 are effective as of the beginning of the Company's next annual reporting period. As discussed above, the Company adopted ASU 2016-01 in the first quarter of fiscal year 2019 and does not expect the amendments of ASU 2019-04 will have a material impact on the its consolidated financial statements. The Company continues to evaluate the impact of ASU 2016-13 and will consider the amendments of ASU 2019-04 as part of that process.

Note 4: Revenue

Deferred Revenue

Revenue of \$593.7 million included in deferred profit at June 25, 2018 was recognized during fiscal year 2019.

The following table summarizes the transaction price for contracts that have not yet been recognized as revenue as of June 30, 2019 and when the Company expects to recognize the amounts as revenue:

	Less than 1 Year	1-3 Years	More than 3 Years	Total
	(in thousands)			
Deferred revenue	\$ 404,544	\$ 42,309 ⁽¹⁾	\$ 2,452 ⁽¹⁾	\$ 449,305

(1) This amount is reported in Deferred profit on the Company's Consolidated Balance Sheets as the customers can demand the liability to be performed at any time.

Disaggregation of Revenue

The Company operates in one reportable business segment: manufacturing and servicing of wafer processing semiconductor manufacturing equipment. Refer to Note 19 - Segment, Geographic Information, and Major Customers; for additional information regarding the Company's evaluation of reportable business segments and the disaggregation of revenue by the geographic regions the Company operates in.

Additionally, the Company serves three primary markets: memory, foundry, logic/integrated device manufacturing. The following table presents the percentages of system revenues to each of the primary markets we serve:

	Year Ended June 30, 2019
Memory	70%
Foundry	20%
Logic/integrated device manufacturing	10%

Note 5: Equity-based Compensation Plans

The Company has stock plans that provide for grants of equity-based awards to eligible participants, including stock options and restricted stock units, of the Company's Common Stock. An option is a right to purchase

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Common Stock at a set price. An RSU award is an agreement to issue a set number of shares of Common Stock at the time of vesting. The Company's options and RSU awards typically vest over a period of three years or less. The Company also has an employee stock purchase plan that allows employees to purchase its Common Stock at a discount through payroll deductions.

The Lam Research Corporation 2007 Stock Incentive Plan, as amended and restated, 2011 Stock Incentive Plan, as amended and restated, and the 2015 Stock Incentive Plan (collectively the "Stock Plans"), provide for the grant of non-qualified equity-based awards to eligible employees, consultants and advisors, and non-employee directors of the Company and its subsidiaries. The 2015 Stock Incentive Plan was approved by shareholders authorizing up to 18,000,000 shares available for issuance under the plan. Additionally, 1,232,068 shares that remained available for grants under the Company's 2007 Stock Incentive Plan were added to the shares available for issuance under the 2015 Stock Incentive Plan. As of June 30, 2019, there were a total of 9,379,904 shares available for future issuance under the Stock Plans. New shares are issued from the Company's balance of authorized Common Stock from the 2015 Stock Incentive Plan to satisfy stock option exercises and vesting of awards.

The Company recognized the following equity-based compensation expense and benefits in the Consolidated Statements of Operations:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
	(in thousands)		
Equity-based compensation expense	\$ 187,234	\$ 172,216	\$ 149,975
Income tax benefit recognized related to equity-based compensation	\$ 47,396	\$ 87,505	\$ 38,381
Income tax benefit realized from the exercise and vesting of options and RSUs	\$ 49,242	\$ 90,297	\$ 92,749

The estimated fair value of the Company's equity-based awards, less expected forfeitures, is amortized over the awards' vesting terms on a straight-line basis.

Stock Options

The following table summarizes stock option activity:

	Options Outstanding	
	Number of Shares	Weighted-Average Exercise Price
June 26, 2016	907,411	\$ 47.41
Granted	90,128	\$ 119.67
Exercised	(389,460)	\$ 33.92
Forfeited or expired	(14,020)	\$ 69.81
June 25, 2017	594,059	\$ 66.69
Granted	63,980	\$ 190.07
Exercised	(166,481)	\$ 55.62
Forfeited or expired	(8,630)	\$ 84.44
June 24, 2018	482,928	\$ 86.53
Granted	181,450	\$ 164.54
Exercised	(110,427)	\$ 61.69
Forfeited or expired	(59,068)	\$ 126.05
June 30, 2019	494,883	\$ 115.96

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Outstanding and exercisable options presented by price range at June 30, 2019, were as follows:

Range of Exercise Prices	Options Outstanding			Options Exercisable		
	Number of Options Outstanding	Weighted-Average Remaining Life (Years)	Weighted-Average Exercise Price	Number of Options Exercisable	Weighted-Average Remaining Life (Years)	Weighted-Average Exercise Price
\$11.09-\$23.55	4,810	0.91	\$ 21.88	4,810	0.91	\$ 21.88
\$29.34-\$35.68	39,060	1.61	\$ 31.29	39,060	1.61	\$ 31.29
\$42.61-\$51.76	60,769	1.11	\$ 48.43	60,769	1.11	\$ 48.43
\$75.57-\$190.07	390,244	5.18	\$ 136.11	159,602	3.55	\$ 95.61
\$11.09-\$190.07	494,883	4.36	\$ 115.96	264,241	2.65	\$ 73.91

The fair value of the Company's stock options granted during fiscal years 2019, 2018, and 2017 was estimated using a Black-Scholes option valuation model. This model requires the input of highly subjective assumptions, including expected stock price volatility and the estimated life of each award:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Expected volatility	32.23%	34.66%	28.85%
Risk-free interest rate	2.62%	2.53%	1.92%
Expected term (years)	4.70	4.74	4.75
Dividend yield	2.70%	1.05%	1.50%

The year-end intrinsic value relating to stock options for fiscal years 2019, 2018, and 2017 is presented below:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
(in thousands)			
Intrinsic value - options outstanding	\$ 35,674	\$ 43,563	\$ 50,551
Intrinsic value - options exercisable	\$ 30,139	\$ 34,661	\$ 36,396
Intrinsic value - options exercised	\$ 12,750	\$ 23,925	\$ 29,674

As of June 30, 2019, the Company had \$8.1 million of total unrecognized compensation expense related to unvested stock options granted and outstanding which is expected to be recognized over a weighted-average remaining period of 2.7 years.

Restricted Stock Units

During the fiscal years 2019, 2018, and 2017, the Company issued both service-based RSUs and market-based performance RSUs ("PRSUs"). Market-based PRSUs generally vest three years from the grant date if certain performance criteria are achieved and require continued employment. Based upon the terms of such awards, the number of shares that can be earned over the performance periods is based on the Company's Common Stock price performance compared to the market price performance of the Philadelphia Semiconductor Sector Index ("SOX"), ranging from 0% to 150% of target. The stock price performance or market price performance is measured using the closing price for the 50-trading days prior to the dates the performance period begins and ends. The target number of shares represented by the market-based PRSUs is increased by 2% of target for each 1% that Common Stock price performance exceeds the market price performance of the SOX index. The result of the vesting formula is rounded down to the nearest whole number. Total stockholder return is a measure of stock price appreciation in this performance period.

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The following table summarizes restricted stock activity:

	Service-based RSUs Outstanding		Market-based RSUs Outstanding	
	Number of Shares	Weighted-Average Grant Date Fair Value	Number of Shares	Weighted-Average Grant Date Fair Value
June 26, 2016	3,256,513	\$ 71.34	1,078,591	\$ 63.12
Granted	1,224,877	114.13	435,694	111.75
Vested	(1,677,318)	69.10	(592,321)	46.67
Forfeited or canceled	(116,466)	76.76	(59,509)	66.81
June 25, 2017	2,687,606	\$ 92.01	862,455	\$ 83.83
Granted	964,391	183.97	285,866	170.15
Vested	(1,362,369)	87.80	(407,024)	76.88
Forfeited or canceled	(96,540)	108.67	(47,571)	91.36
June 24, 2018	2,193,088	\$ 134.34	693,726	\$ 104.59
Granted	893,622	161.64	163,529	165.78
Vested	(1,135,284)	115.23	(301,622)	70.58
Forfeited or canceled	(154,541)	141.38	(120,859)	104.73
June 30, 2019	1,796,885	\$ 159.36	434,774	\$ 144.57

The fair value of the Company's service-based RSUs was calculated based on fair market value of the Company's stock at the date of grant, discounted for dividends.

The fair value of the Company's market-based PRSUs granted during fiscal years 2019, 2018, and 2017 was calculated using a Monte Carlo simulation model at the date of the grant. This model requires the input of highly subjective assumptions, including expected stock price volatility and the estimated life of each award:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Expected volatility	32.65%	34.07%	27.48%
Risk-free interest rate	2.52%	2.35%	1.55%
Expected term (years)	2.92	2.92	2.92
Dividend yield	2.49%	1.05%	1.50%

As of June 30, 2019, the Company had \$271.9 million of total unrecognized compensation expense related to all unvested RSUs granted which is expected to be recognized over a weighted-average remaining period of 2.2 years.

ESPP

The Company has an employee stock purchase plan which allows employees to designate a portion of their base compensation to be deducted and used to purchase the Company's Common Stock at a purchase price per share of the lower of 85% of the fair market value of the Company's Common Stock on the first or last day of the applicable purchase period. Unrecognized compensation costs associated with this plan are not considered material.

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Note 6: Other Expense, Net

The significant components of other expense, net, were as follows:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
	(in thousands)		
Interest income	\$ 98,771	\$ 85,813	\$ 57,858
Interest expense	(117,263)	(97,387)	(117,734)
Gains on deferred compensation plan related assets, net	10,464	14,692	17,880
Loss on impairment of investments	—	(42,456)	—
Gains (losses) on extinguishment of debt, net	118	542	(36,252)
Foreign exchange gains (losses), net	826	(3,382)	(569)
Other, net	(11,077)	(19,332)	(11,642)
	<u>\$ (18,161)</u>	<u>\$ (61,510)</u>	<u>\$ (90,459)</u>

Interest income in the year ended June 30, 2019, increased compared to the years ended June 24, 2018, and June 25, 2017, primarily as a result of higher yield. Interest expense in the year ended June 30, 2019, increased compared to the year ended June 24, 2018, primarily due to issuance of the \$2.5 billion of senior notes. Interest expense in the year ended June 24, 2018, decreased compared to the year ended June 25, 2017, primarily due to the conversions of 2018 and 2041 Convertible Notes as well as the retirement of the 2018 Convertible Notes in May 2018.

The gain on deferred compensation plan related assets in fiscal years 2019, 2018 and 2017 was driven by an improvement in the fair market value of the underlying funds.

The loss on impairment of investments in the year ended June 24, 2018 was the result of a decision to sell selected investments held in foreign jurisdictions in connection with the Company's cash repatriation strategy following the December 2017 U.S. tax reform.

Net loss on extinguishment of debt realized in the year ended June 25, 2017, was primarily a result of the special mandatory redemption of the Senior Notes due 2023 and 2026, as well as the termination of the Term Loan Agreement.

Note 7: Income Taxes

On December 22, 2017, the "Tax Cuts & Jobs Act" was signed into law and was effective for the Company starting in the quarter ended December 24, 2017. U.S. tax reform reduced the U.S. federal statutory tax rate from 35% to 21%, assessed a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred, and created new taxes on certain foreign sourced earnings. The impact on income taxes due to a change in legislation is required under the authoritative guidance of Accounting Standards Codification ("ASC") 740, Income Taxes, to be recognized in the period in which the law is enacted. In conjunction, the SEC issued Staff Accounting Bulletin ("SAB") 118, which allowed for the recording of provisional amounts related to U.S. tax reform and subsequent adjustments related to U.S. tax reform during an up to one-year measurement period that is similar to the measurement period used when accounting for business combinations. The Company recorded what it believed to be reasonable estimates during the SAB 118 measurement period. During the December 2018 quarter, the Company finalized the accounting of the income tax effects of U.S. tax reform. Although the SAB 118 measurement period has ended, there may be some aspects of U.S. tax reform that remain subject to future regulations and/or notices which may further clarify certain provisions of U.S. tax reform. The Company may need to adjust its previously recorded amounts to reflect the recognition and measurement of its tax accounting positions in accordance with ASC 740; such adjustments could be material.

The computation of the one-time transition tax on accumulated unrepatriated foreign earnings was recorded on a provisional basis in the amount of \$883.0 million in the fiscal year ended June 24, 2018, as permitted under SAB 118. The Company recorded a subsequent provisional adjustment of \$36.6 million, as a result of incorporating new information into the estimate, in the Condensed Consolidated Financial Statements in the three months ended September 23, 2018. The Company finalized the computation of the transition tax liability during the December 2018 quarter. The final adjustment resulted in a tax benefit of \$51.2 million, which was recorded in the Company's Condensed Consolidated Financial Statements in the three months ended December 23, 2018. The final balance of total transition tax is \$868.4 million. The one-time transition tax is based on the Company's total post-1986 earnings and profits ("E&P") that was previously deferred from U.S. income taxes. The Company had previously accrued deferred taxes on a portion of this E&P. The Company has completed the calculation of total post-1986 E&P and related income tax pools for its foreign subsidiaries. The Company elected to pay the one-time transition tax over a period of eight years.

Beginning in fiscal year 2019, the Company is subject to the impact of the GILTI provision of U.S. tax reform. The GILTI provision imposes taxes on foreign earnings in excess of a deemed return on tangible assets. The Company has calculated the impact of the GILTI provision on current year earnings and has included the impact in the effective tax rate. The Company made an accounting policy election in the September 2018 quarter to record deferred taxes in relation to the GILTI provision, and recorded a provisional tax benefit of \$48.0 million in the Condensed Consolidated Financial Statements in the three months ended September 23, 2018, under SAB 118. The Company finalized the computation of the accounting policy election during the December 2018 quarter. The final adjustment resulted in a tax expense of \$0.4 million, which was recorded in the Company's Condensed Consolidated Financial Statements in the three months ended December 23, 2018. The final tax benefit of the election is \$47.6 million.

The components of income (loss) before income taxes were as follows:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
	(in thousands)		

United States	\$	(59,876)	\$	128,190	\$	7,553
Foreign		2,506,447		3,023,599		1,804,120
	\$	<u>2,446,571</u>	\$	<u>3,151,789</u>	\$	<u>1,811,673</u>

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Significant components of the provision (benefit) for income taxes attributable to income before income taxes were as follows:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
(in thousands)			
Federal:			
Current	\$ 143,845	\$ 630,148	\$ (70,858)
Deferred	(10,722)	12,871	99,700
	133,123	643,019	28,842
State:			
Current	5,994	5,348	(963)
Deferred	4,944	(3,273)	(2,246)
	10,938	2,075	(3,209)
Foreign:			
Current	110,283	132,566	85,479
Deferred	797	(6,552)	2,798
	111,080	126,014	88,277
Total provision for income taxes	\$ 255,141	\$ 771,108	\$ 113,910

Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, as well as the tax effect of carryforwards. Significant components of the Company's net deferred tax assets and liabilities were as follows:

	June 30, 2019	June 24, 2018
(in thousands)		
Deferred tax assets:		
Tax carryforwards	\$ 231,390	\$ 206,073
Allowances and reserves	97,671	118,559
Equity-based compensation	14,661	16,189
Inventory valuation differences	18,516	14,021
Prepaid cost sharing	74,139	65,644
Outside basis differences of foreign subsidiaries	16,260	—
Other	17,972	16,514
Gross deferred tax assets	470,609	437,000
Valuation allowance	(226,928)	(199,839)
Net deferred tax assets	243,681	237,161
Deferred tax liabilities:		
Intangible assets	(9,883)	(21,558)
Convertible debt	(46,993)	(60,252)
Capital assets	(83,298)	(61,429)
Amortization of goodwill	(11,299)	(10,738)
Outside basis differences of foreign subsidiaries	—	(6,656)
Other	(8,752)	(7,955)
Gross deferred tax liabilities	(160,225)	(168,588)
Net deferred tax assets	\$ 83,456	\$ 68,573

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The increase in the gross deferred tax assets and valuation allowance between fiscal year 2019 and 2018 is primarily due to increases in tax carryforwards.

Realization of the Company's net deferred tax assets is based upon the weighting of available evidence, including such factors as the recent earnings history and expected future taxable income. The Company believes it is more likely than not that such deferred tax assets will be realized with the exception of \$227.0 million primarily related to California deferred tax assets. At June 30, 2019, the Company continued to record a valuation allowance to offset the entire California deferred tax asset balance due to the single sales factor apportionment resulting in lower taxable income in California.

At June 30, 2019, the Company had federal net operating loss carryforwards of \$109.8 million. The majority of these losses will begin to expire in fiscal year 2020, and are subject to limitation on their utilization.

At June 30, 2019, the Company had state net operating loss carryforwards of \$58.5 million. If not utilized, these losses will begin to expire in fiscal year 2020 and are subject to limitation on their utilization.

At June 30, 2019, the Company had state tax credit carryforwards of \$322.4 million. Substantially all of these credits can be carried forward indefinitely.

A reconciliation of income tax expense provided at the federal statutory rate (21% in fiscal year 2019, 28.27% in fiscal year 2018, and 35% in fiscal year 2017) to actual income tax expense is as follows:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
	(in thousands)		
Income tax expense computed at federal statutory rate	\$ 513,780	\$ 891,011	\$ 634,086
State income taxes, net of federal tax benefit	(17,565)	(50,585)	(11,973)
Foreign income taxed at different rates	(260,344)	(939,808)	(352,860)
Settlements and reductions in uncertain tax positions	(31,291)	(33,367)	(144,519)
Tax credits	(71,779)	(69,301)	(37,713)
State valuation allowance, net of federal tax benefit	26,742	57,302	12,070
Equity-based compensation	(7,566)	(35,875)	13,187
Other permanent differences and miscellaneous items	39,251	43,214	1,632
U.S. tax reform impacts	63,913	908,517	—
	<u>\$ 255,141</u>	<u>\$ 771,108</u>	<u>\$ 113,910</u>

In July 2015, the U.S. Tax Court issued an opinion favorable to Altera with respect to Altera's litigation with the IRS. The litigation related to the treatment of stock-based compensation expense in an intercompany cost-sharing arrangement with Altera's foreign subsidiary. In its opinion, the U.S. Tax Court accepted Altera's position of excluding stock-based compensation from its intercompany cost-sharing arrangement. In June 2019, the Ninth Circuit, through a three-judge panel, reversed the 2015 decision of the U.S. Tax Court. Altera has petitioned the Ninth Circuit for an en banc rehearing of a larger panel of eleven Ninth Circuit judges. The Company will continue to monitor and evaluate the potential impact of this litigation on its fiscal year 2020 Consolidated Financial Statements. The estimated potential impact is in the range of \$75 million, which may result in a decrease in deferred tax assets and an increase in tax expense.

Effective from fiscal year 2014 through 2017, the Company had a tax ruling in Switzerland for one of its foreign subsidiaries. The impact of the tax ruling decreased taxes by approximately \$6.3 million for fiscal year 2017. The benefit of the tax ruling on diluted earnings per share was approximately \$0.03 in fiscal year 2017. Effective fiscal year 2018, the Company has withdrawn its reduced tax rate ruling in Switzerland for this subsidiary due to the ruling being no longer necessary as the subsidiary meets the requirements to achieve the reduced tax rate under Swiss tax law.

Earnings of the Company's foreign subsidiaries included in consolidated retained earnings that are indefinitely reinvested in foreign operations aggregated to approximately \$458.4 million at June 30, 2019. If these earnings

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were remitted to the United States, they would be subject to foreign withholding taxes of approximately \$73.1 million at current statutory rates.

As of June 30, 2019, the total gross unrecognized tax benefits were \$420.8 million, compared to \$305.4 million as of June 24, 2018, and \$339.4 million as of June 25, 2017. During fiscal year 2019, gross unrecognized tax benefits increased by \$115.4 million. The amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate was \$376.0 million, \$268.3 million, and \$247.6 million, as of June 30, 2019, June 24, 2018, and June 25, 2017, respectively. The aggregate changes in the balance of gross unrecognized tax benefits were as follows:

	(in thousands)
Balance as of June 26, 2016	\$ 417,432
Settlements and effective settlements with tax authorities	(6,691)
Lapse of statute of limitations	(113,491)
Increases in balances related to tax positions taken during prior periods	6,557
Decreases in balances related to tax positions taken during prior periods	(11,528)
Increases in balances related to tax positions taken during current period	47,168
Balance as of June 25, 2017	339,447
Settlements and effective settlements with tax authorities	(693)
Lapse of statute of limitations	(88,837)
Increases in balances related to tax positions taken during prior periods	2,044
Decreases in balances related to tax positions taken during prior periods	(1,320)
Increases in balances related to tax positions taken during current period	54,772
Balance as of June 24, 2018	305,413
Settlements and effective settlements with tax authorities	(3,705)
Lapse of statute of limitations	(28,176)
Increases in balances related to tax positions taken during prior periods	78,927
Decreases in balances related to tax positions taken during prior periods	(1,577)
Increases in balances related to tax positions taken during current period	69,890
Balance as of June 30, 2019	\$ 420,772

The Company recognizes interest expense and penalties related to the above unrecognized tax benefits within income tax expense. The Company had accrued \$19.1 million, \$13.0 million, and \$15.7 million cumulatively for gross interest and penalties as of June 30, 2019, June 24, 2018, and June 25, 2017, respectively.

The Company is subject to audits by state and foreign tax authorities. The Company is unable to make a reasonable estimate as to when cash settlements, if any, with the relevant taxing authorities will occur.

The Company files U.S. federal, U.S. state, and foreign income tax returns. As of June 30, 2019, tax years 2004-2019 remain subject to examination in the jurisdictions where the Company operates.

The Company is in various stages of examinations in connection with all of its tax audits worldwide, and it is difficult to determine when these examinations will be settled. It is reasonably possible that over the next 12-month period the Company may experience an increase or decrease in its unrecognized tax benefits as a result of tax examinations or lapses of statute of limitations. The change in unrecognized tax benefits may range up to \$12 million.

Note 8: Net Income per Share

Basic net income per share is computed by dividing net income by the weighted-average number of common shares outstanding during the period. Diluted net income per share is computed using the treasury stock method, for dilutive stock options, restricted stock units, and convertible notes.

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The following table reconciles the numerators and denominators of the basic and diluted computations for net income per share.

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
(in thousands, except per share data)			
Numerator:			
Net income	\$ 2,191,430	\$ 2,380,681	\$ 1,697,763
Denominator:			
Basic average shares outstanding	152,478	161,643	162,222
Effect of potential dilutive securities:			
Employee stock plans	1,323	2,312	2,058
Convertible notes	5,610	12,258 ⁽¹⁾	16,861 ⁽¹⁾
Warrants	504	4,569	2,629
Diluted average shares outstanding	159,915	180,782	183,770
Net income per share - basic	\$ 14.37	\$ 14.73	\$ 10.47
Net income per share - diluted	\$ 13.70	\$ 13.17	\$ 9.24

(1) Diluted shares outstanding do not include any effect resulting from note hedges associated with the Company's 2018 Notes as their impact would have been anti-dilutive.

For purposes of computing diluted net income per share, weighted-average common shares do not include potentially dilutive securities that are anti-dilutive under the treasury stock method. The following potentially dilutive securities were excluded:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
(in thousands)			
Options and RSUs	578	34	34

Note 9: Financial Instruments

Fair Value

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

A fair value hierarchy has been established that prioritizes the inputs to valuation techniques used to measure fair value. The level of an asset or liability in the hierarchy is based on the lowest level of input that is significant to the fair value measurement. Assets and liabilities carried at fair value are classified and disclosed in one of the following three categories:

Level 1: Valuations based on quoted prices in active markets for identical assets or liabilities with sufficient volume and frequency of transactions.

Level 2: Valuations based on observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or model-derived valuations techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

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Level 3: Valuations based on unobservable inputs to the valuation methodology that are significant to the measurement of fair value of assets or liabilities and based on non-binding, broker-provided price quotes and may not have been corroborated by observable market data.

The Company's primary financial instruments include its cash, cash equivalents, investments, restricted cash and investments, long-term investments, accounts receivable, accounts payable, long-term debt and capital leases, and foreign currency related derivative instruments. The estimated fair value of cash, accounts receivable, and accounts payable approximates their carrying value due to the short period of time to their maturities. The estimated fair values of capital lease obligations approximate their carrying value as the substantial majority of these obligations have interest rates that adjust to market rates on a periodic basis. Refer to Note 14 - Long Term Debt and Other Borrowings for additional information regarding the fair value of the Company's senior notes and convertible senior notes.

Investments

The following table sets forth the Company's cash, cash equivalents, investments, restricted cash and investments, and other assets measured at fair value on a recurring basis as of June 30, 2019, and June 24, 2018:

	June 30, 2019							
					(Reported Within)			
	Cost	Unrealized Gain	Unrealized (Loss)	Fair Value	Cash and Cash Equivalents	Investments	Restricted Cash & Investments	Other Assets
(in thousands)								
Cash	\$ 467,460	\$ —	\$ —	\$ 467,460	\$ 462,310	\$ —	\$ 5,150	\$ —
Time deposit	1,563,686	—	—	1,563,686	1,313,659	—	250,027	—
Level 1:								
Money market funds	1,644,659	—	—	1,644,659	1,644,659	—	—	—
U.S. Treasury and agencies	465,655	283	(24)	465,914	86,981	378,933	—	—
Mutual funds	76,961	1,063	(283)	77,741	—	—	—	77,741
Level 1 total	2,187,275	1,346	(307)	2,188,314	1,731,640	378,933	—	77,741
Level 2:								
Government-sponsored enterprises	16,005	5	(41)	15,969	—	15,969	—	—
Foreign government bonds	24,408	35	—	24,443	—	24,443	—	—
Corporate notes and bonds	1,466,167	2,310	(99)	1,468,378	150,610	1,317,768	—	—
Mortgage backed securities - residential	6,148	—	(4)	6,144	—	6,144	—	—
Mortgage backed securities - commercial	29,587	140	—	29,727	—	29,727	—	—
Level 2 total	1,542,315	2,490	(144)	1,544,661	150,610	1,394,051	—	—
Total	\$ 5,760,736	\$ 3,836	\$ (451)	\$ 5,764,121	\$ 3,658,219	\$ 1,772,984	\$ 255,177	\$ 77,741

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	June 24, 2018									
	(Reported Within)									
	Cost	Unrealized Gain	Unrealized (Loss)	Fair Value	Cash and Cash Equivalents	Investments	Restricted Cash & Investments	Other Assets		
(in thousands)										
Cash	\$ 708,364	\$ —	\$ —	\$ 708,364	\$ 702,090	\$ —	\$ 6,274	\$ —		
Time deposit	999,666	—	—	999,666	749,639	—	250,027	—		
Level 1:										
Money market funds	2,341,807	—	—	2,341,807	2,341,807	—	—	—		
U.S. Treasury and agencies	356,679	—	(170)	356,509	333,721	22,788	—	—		
Mutual funds	68,568	516	(142)	68,942	—	—	—	68,942		
Level 1 total	2,767,054	516	(312)	2,767,258	2,675,528	22,788	—	68,942		
Level 2:										
Municipal notes and bonds	152,378	37	(279)	152,136	—	152,136	—	—		
Government-sponsored enterprises	110,963	—	(201)	110,762	99,934	10,828	—	—		
Foreign government bonds	19,986	—	(1)	19,985	19,985	—	—	—		
Corporate notes and bonds	516,955	95	(1,184)	515,866	265,081	250,785	—	—		
Mortgage backed securities - residential	804	—	(3)	801	—	801	—	—		
Level 2 total	801,086	132	(1,668)	799,550	385,000	414,550	—	—		
Total	\$ 5,276,170	\$ 648	\$ (1,980)	\$ 5,274,838	\$ 4,512,257	\$ 437,338	\$ 256,301	\$ 68,942		

The Company accounts for its investment portfolio at fair value. Realized gains (losses) for investment sales are specifically identified. Management assesses the fair value of investments in debt securities that are not actively traded through consideration of interest rates and their impact on the present value of the cash flows to be received from the investments. The Company also considers whether changes in the credit ratings of the issuer could impact the assessment of fair value. Additionally, the Company considers factors such as the Company's intent to sell the security and whether it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost basis.

During the fiscal year 2018, the Company recorded a \$42.5 million other-than-temporary impairment charge on a portion of its available for sale investments as a result of a decision to sell selected investments held in foreign jurisdictions in conjunction with our cash repatriation strategy following the U.S. tax reform legislation. The Company did not recognize any losses on investments due to other-than-temporary impairments in fiscal year 2019 or 2017. Gross realized gains/(losses) from sales of investments were insignificant in the fiscal years 2019, 2018, and 2017.

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The following is an analysis of the Company's cash, cash equivalents, investments, and restricted cash and investments in unrealized loss positions:

	June 30, 2019					
	Unrealized Losses Less than 12 Months		Unrealized Losses 12 Months or Greater		Total	
	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss	Fair Value	Gross Unrealized Loss
	(in thousands)					
U.S. Treasury and agencies	\$ 25,704	\$ (7)	\$ 3,983	\$ (17)	\$ 29,687	\$ (24)
Mutual funds	4,859	(78)	9,007	(205)	13,866	(283)
Government-sponsored enterprises	—	—	10,953	(41)	10,953	(41)
Corporate notes and bonds	67,984	(15)	40,455	(84)	108,439	(99)
Mortgage backed securities - residential	6,129	(4)	—	—	6,129	(4)
	<u>\$ 104,676</u>	<u>\$ (104)</u>	<u>\$ 64,398</u>	<u>\$ (347)</u>	<u>\$ 169,074</u>	<u>\$ (451)</u>

The amortized cost and fair value of cash equivalents, investments, and restricted investments with contractual maturities as of June 30, 2019, are as follows:

	Cost	Estimated Fair Value
	(in thousands)	
Due in one year or less	\$ 4,842,996	\$ 4,844,145
Due after one year through five years	331,707	333,019
Due in more than five years	41,612	41,756
	<u>\$ 5,216,315</u>	<u>\$ 5,218,920</u>

The Company has the ability, if necessary, to liquidate its investments in order to meet the Company's liquidity needs in the next 12 months. Accordingly, those investments with contractual maturities greater than 12 months from the date of purchase nonetheless are classified as short-term on the accompanying Consolidated Balance Sheets.

Derivative Instruments and Hedging

The Company carries derivative financial instruments ("derivatives") on its Consolidated Balance Sheets at their fair values. The Company enters into foreign currency forward contracts and foreign currency options with financial institutions with the primary objective of reducing volatility of earnings and cash flows related to foreign currency exchange rate fluctuations. In addition, the Company enters into interest rate swap arrangements to manage interest rate risk. The counterparties to these derivatives are large, global financial institutions that the Company believes are creditworthy, and therefore, it does not consider the risk of counterparty nonperformance to be material.

Cash Flow Hedges

The Company's financial position is routinely subjected to market risk associated with foreign currency exchange rate fluctuations on non-U.S. dollar transactions or cash flows, primarily from Japanese yen-denominated revenues and euro-denominated and Korean won-denominated expenses. The Company's policy is to mitigate the foreign exchange risk arising from the fluctuations in the value of these non-U.S. dollar denominated transactions or cash flows through a foreign currency cash flow hedging program, using forward contracts and foreign currency options that generally expire within 12 months and no later than 24 months. These hedge contracts are designated as cash flow hedges and are carried on the Company's balance sheet at fair value with the effective portion of the contracts' gains or losses included in accumulated other comprehensive income (loss) and subsequently recognized in revenue/expense in the same period the hedged items are recognized.

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In addition, the Company has entered into interest rate swap agreements to hedge against the variability of cash flows due to changes in certain benchmark interest rates on fixed rate debt. These instruments are designated as cash flow hedges at inception and are settled in conjunction with the issuance of debt. The effective portion of the contracts' gains or losses is included in accumulated other comprehensive income (loss) and is amortized into income as the hedged item impacts earnings.

At inception and at each quarter-end, hedges are tested prospectively and retrospectively for effectiveness using regression analysis. Changes in the fair value of foreign exchange contracts due to changes in time value are included in the assessment of effectiveness. To qualify for hedge accounting, the hedge relationship must meet criteria relating to both the derivative instrument and the hedged item. These criteria include identification of the hedging instrument, the hedged item, the nature of the risk being hedged, and how the hedging instrument's effectiveness in offsetting the exposure to changes in the hedged item's fair value or cash flows will be measured. There were no material gains or losses during the fiscal years ended June 30, 2019, June 24, 2018, or June 25, 2017 associated with forecasted transactions that failed to occur. There were no material gains or losses during the fiscal years ended June 24, 2018, or June 25, 2017 associated with ineffectiveness.

To receive hedge accounting treatment, all hedging relationships are formally documented at the inception of the hedge, and the hedges must be tested to demonstrate an expectation of providing highly effective offsetting changes to future cash flows on hedged transactions. When derivative instruments are designated and qualify as effective cash flow hedges, the Company recognizes effective changes in the fair value of the hedging instrument within accumulated other comprehensive income (loss) until the hedged exposure is realized. Consequently, the Company's results of operations are not subject to fluctuation as a result of changes in the fair value of the derivative instruments. If hedges are not highly effective or if the Company does not believe that the underlying hedged forecasted transactions will occur, the Company may not be able to account for its derivative instruments as cash flow hedges. If this were to occur, future changes in the fair values of the Company's derivative instruments would be recognized in earnings. Additionally, related amounts previously recorded in other comprehensive income would be reclassified to income immediately. As of June 30, 2019, the Company had a net loss of \$2.2 million accumulated in other comprehensive income, net of tax, related to foreign exchange cash flow hedges which it expects to reclassify from other comprehensive income into earnings over the next 12 months. Additionally, as of June 30, 2019, the Company had a net loss of \$2.1 million accumulated in other comprehensive income, net of tax, related to interest rate contracts which it expects to reclassify from other comprehensive income into earnings over the next 5.7 years.

Fair Value Hedges

The Company has interest rate contracts whereby the Company receives fixed rates and pays variable rates based on certain benchmark interest rates, resulting in a net increase or decrease to interest expense, a component of other expense, net in our Consolidated Statement of Operations. These interest rate contracts are designated as fair value hedges and hedge against changes in the fair value of our debt portfolio. The Company concluded that these interest rate contracts meet the criteria necessary to qualify for the short-cut method of hedge accounting, and as such, an assumption is made that the change in the fair value of the hedged debt, due to changes in the benchmark rate, exactly offsets the change in the fair value of the interest rate swap. Therefore, the derivative is considered to be effective at achieving offsetting changes in the fair value of the hedged liability, and no ineffectiveness is recognized.

Balance Sheet Hedges

The Company also enters into foreign currency forward contracts to hedge fluctuations associated with foreign currency denominated monetary assets and liabilities, primarily cash, third-party accounts receivable, accounts payable, and intercompany receivables and payables. These forward contracts are not designated for hedge accounting treatment. Therefore, the change in fair value of these derivatives is recorded as a component of other income (expense) and offsets the change in fair value of the foreign currency denominated assets and liabilities, which are also recorded in other income (expense).

As of June 30, 2019, the Company had the following outstanding foreign currency contracts that were entered into under its cash flow and balance sheet hedge programs:

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	Notional Value			
	Derivatives Designated as Hedging Instruments:		Derivatives Not Designated as Hedging Instruments:	
(in thousands)				
Foreign currency forward contracts				
	Buy Contracts	Sell Contracts	Buy Contracts	Sell Contracts
Japanese yen	—	\$ 115,844	\$ 76,013	\$ 36,732
Euro	43,776	—	23,964	—
Korean won	14,622	—	7,778	—
British pound sterling	—	—	45,783	—
Taiwan dollar	—	—	28,992	—
Swiss franc	—	—	26,694	—
Chinese renminbi	—	—	14,390	—
Indian rupee	—	—	9,473	—
Singapore dollar	—	—	8,874	—
	\$ 58,398	\$ 115,844	\$ 241,961	\$ 36,732

The fair value of derivative instruments in the Company's Consolidated Balance Sheet as of June 30, 2019, and June 24, 2018, were as follows:

	June 30, 2019				June 24, 2018			
	Fair Value of Derivative Instruments (Level 2)				Fair Value of Derivative Instruments (Level 2)			
	Derivative Assets		Derivative Liabilities		Derivative Assets		Derivative Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
(in thousands)								
Derivatives designated as hedging instruments:								
Foreign exchange contracts	Prepaid expense and other assets	\$ 119	Accrued expenses and other current liabilities	\$ 2,756	Prepaid expense and other assets	\$ 7,581	Accrued expenses and other current liabilities	\$ 8,866
Interest rate contracts, short-term		—	Accrued expenses and other current liabilities	5,149		—	Accrued expenses and other current liabilities	7,468
Interest rate contracts, long-term	Other assets	1,537		—		—	Other long-term liabilities	23,720
Derivatives not designated as hedging instruments:								
Foreign exchange contracts	Prepaid expense and other assets	1,249	Accrued expenses and other current liabilities	748	Prepaid expense and other assets	111	Accrued expenses and other current liabilities	32
Total derivatives		\$ 2,905		\$ 8,653		\$ 7,692		\$ 40,086

Under the master netting agreements with the respective counterparties to the Company's derivative contracts, subject to applicable requirements, the Company is allowed to net settle transactions of the same currency with a single net amount payable by one party to the other. However, the Company has elected to present the derivative assets and derivative liabilities on a gross basis on its balance sheet. As of June 30, 2019, the potential effect of rights of offset associated with the above foreign exchange and interest rate contracts would be an offset to assets and liabilities by \$2.4 million, resulting in a net derivative asset of \$0.5 million and net derivative liability of \$6.2 million. As of June 24, 2018, the potential effect of rights of offset associated with the above foreign exchange contracts would be an offset to both assets and liabilities by \$5.6 million, resulting in a

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net derivative asset of \$2.1 million and a net derivative liability of \$34.4 million. The Company is not required to pledge, nor is the Company entitled to receive, cash collateral for these derivative transactions.

The effect of derivative instruments designated as cash flow hedges on the Company's Consolidated Statements of Operations, including accumulated other comprehensive income ("AOCI"), was as follows:

		Year Ended June 30, 2019		Year Ended June 24, 2018	
	Location of Gain (Loss) Recognized in or Reclassified into Income	Gain (Loss) Recognized in AOCI	Gain (Loss) Reclassified from AOCI into Income	(Loss) Gain Recognized in AOCI	(Loss) Gain Reclassified from AOCI into Income
Derivatives in Cash Flow Hedging Relationships		(in thousands)			
Foreign exchange contracts	Revenue	\$ 8,143	\$ 10,821	\$ (8,305)	\$ (11,284)
Foreign exchange contracts	Cost of goods sold	(3,801)	(5,949)	57	5,218
Foreign exchange contracts	SG&A	(1,618)	(2,321)	558	2,654
Interest rate contracts	Other expense, net	—	(134)	—	(126)
		<u>\$ 2,724</u>	<u>\$ 2,417</u>	<u>\$ (7,690)</u>	<u>\$ (3,538)</u>

The effect of derivative instruments not designated as cash flow hedges on the Company's Consolidated Statement of Operations was as follows:

		Year Ended	
		June 30, 2019	June 24, 2018
	Location of Gain Recognized in Income	Gain Recognized in Income	Gain Recognized in Income
Derivatives Not Designated as Hedging Instruments:		(in thousands)	
Foreign exchange contracts	Other income	\$ 4,124	\$ 7,756

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The following table presents the effect of the fair value cash flow hedge accounting on the Statement of Financial Performance as well as presents the location and amount of gain/(loss) recognized in Income on fair value and cash flow hedging relationships:

	Location and Amount of Gain (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships			
	Year ended			
	June 30, 2019			
	Revenue	Cost of Goods Sold	Selling, General and Administrative	Other Income (Expense)
(in thousands)				
Total amounts of income and expense line items presented in the statement of financial performance in which the effects of fair value or cash flow hedges are recorded:				
	\$ 9,653,559	\$ 5,295,100	\$ 702,407	\$ (18,161)
The effects of fair value and cash flow hedging:				
Gain or (loss) on fair value hedging relationships in Subtopic 815-20:				
Interest contracts:				
Hedged items	—	—	—	(27,577)
Derivatives designated as hedging instruments	—	—	—	27,577
Gain or (loss) on cash flow hedging relationships in Subtopic 815-20:				
Foreign exchange contracts:				
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	10,821	(5,949)	(2,321)	—
Interest rate contracts:				
Amount of loss reclassified from accumulated other comprehensive income into income	—	—	—	(134)

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, investments, restricted cash and investments, trade accounts receivable, and derivative financial instruments used in hedging activities. Cash is placed on deposit at large, global financial institutions. Such deposits may be in excess of insured limits. Management believes that the financial institutions that hold the Company's cash are creditworthy and, accordingly, minimal credit risk exists with respect to these balances.

The Company's overall portfolio of available-for-sale securities must maintain an average minimum rating of "AA-" or "Aa3" as rated by Standard and Poor's, Fitch Ratings, or Moody's Investor Services. To ensure diversification and minimize concentration, the Company's policy limits the amount of credit exposure with any one financial institution or commercial issuer.

The Company is exposed to credit losses in the event of nonperformance by counterparties on foreign currency and interest rate hedge contracts that are used to mitigate the effect of exchange rate and interest rate fluctuations and on contracts related to structured share repurchase arrangements. These counterparties are large, global financial institutions and, to date, no such counterparty has failed to meet its financial obligations to the Company.

Credit risk evaluations, including trade references, bank references, and Dun & Bradstreet ratings, are performed on all new customers, and the Company monitors its customers' financial condition and payment performance. In general, the Company does not require collateral on sales.

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As of June 30, 2019, four customers accounted for approximately 18%, 15%, 11%, and 10%, of accounts receivable, respectively. As of June 24, 2018, four customers accounted for approximately 24%, 17%, 10%, and 10% of accounts receivable, respectively. No other customers accounted for more than 10% of accounts receivable, respectively. The Company's balance and transactional activity for its allowance for doubtful accounts is not material as of and for the twelve months ended June 30, 2019, June 24, 2018, and June 25, 2017.

Note 10: Inventories

Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value. System shipments to customers in Japan, for which title does not transfer until customer acceptance, are classified as finished goods inventory and carried at cost until title transfers. Inventories consist of the following:

	June 30, 2019	June 24, 2018
(in thousands)		
Raw materials	\$ 994,738	\$ 916,438
Work-in-process	174,219	222,921
Finished goods	371,183	736,803
	<u>\$ 1,540,140</u>	<u>\$ 1,876,162</u>

Note 11: Property and Equipment

Property and equipment, net, consist of the following:

	June 30, 2019	June 24, 2018
(in thousands)		
Manufacturing and engineering equipment	\$ 1,039,454	\$ 911,140
Buildings and improvements	664,061	530,032
Computer and computer-related equipment	190,974	182,451
Office equipment, furniture and fixtures	82,115	66,378
Land	46,155	46,155
	<u>2,022,759</u>	<u>1,736,156</u>
Less: accumulated depreciation and amortization	(963,682)	(833,609)
	<u>\$ 1,059,077</u>	<u>\$ 902,547</u>

Depreciation expense, including amortization of capital leases, during fiscal years 2019, 2018, and 2017, was \$182.1 million, \$165.2 million, and \$152.3 million, respectively.

Note 12: Goodwill and Intangible Assets

Goodwill

The balance of goodwill was \$1.5 billion as of June 30, 2019, and June 24, 2018, respectively. As of June 30, 2019, \$61.1 million of the goodwill balance is tax deductible, and the remaining balance is not tax deductible due to purchase accounting and applicable foreign law. No goodwill impairments were recognized in fiscal years 2019, 2018, or 2017. Refer to Note 20 - Business Combinations for information regarding goodwill additions during the fiscal year ended June 24, 2018.

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Intangible Assets

The following table provides details of the Company's intangible assets, other than goodwill:

	June 30, 2019			June 24, 2018		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
(in thousands)						
Customer relationships	\$ 630,165	\$ (483,204)	\$ 146,961	\$ 630,220	\$ (433,309)	\$ 196,911
Existing technology	669,399	(647,837)	21,562	669,520	(576,844)	92,676
Patents and other intangible assets	126,235	(77,808)	48,427	99,767	(71,518)	28,249
Total intangible assets	\$ 1,425,799	\$ (1,208,849)	\$ 216,950	\$ 1,399,507	\$ (1,081,671)	\$ 317,836

The Company recognized \$127.3 million, \$161.2 million, and \$154.6 million in intangible asset amortization expense during fiscal years 2019, 2018, and 2017, respectively. No intangible asset impairments were recognized in fiscal years 2019, 2018, or 2017.

Refer to Note 20 - Business Combinations for information regarding intangible assets acquired during the fiscal year ended June 24, 2018.

The estimated future amortization expense of intangible assets as of June 30, 2019, was as follows:

Fiscal Year	Amount
	(in thousands)
2020	\$ 65,226
2021	63,986
2022	59,671
2023	15,241
2024	8,900
Thereafter	3,926
	\$ 216,950

Note 13: Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

	June 30, 2019	June 24, 2018
	(in thousands)	
Accrued compensation	\$ 336,090	\$ 506,471
Warranty reserves	127,932	192,480
Income and other taxes payable	49,926	185,384
Dividend payable	158,868	174,372
Other	273,825	250,502
	\$ 946,641	\$ 1,309,209

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Note 14: Long Term Debt and Other Borrowings

As of June 30, 2019, and June 24, 2018, the Company's outstanding debt consisted of the following:

	June 30, 2019		June 24, 2018	
	Amount (in thousands)	Effective Interest Rate	Amount (in thousands)	Effective Interest Rate
Fixed-rate 2.75% Senior Notes Due March 15, 2020 ("2020 Notes")	500,000	2.88%	500,000	2.88%
Fixed-rate 2.80% Senior Notes Due June 15, 2021 ("2021 Notes")	800,000	2.95%	800,000	2.95%
Fixed-rate 3.80% Senior Notes Due March 15, 2025 ("2025 Notes")	500,000	3.87%	500,000	3.87%
Fixed-rate 3.75% Senior Notes Due March 15, 2026 ("2026 Notes")	750,000	3.86%	—	—
Fixed-rate 4.00% Senior Notes Due March 15, 2029 ("2029 Notes")	1,000,000	4.09%	—	—
Fixed-rate 2.625% Convertible Notes Due May 15, 2041 ("2041 Notes")	212,349 (1)	4.28%	326,953 (1)	4.28%
Fixed-rate 4.875% Senior Notes Due March 15, 2049 ("2049 Notes")	750,000	4.93%	—	—
Commercial paper	—	—	360,000	2.33% (2)
Total debt outstanding, at par	4,512,349		2,486,953	
Unamortized discount	(73,191)		(85,196)	
Fair value adjustment - interest rate contracts	(3,612)		(31,189)	
Unamortized bond issuance costs	(5,535)		(1,820)	
Total debt outstanding, at carrying value	\$ 4,430,011		\$ 2,368,748	
Reported as:				
Current portion of long-term debt and commercial paper	\$ 662,308		\$ 608,532	
Long-term debt	3,767,703		1,760,216	
Total debt outstanding, at carrying value	\$ 4,430,011		\$ 2,368,748	

(1) As of the report date, these notes were convertible at the option of the bondholder. This is a result of the following condition being met: the market value of the Company's Common Stock was greater than 130% of the convertible notes conversion price for 20 or more of the 30 consecutive trading days preceding the quarter-end. As a result, the 2041 Notes were classified in current liabilities and a portion of the equity component associated with the convertible notes, representing the unamortized discount, was classified in temporary equity on the Company's Consolidated Balance Sheets. Upon closure of the conversion period, the notes not converted will be reclassified back into noncurrent liabilities and the temporary equity will be reclassified into permanent equity.

(2) Represents the weighted-average effective interest rate for all outstanding balances as of the report date.

The Company's contractual cash obligations relating to its outstanding debt as of June 30, 2019, were as follows:

Payments Due by Fiscal Year:	(in thousands)
2020 ⁽¹⁾	\$ 712,349
2021	800,000
2022	—
2023	—
2024	—
Thereafter	3,000,000
Total	\$ 4,512,349

(1) As noted above, the conversion period for the 2041 Notes is open as of June 30, 2019. As there is the potential for conversion at the option of the holder, the principal balance of the 2041 Notes has been included in the one-year payment period.

Convertible Senior Notes

In June 2012, with the acquisition of Novellus, the Company assumed \$700 million in aggregate principal amount of 2.625% Convertible Senior Notes due May 15, 2041 (the "2041 Notes"). The Company pays cash interest at an annual rate of 2.625%, on a semi-annual basis on May 15 and November 15 of each year. The 2041 Notes also have a contingent interest payment provision that may require the Company to pay additional interest, up to 0.60% per year, based on certain thresholds, beginning with the semi-annual interest payment on May 15, 2021, and upon the occurrence of certain events, as outlined in the indenture governing the 2041 Notes.

The Company separately accounts for the liability and equity components of the 2041 Notes. The initial debt components of the 2041 Notes were valued based on the present value of the future cash flows using the Company's borrowing rate at the date of the issuance or assumption for similar debt instruments without the conversion feature, which equals the effective interest rate on the liability component disclosed in the table below, respectively. The equity component was

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initially valued equal to the principle value of the notes, less the present value of the future cash flows using the Company's borrowing rate at the date of the issuance or assumption for similar debt instruments without a conversion feature, which equated to the initial debt discount.

The 2041 Notes may be redeemed on or after May 21, 2021 at a price equal to outstanding principal plus accrued and unpaid interest if the last reported sales price of common shares has been equal to or more than 150% of the then applicable conversion price for at least 20 trading days during the 30 consecutive trading days prior to the redemption notice date.

Under certain circumstances, the 2041 Notes may be converted into shares of the Company's Common Stock. The number of shares each debenture is convertible into is based on conversion rates, disclosed in the table below. The principal value of the 2041 Note conversions in the fiscal year ended June 30, 2019, were \$114.6 million. During the quarter ended June 30, 2019 and in the subsequent period through August 16, 2019, the Company received notice of conversion for an additional \$27.9 million principal value of 2041 Notes, which will settle in the quarter ending September 29, 2019.

Selected additional information regarding the 2041 Notes outstanding as of June 30, 2019, and June 24, 2018, is as follows:

	2041 Notes	
	June 30, 2019	June 24, 2018
	(in thousands, except years, percentages, conversion rate, and conversion price)	
Carrying amount of permanent equity component, net of tax	\$ 160,604	\$ 159,120
Carrying amount of temporary equity component, net of tax	\$ 49,439	\$ 78,192
Remaining amortization period (years)	21.9	22.9
Fair Value of Notes (Level 2)	\$ 1,229,475	
Conversion rate (shares of common stock per \$1,000 principal amount of notes)	30.9197	
Conversion price (per share of common stock)	\$ 32.34	
If-converted value in excess of par value	\$ 1,020,965	
Estimated share dilution using average quarterly stock price of \$189.73 per share	5,447	

Convertible Warrants

During the fiscal year 2019, the Company had warrants outstanding in connection with its 2018 convertible notes that matured in May 2018. The 7.6 million warrants were fully exercised during the fiscal year ended June 30, 2019, resulting in the issuance of approximately 4.1 million shares of the Company's Common Stock.

Senior Notes

On March 4, 2019, the company completed a public offering of \$750 million aggregate principal amount of the Company's Senior Notes due March 15, 2026 (the "2026 Notes"), \$1.0 billion aggregate principal amount of the Company's Senior Notes due March 15, 2029 (the "2029 Notes"), and \$750 million aggregate principal amount of the Company's Senior Notes due March 15, 2049 (the "2049 Notes"). The Company will pay interest at an annual rate of 3.75%, 4.00%, and 4.875%, on the 2026, 2029, and 2049 Notes, respectively, on a semi-annual basis on March 15 and September 15 of each year beginning September 15, 2019.

On March 12, 2015, the Company completed a public offering of \$500 million aggregate principal amount of the Company's Senior Notes due March 15, 2020 (the "2020 Notes") and \$500 million aggregate principal amount of the Company's Senior Notes due March 15, 2025 (the "2025 Notes"). The Company pays interest at an annual rate of 2.75% and 3.80% on the 2020 Notes and 2025 Notes, respectively, on a semi-annual basis on March 15 and September 15 of each year. During the year ended June 26, 2016, the Company entered into a series of interest rate contracts hedging the fair value of a portion of the 2025 Notes par value, whereby the Company receives a fixed rate and pays a variable rate based on a certain benchmark interest rate. Refer to Note 9 - Financial Instruments for additional information regarding these interest rate contracts.

On June 7, 2016, the Company completed a public offering of \$800 million aggregate principal amount of Senior Notes due June 2021 (the "2021 Notes"). The Company pays interest at an annual rate of 2.80% on the 2021 Notes on a semi-annual basis on June 15 and December 15 of each year.

The Company may redeem the 2020, 2021, 2025, 2026, 2029 and 2049 Notes (collectively the "Senior Notes") at a redemption price equal to 100% of the principal amount of such series ("par"), plus a "make whole" premium as described in the indenture in respect to the Senior Notes and accrued and unpaid interest before February 15, 2020, for

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the 2020 Notes, before May 15, 2021 for the 2021 Notes, before December 15, 2024 for the 2025 Notes, before January 15, 2026 for the 2026 Notes, before December 15, 2028 for the 2029 Notes, and before September 15, 2048 for the 2049 Notes. The Company may redeem the Senior Notes at par, plus accrued and unpaid interest at any time on or after February 15, 2020, for the 2020 Notes, on or after May 15, 2021 for the 2021 Notes, on or after December 24, 2024, for the 2025 Notes, on or after January 15, 2026 for the 2026 Notes, on or after December 15, 2028 for the 2029 Notes, and on or after September 15, 2048 for the 2049 Notes. In addition, upon the occurrence of certain events, as described in the indenture, the Company will be required to make an offer to repurchase the Senior Notes at a price equal to 101% of the principal amount of the respective note, plus accrued and unpaid interest.

Selected additional information regarding the Senior Notes outstanding as of June 30, 2019, is as follows:

	Remaining Amortization period (years)	Fair Value of Notes (Level 2) (in thousands)
2020 Notes	0.7	\$ 500,855
2021 Notes	2.0	\$ 806,232
2025 Notes	5.7	\$ 528,895
2026 Notes	6.7	\$ 786,915
2029 Notes	9.7	\$ 1,063,670
2049 Notes	29.7	\$ 828,188

Revolving Credit Facility

On March 12, 2014, the Company established an unsecured Credit Agreement. This agreement was amended on November 10, 2015 (the "Amended and Restated Credit Agreement"), October 13, 2017 (the "2nd Amendment"), and February 25, 2019 (the "3rd Amendment"). Under the Amended and Restated Credit Agreement (as amended by the 2nd and 3rd Amendment), the Company has a revolving credit facility of \$1.25 billion with a syndicate of lenders with an expansion option that will allow the Company, subject to certain requirements, to request an increase in the facility of up to an additional \$600.0 million, for a potential total commitment of \$1.85 billion. The facility matures on October 13, 2022.

Interest on amounts borrowed under the credit facility is, at the Company's option, based on (1) a base rate, defined as the greatest of (a) prime rate, (b) Federal Funds rate plus 0.5%, or (c) one-month LIBOR plus 1.0%, plus a spread of 0.0% to 0.5%, or (2) LIBOR multiplied by the statutory rate, plus a spread of 0.9% to 1.5%, in each case as the applicable spread is determined based on the rating of the Company's non-credit enhanced, senior unsecured long-term debt. Principal and any accrued and unpaid interest is due and payable upon maturity. Additionally, the Company will pay the lenders a quarterly commitment fee that varies based on the Company's credit rating. The Amended and Restated Credit Agreement contains affirmative covenants, negative covenants, financial covenants, and events of default. As of June 30, 2019, the Company had no borrowings outstanding under the credit facility and was in compliance with all financial covenants.

Commercial Paper Program

On November 13, 2017, the Company established a commercial paper program under which the Company may issue unsecured commercial paper notes on a private placement basis up to a maximum aggregate principal amount of \$1.25 billion. The net proceeds from the CP Program will be used for general corporate purposes, including repurchases of the Company's Common Stock from time to time under the Company's stock repurchase program. Amounts available under the CP Program may be re-borrowed. The CP Program is backstopped by the Company's Revolving Credit Arrangement. As of June 30, 2019, the Company had no outstanding borrowings under the CP Program.

Interest Cost

The following table presents the amount of interest cost recognized relating to both the contractual interest coupon and amortization of the debt discount, issuance costs, and effective portion of interest rate contracts with respect to the Senior Notes, convertible notes, the term loan agreement, commercial paper, and the revolving credit facility during the fiscal years ended June 30, 2019, June 24, 2018, and June 25, 2017.

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	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
	(in thousands)		
Contractual interest coupon	\$ 100,712	\$ 77,091	\$ 95,195
Amortization of interest discount	3,937	12,225	22,873
Amortization of issuance costs	1,426	2,034	2,414
Effect of interest rate contracts, net	4,086	3	(4,756)
Total interest cost recognized	<u>\$ 110,161</u>	<u>\$ 91,353</u>	<u>\$ 115,726</u>

The increase in interest expense during the 12 months ended June 30, 2019, is primarily the result of the issuance of \$2.5 billion of Senior Notes in March 2019.

Note 15: Retirement and Deferred Compensation Plans

Employee Savings and Retirement Plan

The Company maintains a 401(k) retirement savings plan for its eligible employees in the United States. Each participant in the plan may elect to contribute from 1% to 75% of annual eligible earnings to the plan, subject to statutory limitations. The Company makes matching employee contributions in cash to the plan at the rate of 50% of the first 6% of earnings contributed. Employees participating in the 401(k) retirement savings plan are fully vested in the Company matching contributions, and investments are directed by participants. The Company made matching contributions of \$24.1 million, \$21.4 million, and \$15.2 million, in fiscal years 2019, 2018, and 2017, respectively.

Deferred Compensation Arrangements

The Company has an unfunded, non-qualified deferred compensation plan whereby certain executives may defer a portion of their compensation. Participants earn a return on their deferred compensation based on their allocation of their account balance among various mutual funds. The Company controls the investment of these funds, and the participants remain general creditors of the Company. Participants are able to elect the payment of benefits on a specified date at least three years after the opening of a deferral sub-account or upon retirement. Distributions are made in the form of lump sum or annual installments over a period of up to 20 years as elected by the participant. If no alternate election has been made, a lump sum payment will be made upon termination of a participant's employment with the Company. As of June 30, 2019, and June 24, 2018, the liability of the Company to the plan participants was \$207.0 million and \$188.0 million, respectively, which was recorded in accrued expenses and other current liabilities and other long-term liabilities on the Consolidated Balance Sheets. As of June 30, 2019, and June 24, 2018, the Company had investments in the aggregate amount of \$228.9 million and \$209.0 million, respectively, which correlate to the deferred compensation obligations, which were recorded in other assets on the Consolidated Balance Sheets.

Post-Retirement Healthcare Plan

The Company maintains a post-retirement healthcare plan for certain executive and director retirees. Coverage continues through the duration of the lifetime of the retiree or the retiree's spouse, whichever is longer. The benefit obligation was \$40.5 million and \$37.2 million as of June 30, 2019, and June 24, 2018, respectively.

Note 16: Commitments and Contingencies

The Company has certain obligations to make future payments under various contracts; some of these are recorded on its balance sheet and some are not. Obligations that are recorded on the Company's balance sheet include the Company's capital lease obligations. Obligations that are not recorded on the Company's balance sheet include contractual relationships for operating leases, purchase obligations, and certain guarantees. The Company's commitments relating to capital leases and off-balance sheet agreements are included in the tables below. These amounts exclude \$373.0 million of liabilities related to uncertain tax benefits because the Company is unable to reasonably estimate the ultimate amount or time of settlement. See Note 7 - Income Taxes for further discussion.

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Capital Leases

Capital leases reflect building and office equipment leases. The Company's contractual cash obligations relating to its existing capital leases, including interest, as of June 30, 2019, were as follows:

Payments Due by Fiscal Year (1):		Capital Leases
		(in thousands)
2020	\$	7,729
2021		11,753
2022		5,669
2023		5,165
2024		4,932
Thereafter		14,801
Total		50,049
Interest on capital leases		16,697
Current portion of capital leases		4,858
Long-term portion of capital leases	\$	28,494

(1) Excludes balances associated with the Company's build-to-suit lease arrangements that are classified as capital leases in the Consolidated Balance Sheets, but for which cash payment is not anticipated.

Operating Leases and Related Guarantees

The Company leases the majority of its administrative, R&D and manufacturing facilities, regional sales/service offices, and certain equipment under non-cancelable operating leases. Certain of the Company's facility leases for buildings located at its Fremont, California headquarters; Tualatin, Oregon campus; and certain other facility leases provide the Company with options to extend the leases for additional periods or to purchase the facilities. Certain of the Company's facility leases provide for periodic rent increases based on the general rate of inflation. The Company's rental expense for facilities occupied during fiscal years 2019, 2018, and 2017 was \$28.1 million, \$23.5 million, and \$20.2 million, respectively.

The Company has operating leases regarding certain improved properties in Fremont and Livermore, California (the "Operating Leases"). The Company is required to maintain cash collateral in an aggregate of approximately \$250.0 million in separate interest-bearing accounts as security for the Company's obligations. These amounts are recorded with other restricted cash and investments in the Company's Consolidated Balance Sheet as of June 30, 2019.

During the term of the Operating Leases and when the terms of the Operating Leases expire, the property subject to those Operating Leases may be re-marketed. The Company has guaranteed to the lessor that each property will have a certain minimum residual value. The aggregate guarantee made by the Company under the Operating Leases is generally no more than \$220.4 million; however, under certain default circumstances, the guarantee with regard to an Operating Lease may be 100% of the lessor's aggregate investment in the applicable property, which in no case will exceed \$250.0 million, in the aggregate.

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The Company's contractual cash obligations with respect to operating leases, excluding the residual value guarantees discussed above, as of June 30, 2019, were as follows:

Payments Due by Fiscal Year:	Operating Leases
	(in thousands)
2020	\$ 37,427
2021	23,277
2022	13,304
2023	6,752
2024	5,804
Thereafter	11,825
Total	\$ 98,389

Other Guarantees

The Company has issued certain indemnifications to its lessors for taxes and general liability under some of its agreements. The Company has entered into insurance contracts that are intended to limit its exposure to such indemnifications. As of June 30, 2019, the Company had not recorded any liability on its Consolidated Financial Statements in connection with these indemnifications, as it does not believe that it is probable that any material amounts will be paid under these guarantees.

Generally, the Company indemnifies, under pre-determined conditions and limitations, its customers for infringement of third-party intellectual property rights by the Company's products or services. The Company seeks to limit its liability for such indemnity to an amount not to exceed the sales price of the products or services subject to its indemnification obligations. The Company does not believe that it is probable that any material amounts will be paid under these guarantees.

The Company provides guarantees and standby letters of credit to certain parties as required for certain transactions initiated during the ordinary course of business. As of June 30, 2019, the maximum potential amount of future payments that the Company could be required to make under these arrangements and letters of credit was \$42.5 million. The Company does not believe, based on historical experience and information currently available, that it is probable that any material amounts will be required to be paid.

In addition, the Company has entered into indemnification agreements with its officers and directors, consistent with its Bylaws and Certificate of Incorporation; and under local law, the Company may be required to provide indemnification to its employees for actions within the scope of their employment. Although the Company maintains insurance contracts that cover some of the potential liability associated with these indemnification agreements, there is no guarantee that all such liabilities will be covered. The Company does not believe, based on historical experience and information currently available, that it is probable that any material amounts will be required to be paid under such indemnification agreements or statutory obligations.

Purchase Obligations

Purchase obligations consist of non-cancelable significant contractual obligations either on an annual basis or over multi-year periods. The contractual cash obligations and commitments table presented below contains the Company's minimum obligations at June 30, 2019, under these arrangements and others. For obligations with cancellation provisions, the amounts included in the following table were limited to the non-cancelable portion of the agreement terms or the minimum cancellation fee. Actual expenditures will vary based on the volume of transactions and length of contractual service provided.

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The Company's commitments related to these agreements as of June 30, 2019, were as follows:

Payments Due by Fiscal Year:	Purchase Obligations	
	(in thousands)	
2020	\$	345,498
2021		14,473
2022		14,473
2023		6,721
2024		6,721
Thereafter		36,675
Total	\$	424,561

Warranties

The Company provides standard warranties on its systems. The liability amount is based on actual historical warranty spending activity by type of system, customer, and geographic region, modified for any known differences such as the impact of system reliability improvements.

Changes in the Company's product warranty reserves were as follows:

	Year Ended	
	June 30, 2019	June 24, 2018
	(in thousands)	
Balance at beginning of period	\$ 192,480	\$ 161,981
Warranties issued during the period	249,737	235,252
Settlements made during the period	(307,079)	(196,680)
Changes in liability for pre-existing warranties	(7,206)	(8,073)
Balance at end of period	\$ 127,932	\$ 192,480

Legal Proceedings

While the Company is not currently a party to any legal proceedings that it believes material, the Company is either a defendant or plaintiff in various actions that have arisen from time to time in the normal course of business, including intellectual property claims. The Company accrues for a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Significant judgment is required in both the determination of probability and the determination as to whether a loss is reasonably estimable. Based on current information, the Company does not believe that a material loss from known matters is probable and therefore has not recorded an accrual of any material amount for litigation or other contingencies related to existing legal proceedings.

Note 17: Stock Repurchase Program

In November 2018, the Board of Directors authorized the Company to repurchase up to an additional \$5.0 billion of Common Stock. These repurchases can be conducted on the open market or as private purchases and may include the use of derivative contracts with large financial institutions, in all cases subject to compliance with applicable law. This repurchase program has no termination date and may be suspended or discontinued at any time. Funding for this repurchase program may be through a combination of cash on hand, cash generation, and borrowings. As of June 30, 2019, the Company has purchased approximately \$2.0 billion of shares under this authorization, \$0.5 billion via open market trading and \$1.5 billion utilizing accelerated share repurchase arrangements.

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Repurchases under the repurchase program were as follows during the periods indicated:

Period	Total Number of Shares Repurchased	Total Cost of Repurchase	Average Price Paid Per Share ⁽¹⁾	Amount Available Under Repurchase Program
(in thousands, except per share data)				
Available balance as of June 24, 2018				\$ 1,733,638
Quarter ended September 23, 2018	7,807	\$ 1,733,530	\$ 183.55	\$ 108
Board authorization, \$5.0 billion, November 2018	—	\$ —	\$ —	\$ 5,000,000
Quarter ended December 23, 2018	1,683 ⁽²⁾	\$ —	\$ —	\$ 5,000,000
Quarter ended March 31, 2019	5,702 ⁽²⁾	\$ 861,506	\$ 168.78	\$ 4,138,494
Quarter ended June 30, 2019	5,867	\$ 1,104,994	\$ 185.16	\$ 3,033,500

(1) Average price paid per share excludes effect of accelerated share repurchases; see additional disclosure below regarding the Company's accelerated share repurchase activity during the fiscal year.

(2) Includes shares received at final settlement of accelerated share repurchase agreements; see additional disclosures below regarding the Company's accelerated share repurchase activity during the fiscal year.

In addition to the shares repurchased under the Board-authorized repurchase program shown above, the Company acquired 0.5 million shares at a total cost of \$80.5 million during the 12 months ended June 30, 2019, which the Company withheld through net settlements to cover minimum tax withholding obligations upon the vesting of restricted stock unit awards granted under the Company's equity compensation plans. The shares retained by the Company through these net share settlements are not a part of the Board-authorized repurchase program but instead are authorized under the Company's equity compensation plan.

Accelerated Share Repurchase Agreements

On June 4, 2019, the Company entered into four separate accelerated share repurchase agreements (collectively, the "June 2019 ASR") with two financial institutions to repurchase a total of \$750 million of Common Stock. The Company took an initial delivery of approximately 3.1 million shares, which represented 75% of the prepayment amount divided by the Company's closing stock price on June 4, 2019. The total number of shares received under the June 2019 ASR will be based upon the average daily volume weighted average price of the Company's Common Stock during the repurchase period, less an agreed upon discount. Final settlement of the June 2019 ASR is anticipated to occur no later than November 20, 2019.

On January 31, 2019, the Company entered into two separate accelerated share repurchase agreements (collectively, the "January 2019 ASR") with two financial institutions to repurchase a total of \$760 million of Common Stock. The Company took an initial delivery of approximately 3.3 million shares, which represented 75% of the prepayment amount divided by the Company's closing stock price on January 30, 2019. The total number of shares received under the January 2019 ASR was based upon the average daily volume weighted average price of the Company's Common Stock during the repurchase period, less an agreed upon discount. Final settlement of the agreements occurred during May 2019, resulted in the receipt of approximately 0.8 million additional shares, which yielded a weighted-average share price of approximately \$182.32 for the transaction period.

On August 15, 2018, the Company entered into four separate accelerated share repurchase agreements (collectively, the "August 2018 ASR") with two financial institutions to repurchase a total of \$1.4 billion of Common Stock. The Company took an initial delivery of approximately 5.8 million shares, which represented 75% of the prepayment amount divided by the Company's closing stock price on August 14, 2018. The total number of shares received under the August 2018 ASR was based upon the average daily volume weighted average price of the Company's Common Stock during the repurchase period, less an agreed upon discount. Final settlement of two of the agreements occurred during the quarter ended December 23, 2018. Approximately 1.7 million shares were received at final settlement, which resulted in a weighted-average share price of approximately \$148.72 for the transaction period. The remaining two agreements settled during the quarter ended March 31, 2019, resulting in the receipt of approximately 1.8 million additional shares, which yielded a weighted-average share price of approximately \$146.00 for the transaction period.

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Note 18: Comprehensive Income (Loss)

The components of accumulated other comprehensive loss, net of tax at the end of June 30, 2019, as well as the activity during the fiscal year ended June 30, 2019, were as follows:

	Accumulated Foreign Currency Translation Adjustment	Accumulated Unrealized Gain or Loss on Cash Flow Hedges	Accumulated Unrealized Holding Gain or Loss on Available-For- Sale Investments	Accumulated Unrealized Components of Defined Benefit Plans	Total
	(in thousands)				
Balance as of June 24, 2018	\$ (32,722)	\$ (4,042)	\$ (1,190)	\$ (19,495)	\$ (57,449)
Other comprehensive (loss) income before reclassifications	(9,470)	2,860	3,535	(1,153)	(4,228)
Losses (gains) reclassified from accumulated other comprehensive income (loss) to net income	2,822 ⁽¹⁾	(2,749) ⁽²⁾	(199) ⁽¹⁾	—	(126)
Effects of ASU 2018-02 adoption	—	(399)	—	(1,828)	(2,227)
Net current-period other comprehensive income (loss)	(6,648)	(288)	3,336	(2,981)	(6,581)
Balance as of June 30, 2019	\$ (39,370)	\$ (4,330)	\$ 2,146	\$ (22,476)	\$ (64,030)

(1) Amount of after-tax gain reclassified from accumulated other comprehensive income into net income located in other expense, net.

(2) Amount of after-tax gain reclassified from accumulated other comprehensive income into net income located in revenue: \$9.6 million gain; cost of goods sold: \$5.0 million loss; selling, general, and administrative expenses: \$1.7 million loss; and other income and expense: \$0.1 million loss.

Tax related to other comprehensive income, and the components thereto, for the years ended June 30, 2019, June 24, 2018 and June 25, 2017 was not material.

Note 19: Segment, Geographic Information, and Major Customers

The Company operates in one reportable business segment: manufacturing and servicing of wafer processing semiconductor manufacturing equipment. The Company's material operating segments qualify for aggregation due to their customer base and similarities in economic characteristics, nature of products and services, and processes for procurement, manufacturing, and distribution.

The Company operates in seven geographic regions: United States, China, Europe, Japan, Korea, Southeast Asia, and Taiwan. For geographical reporting, revenue is attributed to the geographic location in which the customers' facilities are located, while long-lived assets are attributed to the geographic locations in which the assets are located.

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Revenues and long-lived assets by geographic region were as follows:

	Year Ended		
	June 30, 2019	June 24, 2018	June 25, 2017
Revenue:	(in thousands)		
Korea	\$ 2,205,348	\$ 3,832,798	\$ 2,480,329
China	2,161,440	1,784,436	1,023,195
Japan	1,969,869	1,882,799	1,041,969
Taiwan	1,596,261	1,397,978	2,095,669
United States	748,601	820,438	629,937
Southeast Asia	615,813	781,360	401,877
Europe	356,227	577,189	340,644
Total revenue	\$ 9,653,559	\$ 11,076,998	\$ 8,013,620

	June 30, 2019	June 24, 2018	June 25, 2017
Long-lived assets:	(in thousands)		
United States	\$ 933,054	\$ 784,469	\$ 575,264
Europe	72,928	73,336	77,211
Korea	28,200	24,312	19,982
China	6,844	5,466	1,906
Taiwan	6,759	7,922	7,970
Japan	5,750	3,327	1,083
Southeast Asia	5,542	3,715	2,179
	\$ 1,059,077	\$ 902,547	\$ 685,595

In fiscal year 2019, four customers accounted for approximately 15%, 14%, 14%, and 14% of total revenues, respectively. In fiscal year 2018, five customers accounted for approximately 25%, 14%, 14%, 13%, and 12% of total revenues, respectively. In fiscal year 2017, five customers accounted for approximately 23%, 16%, 12%, 11%, and 10% of total revenues, respectively. No other customers accounted for more than 10% of total revenues.

Note 20: Business Combinations

Coventor Acquisition

On August 28, 2017, the Company completed the acquisition of the outstanding shares of Coventor, Inc., a privately-held company that is a provider of simulation and modeling solutions for semiconductor process technology, MEMS, and the Internet of Things, for a total purchase consideration of \$137.6 million.

The following table represents the purchase price allocation and summarizes the aggregate estimated fair value of the net assets acquired on the closing date of the acquisition:

	Purchase Price Allocation
	(in thousands)
Intangible assets	\$ 48,500
Assets acquired (including cash of \$8.7 million)	11,463
Goodwill	98,917
Liabilities assumed	(21,269)
Fair value of net assets acquired	\$ 137,611

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The Company elected to close the measurement period as of June 24, 2018. The operating results of the acquired entity, from the date of acquisition, have been included in the Company's Consolidated Financial Statements for fiscal years ended June 24, 2018 and June 30, 2019. Goodwill represents the excess of the purchase price over the net tangible and identifiable intangible assets acquired. None of the goodwill recognized is deductible for income tax purposes.

The identified intangible assets assumed in the acquisition of Coventor were recognized as follows based upon their fair values as of August 28, 2017:

	Fair Value	Weighted-Average Estimated Useful Life
	(In thousands)	(In years)
Existing technology	\$ 26,200	6.0
Customer relationships	15,000	6.0
Trade names and other intangible assets	7,300	6.4
Total identified intangible assets	<u>\$ 48,500</u>	6.0

Acquired existing technology represents the fair value of products that have reached technological feasibility and are a part of Coventor's product offerings and customer relationships represent the fair values of the underlying relationships and agreements with Coventor's customers.

During the years ended June 24, 2018, and June 25, 2017, the Company expensed as incurred acquisition-related costs of \$2.9 million and \$9.8 million, respectively, within selling, general, and administrative expense in the Consolidated Statement of Operations. No acquisition-related costs were recognized during the year ended June 30, 2019.

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Lam Research Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Lam Research Corporation (the “Company”) as of June 30, 2019 and June 24, 2018, the related consolidated statements of operations, comprehensive income, cash flows, and stockholders’ equity, for each of the three years in the period ended June 30, 2019, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of June 30, 2019 and June 24, 2018, and the results of its operations and its cash flows for each of the three years in the period ended June 30, 2019, 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 June 30, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated August 20, 2019 expressed an unqualified opinion thereon.

Adoption of New Accounting Standard

As discussed in Note 2 and 3 to the consolidated financial statements, the Company changed its method of accounting for revenue from contracts with customers in the year ended June 30, 2019 due to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers, as amended.

Basis for Opinion

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

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

Critical Audit Matters

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

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Revenue Recognition Accounting Standard Adoption

<i>Description of the Matter</i>	<p>As described above and more fully described in Notes 2 and 3 to the consolidated financial statements, the Company adopted Accounting Standard Codification Topic 606, Revenue from Contracts with Customers ("ASC 606") on the first day of the fiscal year ended June 30, 2019, using the modified retrospective approach. Under ASC 606, the Company recognizes revenue when it determines control has passed to the customer, which includes judgment to determine when product specifications are met and the Company has right to payment.</p> <p>The implementation resulted in changes in the timing of recognition of system sales. This change required the exercise of auditor judgment in evaluating management's determination of when control has passed to the customer, and the determination of the cumulative effect of adoption of ASC 606.</p>
<i>How We Addressed the Matter in Our Audit</i>	<p>We evaluated and tested the Company's processes and the design and operating effectiveness of internal controls addressing the identified audit risks. This included controls over management's assessment of when control of goods transferred to the customer and over the calculation and recording of the cumulative effect adjustment recorded at the date of adoption, which resulted from the change in timing of revenue recognition.</p> <p>Our audit procedures included, among others, evaluating management's revenue recognition policy reflecting management's determination of when control has passed to the customer, evaluating the data and assumptions used in management's judgment over when transfer of control has occurred, and testing the transfer of control by agreeing relevant information, including associated terms and conditions, to underlying contracts entered into by the Company. We tested if the cumulative effect adjustment made under the modified retrospective adoption approach was in accordance with ASC 606, including testing the mathematical accuracy, and assessed the completeness of the financial statement disclosures. We also performed procedures to address the completeness and accuracy of the underlying data used in the calculations and the Company's disclosures.</p>

Inventory - Valuation

<i>Description of the Matter</i>	<p>The Company's inventories totaled \$1.5 billion as of June 30, 2019, representing 13% of total assets. As explained in Note 2 to the consolidated financial statements, the Company assesses the valuation of all inventories including manufacturing raw materials, work-in-process, finished goods, and spare parts in each reporting period. Obsolete inventory or inventory in excess of management's estimated usage requirement is written down to its estimated net realizable value if less than cost.</p> <p>Auditing management's estimates for excess and obsolete inventory involved subjective auditor judgment because management's assessment of whether a write down is required and the measurement of any excess of cost over net realizable value is judgmental and considers a number of qualitative factors that are affected by market and economic conditions outside the Company's control.</p>
<i>How We Addressed the Matter in Our Audit</i>	<p>We evaluated and tested the Company's processes and the design and operating effectiveness of internal controls addressing the identified audit risks. This included controls over management's assessment of inventory valuation, including the development of forecasted usage of inventories and consideration of how factors outside of the Company's control might affect management's judgment related to the valuation of excess and obsolete inventory.</p> <p>Our audit procedures included, among others, evaluating the significant assumptions (e.g., forecasts related to the Company's future manufacturing schedules, customer demand, technological and/or market obsolescence, and possible alternative uses) and the underlying data used in management's excess and obsolete inventory valuation assessment. We evaluated inventory levels compared to forecasted demand, historical sales and specific product considerations. We also assessed the historical accuracy of management's estimates.</p>

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1981.

San Jose, California
August 20, 2019

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Lam Research Corporation

Opinion on Internal Control over Financial Reporting

We have audited Lam Research Corporation's internal control over financial reporting as of June 30, 2019, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Lam Research Corporation (the Company) maintained, in all material respects, effective internal control over financial reporting as of June 30, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of June 30, 2019 and June 24, 2018, the related consolidated statements of operations, comprehensive income, cash flows, and stockholders' equity, for each of the three years in the period ended June 30, 2019, and the related notes and our report dated August 20, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

San Jose, California

August 20, 2019

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

None.

Item 9A. *Controls and Procedures***Design of Disclosure Controls and Procedures and Internal Control over Financial Reporting**

We maintain disclosure controls and procedures and internal control over financial reporting that are designed to comply with Rule 13a-15 of the Exchange Act. In designing and evaluating the controls and procedures associated with each, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives and that the effectiveness of controls cannot be absolute because the cost to design and implement a control to identify errors or mitigate the risk of errors occurring should not outweigh the potential loss caused by the errors that would likely be detected by the control. Moreover, we believe that a control system cannot be guaranteed to be 100% effective all of the time. Accordingly, a control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met.

Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of June 30, 2019, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rule 13a-15(e). Based upon that evaluation, our Chief Executive Officer and our Chief Financial Officer each concluded that our disclosure controls and procedures are effective, as of June 30, 2019, at the reasonable assurance level.

We intend to review and evaluate the design and effectiveness of our disclosure controls and procedures on an ongoing basis and to correct any material deficiencies that we may discover. Our goal is to ensure that our senior management has timely access to material information that could affect our business.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate "internal control over financial reporting", as that term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework in Internal Controls — Integrated Framework used by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on that evaluation, management has concluded that the Company's internal control over financial reporting was effective as of June 30, 2019, at providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP.

Ernst & Young LLP, an independent registered public accounting firm, audited the financial statements included in this 2019 Form 10-K and has issued an attestation report on the Company's internal control over financial reporting, as stated in their report, which is included in Part II, Item 8 of this 2019 Form 10-K.

Effectiveness of Controls

While we believe the present design of our disclosure controls and procedures and internal control over financial reporting is effective at the reasonable assurance level, future events affecting our business may cause us to modify our disclosure controls and procedures or internal controls over financial reporting.

Item 9B. *Other Information*

None.

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PART III

We have omitted from this 2019 Form 10-K certain information required by Part III because we, as the Registrant, will file a definitive proxy statement with the SEC within 120 days after the end of our fiscal year, pursuant to Regulation 14A, as promulgated by the SEC, for our Annual Meeting of Stockholders expected to be held on or about November 5, 2019, (the “Proxy Statement”), and certain information included in the Proxy Statement is incorporated into this report by reference.

Item 10. Directors, Executive Officers and Corporate Governance

For information regarding our executive officers, see Part I, Item 1 of this 2019 Form 10-K under the caption “Information about our Executive Officers,” which information is incorporated into Part III by reference.

The information concerning our directors required by this Item is incorporated by reference to our Proxy Statement under the heading “Voting Proposals — Proposal No. 1: Election of Directors — 2019 Nominees for Director.”

The information concerning our audit committee and audit committee financial experts required by this Item is incorporated by reference to our Proxy Statement under the heading “Governance Matters — Corporate Governance — Board Committees” and “Governance Matters — Corporate Governance — Board Committees — Audit Committee.”

The Company has adopted a Corporate Code of Ethics that applies to all employees, officers, and directors of the Company. Our Code of Ethics is publicly available on the Investor Relations page of our website at <http://investor.lamresearch.com>. To the extent required by law, any amendments to, or waivers from, any provision of the Code of Ethics will promptly be disclosed to the public. To the extent permitted by applicable legal requirements, we intend to make any required public disclosure by posting the relevant material on our website in accordance with SEC rules.

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to our Proxy Statement under the heading “Compensation Matters — Executive Compensation and Other Information,” “Compensation Matters — CEO Pay Ratio,” and “Governance Matters — Director Compensation.”

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

The information required by this Item is incorporated by reference to our Proxy Statement under the headings “Stock Ownership — Security Ownership of Certain Beneficial Owners and Management” and “Compensation Matters — Securities Authorized for Issuance Under Equity Compensation Plans.”

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

The information required by this Item is incorporated by reference to our Proxy Statement under the headings “Audit Matters — Certain Relationships and Related Party Transactions” and “Governance Matters — Corporate Governance — Director Independence Policies.”

Item 14. Principal Accounting Fees and Services

The information required by this Item is incorporated by reference to our Proxy Statement under the heading “Audit Matters — Relationship with Independent Registered Public Accounting Firm — Fees Billed by Ernst & Young LLP” and “Audit Matters — Relationship with Independent Registered Public Accounting Firm — Policy on Audit Committee Pre-Approval of Audit and Non-Audit Services.”

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PART IV**Item 15. Exhibits, Financial Statement Schedules**

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

	Page
1. Index to Financial Statements	
Consolidated Statements of Operations — Years Ended June 30, 2019, June 24, 2018, and June 25, 2017	51
Consolidated Statements of Comprehensive Income — Years Ended June 30, 2019, June 24, 2018, and June 25, 2017	52
Consolidated Balance Sheets — June 30, 2019, and June 24, 2018	53
Consolidated Statements of Cash Flows — Years Ended June 30, 2019, June 24, 2018, and June 25, 2017	54
Consolidated Statements of Stockholders' Equity — Years Ended June 30, 2019, June 24, 2018, and June 25, 2017	56
Notes to Consolidated Financial Statements	58
Reports of Independent Registered Public Accounting Firm	95
2. Index to Financial Statement Schedules	
Schedules have been omitted since they are not applicable, not required, not material, or the information is included elsewhere herein.	

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LAM RESEARCH CORPORATION
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED JUNE 30, 2019
EXHIBIT INDEX

Exhibit	Description
3.1	Restated Certificate of Incorporation of the Registrant, (including Certificate and Designation, Preferences and Rights of Series A Junior Participating Preferred Stock), dated November 22, 2016 which is incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q filed on January 30, 2017 (SEC File No. 000-12933).
3.2	Bylaws of the Registrant, as amended and restated, dated May 8, 2019 which is incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K filed on May 13, 2019 (SEC File No. 000-12933).
4.1	Indenture between Novellus Systems, Inc. as Issuer and The Bank of New York Mellon Trust Company, N.A. as Trustee, dated as of May 10, 2011, including the form of 2.625% Senior Convertible Notes due 2041 which is incorporated by reference to Exhibit 4.1 to Novellus' Current Report on Form 8-K filed on May 10, 2011 (SEC File No. 000-17157).
4.2	Supplemental Indenture among the Registrant, as Guarantor, Novellus Systems, Inc. as Issuer and The Bank of New York Mellon Trust Company, N.A. as Trustee, dated as of June 4, 2012 which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on June 4, 2012 (SEC File No. 000-12933).
4.3	Indenture (including Form of Notes), dated as of February 13, 2015, between Registrant and The Bank of New York Mellon Trust Company, N.A. which is incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form S-3 filed on February 13, 2015 (SEC File No. 333-202110).
4.4	First Supplemental Indenture, dated as of March 12, 2015, by and between Lam Research Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 12, 2015 (SEC File No. 000-12933).
4.5	Second Supplemental Indenture, dated as of June 7, 2016, by and between Lam Research Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on June 7, 2016 (SEC File No. 000-12933).
4.6	Third Supplemental Indenture, dated as of March 4, 2019 by and between Lam Research Corporation and the Bank of New York Mellon Trust Company, N.A. as trustee which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 4, 2019 (SEC File No. 000-12933).
4.7	Form of 3.750% Senior Notes due March 15, 2026 which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 4, 2019 (SEC File No. 000-12933).
4.8	Form of 4.000% Senior Notes due March 15, 2029 which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 4, 2019 (SEC File No. 000-12933).
4.9	Form of 4.875% Senior Notes due March 15, 2049 which is incorporated by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 4, 2019 (SEC File No. 000-12933).
4.10	Description of Common Stock
10.1*	Form of Indemnification Agreement which is incorporated by reference to the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 3, 1988 (SEC File No. 000-12933).
10.2*	Form of Indemnification Agreement which is incorporated by reference to Exhibit 10.148 to the Registrant's Current Report on Form 8-K filed on November 13, 2008 (SEC File No. 000-12933).
10.3*	Form of Indemnification Agreement which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on June 4, 2012 (SEC File No. 000-12933).
10.4*	Form of Novellus Directors and Officers Indemnification Agreement which is incorporated by reference to Exhibit 10.1 to Novellus' Current Report on Form 10-Q filed on August 13, 2002 (SEC File No. 000-17157).
10.5	Binding Memorandum of Understanding between Novellus, and Applied Materials, Inc., effective as of September 3, 2004 which is incorporated by reference to Exhibit 99.1 to Novellus' Current Report on Form 8-K filed on September 24, 2004 (SEC File No. 000-17157). Portions of this exhibit have been omitted pursuant to a request for confidential treatment.
10.6*	Novellus Amended Executive Voluntary Deferred Compensation Plan, as amended which is incorporated by reference to Exhibit 10.28 to Novellus' Quarterly Report on Form 10-Q filed on November 5, 2008 (SEC File No. 000-17157).

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Exhibit	Description
10.7*	Novellus Accelerated Stock Vesting Retirement Plan Summary which is incorporated by reference to Exhibit 10.30 to Novellus' Quarterly Report on Form 10-Q filed on November 2, 2010 (SEC File No. 000-17157).
10.8*	Novellus Systems, Inc. 2011 Stock Incentive Plan, as amended July 18, 2012 which is incorporated by reference to Exhibit 10.172 to the Registrant's Annual Report on Form 10-K filed on August 22, 2012 (SEC File No. 000-12933).
10.9*	Form of Nonstatutory Stock Option Award Agreement (U.S. Participants) — Lam Research Corporation 2007 Stock Incentive Plan which is incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed on February 6, 2014 (SEC File No. 000-12933).
10.10*	Form of Nonstatutory Stock Option Award Agreement (International Participants) — Lam Research Corporation 2007 Stock Incentive Plan which is incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed on February 6, 2014 (SEC File No. 000-12933).
10.11*	Form of Nonstatutory Stock Option Award Agreement (U.S. Participants) — Lam Research Corporation (Novellus Systems, Inc.) 2011 Stock Incentive Plan (As Amended) which is incorporated by reference to Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q filed on February 6, 2014 (SEC File No. 000-12933).
10.12*	Form of Nonstatutory Stock Option Award Agreement (International Participants) — Lam Research Corporation (Novellus Systems, Inc.) 2011 Stock Incentive Plan (As Amended) which is incorporated by reference to Exhibit 10.11 to the Registrant's Quarterly Report on Form 10-Q filed on February 6, 2014 (SEC File No. 000-12933).
10.13*	Employment Agreement with Martin B. Anstice, dated January 2, 2018 which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on January 8, 2018 (SEC File No. 000-12933).
10.14*	Employment Agreement with Timothy M. Archer, dated January 2, 2018 which is incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on January 8, 2018 (SEC File No. 000-12933).
10.15*	Employment Agreement with Douglas R. Bettinger, dated January 2, 2018 which is incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K filed on January 8, 2018 (SEC File No. 000-12933).
10.16*	Employment Agreement with Richard A. Gottscho, dated January 2, 2018 which is incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on January 8, 2018 (SEC File No. 000-12933).
10.17*	Form of Change in Control Agreement which is incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on January 8, 2018 (SEC File No. 000-12933).
10.18	Form of Confidentiality Agreement which is incorporated by reference to Exhibit 10.7 to the Registrant's Quarterly Report on Form 10-Q filed on February 3, 2015 (SEC File No. 000-12933).
10.19*	Form of Restricted Stock Unit Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.244 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.20*	Form of Restricted Stock Unit Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.245 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.21*	Form of Restricted Stock Unit Award Agreement (Outside Directors) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.246 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.22*	Form of Option Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.247 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.23*	Form of Option Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.248 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.24*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.249 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.25*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.250 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.26	Amendment and Restatement Agreement, dated November 10, 2015 among Lam Research Corporation, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders listed therein, and all exhibits and schedules attached thereto which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 12, 2015 (SEC File No. 000-12933).

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Exhibit	Description
10.27	Amendment No. 1 to the Amended and Restated Credit Agreement, dated April 26, 2016 among Lam Research Corporation, JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders listed therein, and all exhibits and schedules attached thereto which is incorporated by reference to Exhibit 10.254 to the Registrant's Annual Report on Form 10-K filed on August 17, 2016 (SEC File No. 000-12933).
10.28*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on October 25, 2016 (SEC File No. 000-12933).
10.29*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on October 25, 2016 (SEC File No. 000-12933).
10.30*	Form of Indemnification Agreement which is incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on April 24, 2017 (SEC File No. 000-12933).
10.31	Amendment No. 2 to Amended and Restated Credit Agreement dated October 13, 2017, among Lam Research Corporation, as borrower, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on October 17, 2017 (SEC File No. 000-12933).
10.32	Form of Commercial Paper Dealer Agreement 4(a)(2) Program between Lam Research Corporation, as issuer, and the dealer which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 14, 2017 (SEC File No. 000-12933).
10.33*	Amendment to Employment Agreement with Timothy M. Archer, dated March 16, 2018 which is incorporated by reference to Exhibit 10.49 to the Registrant's Annual Report on Form 10-K filed on August 14, 2018 (SEC File No. 000-12933).
10.34*	Lam Research Corporation 2007 Stock Incentive Plan, as amended, which is incorporated by reference to Exhibit 4.15 to the Registrant's Annual Report on Form 10-K filed on August 27, 2013 (SEC File No. 000-12933).
10.35*	Lam Research Corporation Elective Deferred Compensation Plan which is incorporated by reference to Exhibit 4.16 to the Registrant's Annual Report on Form 10-K filed on August 19, 2011 (SEC File No. 000-12933).
10.36*	Lam Research Corporation Elective Deferred Compensation Plan II which is incorporated by reference to Exhibit 4.17 to the Registrant's Annual Report on Form 10-K filed on August 19, 2011 (SEC File No. 000-12933).
10.37	Lam Research Corporation 1999 Employee Stock Purchase Plan, as amended which is incorporated by reference to Exhibit 4.20 to the Registrant's Quarterly Report on Form 10-Q filed on January 31, 2013 (SEC File No. 000-12933).
10.38*	2004 Executive Incentive Plan, as Amended and Restated which is incorporated by reference to Exhibit 4.23 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.39*	2015 Stock Incentive Plan which is incorporated by reference to Exhibit 4.24 to the Registrant's Current Report on Form 8-K filed on November 5, 2015 (SEC File No. 000-12933).
10.40*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on October 23, 2018 (SEC File No 000-12933).
10.41*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on October 23, 2018 (SEC File No 000-12933).
10.42*	Amendment to Employment Agreement with Douglas R. Bettinger, dated November 30, 2018 which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 3, 2018 (SEC File No. 000-12933).
10.43	Amendment No. 3 to Amended and Restated Credit Agreement, dated February 25, 2019, among Lam Research Corporation, as borrower, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on February 25, 2019 (SEC File No. 000-12933).
10.44*	Form of Restricted Stock Unit Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on April 30, 2019 (SEC File No. 000-12933).
10.45*	Form of Restricted Stock Unit Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on April 30, 2019 (SEC File No. 000-12933).
10.46*	Form of Restricted Stock Unit Agreement (Outside Directors) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q filed on April 30, 2019 (SEC File No. 000-12933).

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Exhibit	Description
10.47*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (U.S. Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q filed on April 30, 2019 (SEC File No. 000-12933).
10.48*	Form of Market-Based Performance Restricted Stock Unit Award Agreement (International Participants) - 2015 Stock Incentive Plan which is incorporated by reference to Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q filed on April 30, 2019 (SEC File No. 000-12933).
10.49*	Amendment to Employment Agreement with Timothy M. Archer dated August 8, 2019 which is incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 14, 2019 (SEC File No. 000-12933).
20	Notice of Adjustment of Conversion Rate pursuant to the indenture dated May 10, 2011, by and between Novellus Systems Incorporated and The Bank of New York Mellon Trust company, N.A. as Trustee with respect to the 2.625% Senior Convertible Notes Due 2041 which is incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K filed on June 14, 2019 (SEC File No. 000-12933).
21	Subsidiaries of the Registrant.
23	Consent of Independent Registered Public Accounting Firm.
24	Power of Attorney (See Signature page)
31.1	Rule 13a — 14(a) / 15d — 14(a) Certification (Principal Executive Officer)
31.2	Rule 13a — 14(a) / 15d — 14(a) Certification (Principal Financial Officer)
32.1	Section 1350 Certification — (Principal Executive Officer)
32.2	Section 1350 Certification — (Principal Financial Officer)
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Indicates management contract or compensatory plan or arrangement.

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SIGNATURES

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

Date: August 20, 2019

LAM RESEARCH CORPORATION
(Registrant)

By: /s/ Timothy M. Archer

Timothy M. Archer
President and Chief Executive Officer

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Lam Research Corporation 2019 10-K 105



POWER OF ATTORNEY AND SIGNATURES

By signing this Annual Report on Form 10-K below, I hereby appoint each of Timothy M. Archer and Douglas R. Bettinger, jointly and severally, as my attorney-in-fact to sign all amendments to this Form 10-K on my behalf and to file this Form 10-K (including all exhibits and other related documents) with the Securities and Exchange Commission. I authorize each of my attorneys-in-fact to (1) appoint a substitute attorney-in-fact for himself and (2) perform any actions that he believes are necessary or appropriate to carry out the intention and purpose of this Power of Attorney. I ratify and confirm all lawful actions taken directly or indirectly by my attorneys-in-fact and by any properly appointed substitute attorneys-in-fact.

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

Signatures	Title	Date
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Principal Executive Officer

/s/ Timothy M. Archer Timothy M. Archer	President, Chief Executive Officer and Director	August 20, 2019
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Principal Financial Officer and Principal Accounting Officer

/s/ Douglas R. Bettinger Douglas R. Bettinger	Executive Vice President, Chief Financial Officer, and Chief Accounting Officer	August 20, 2019
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Other Directors

Signatures	Title	Date	Signatures	Title	Date
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/s/ Stephen G. Newberry Stephen G. Newberry	Chairman	August 20, 2019	/s/ Catherine P. Lego Catherine P. Lego	Director	August 20, 2019
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/s/ Sohail U. Ahmed Sohail U. Ahmed	Director	August 20, 2019	/s/ Bethany J. Mayer Bethany J. Mayer	Director	August 20, 2019
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/s/ Eric K. Brandt Eric K. Brandt	Director	August 20, 2019	/s/ Abhi Talwalkar Abhijit Y. Talwalkar	Director	August 20, 2019
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/s/ Michael R. Cannon Michael R. Cannon	Director	August 20, 2019	/s/ Lih Shyng Tsai Lih Shyng (Rick L.) Tsai	Director	August 20, 2019
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/s/ Youssef A. El-Mansy Youssef A. El-Mansy	Director	August 20, 2019	/s/ Leslie F. Varon Leslie F. Varon	Director	August 20, 2019
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/s/ Christine A. Heckart Christine A. Heckart	Director	August 20, 2019
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DESCRIPTION OF COMMON STOCK

The following summary description sets forth some of the general terms and provisions of the common stock. Because this is a summary description, it does not contain all of the information that may be important to you. For a more detailed description of the common stock, you should refer to the provisions of our Restated Certificate of Incorporation and Amended and Restated Bylaws, or Bylaws, each of which has been incorporated by reference as an exhibit to the Annual Report on Form 10-K to which this description is an exhibit.

General

Lam Research's authorized capital stock consists of 400,000,000 shares of common stock, par value \$0.001 per share and 5,000,000 shares of preferred stock, par value \$0.001 per share

Dividend Rights

Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of common stock are entitled to receive dividends out of assets legally available at the times and in the amounts that our board of directors may determine from time to time.

No Preemptive, Redemption or Conversion Rights

Holders of our common stock have no preemptive or subscription rights, and have no rights to convert their common stock into any other securities. Our common stock is not subject to call, redemption, conversion or sinking fund provisions.

Voting Rights

Holders of our common stock are entitled to one vote per share on all matters requiring stockholder action, including, but not limited to, the election of directors. Holders of our common stock are not entitled to cumulate their votes for the election of directors.

Size of the Board of Directors

Our Bylaws establish the current size of the board of directors at 11 members, but provide that the board of directors may change such number by resolution from time to time within the range of seven to 15 directors. Our board of directors is not classified.

Right to Receive Liquidation Distributions

Holders of our common stock are not entitled to a liquidation preference in respect of their shares of Lam Research common stock. Upon our liquidation, dissolution or winding up, the holders of our common stock would be entitled to receive pro rata all assets remaining for distribution to stockholders after the payment of all liabilities and of all preferential amounts to which any preferred stock may be entitled.

Power to Call Special Stockholder Meetings; Advance Notice of Stockholder Business and Nominees

Under Delaware law, a special meeting of stockholders may be called by our board of directors or by any other person authorized to do so in the certificate of incorporation or bylaws. Pursuant to our Bylaws, special meetings may be called only by our board of directors, the chairman of the board of directors or the president. Our Bylaws further require compliance with timely advance notice in proper written form of stockholder nominees for election as director or stockholder business to be brought before a meeting of stockholders and other requirements specified in our Bylaws, and grant the chairman of the meeting the power and the duty to declare that defectively proposed business or nomination shall not be presented and shall be disregarded if not made in compliance with the procedures set forth in our Bylaws.

Proxy Access Nominations

Under our Bylaws, we must include in our proxy statement for an annual meeting the name, together with certain other required information, of any person nominated for the election of directors in compliance with specified provisions in our Bylaws by a single stockholder that satisfies (or by a group of up to 20 stockholders that satisfy) various notice and other requirements specified in our Bylaws. Among other requirements in our Bylaws, such stockholder or group of stockholders would need to provide evidence verifying that the stockholder or group owns, and has owned continuously for at least the preceding three years, at least 3% of the company's outstanding common stock. Our Bylaws contain limitations on the maximum number of nominees submitted by stockholders that we would be required to include in our proxy statement for an annual meeting.

Removal of Directors

Our Bylaws provide that directors may be removed with or without cause upon the approval of a majority of the outstanding shares entitled to vote.

Filling Vacancies on the Board of Directors

Our Bylaws allow a vacancy on the board of directors created by a resignation or increase in the authorized number of directors to be filled by a majority of the directors then in office, or a sole remaining director. A vacancy created by the removal of a director by a vote of the stockholders may be filled only by a majority of the outstanding shares entitled to vote.

Stockholder Action by Written Consent without a Meeting

Our Bylaws provide that any action required or permitted to be taken at any annual or special meeting of stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, describing the action so taken, is signed by stockholders representing not less than the minimum number of votes that would be necessary to authorize or take the action at a meeting at which all shares entitled to vote on that action were present and voted.

Anti-Takeover Effects of Delaware Law

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware, or the DGCL, regulating corporate takeovers. In general, those provisions prohibit a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the date that the stockholder became an interested stockholder, unless:

- the transaction is approved by the board of directors before the date the interested stockholder attained that status;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced; or
- on or after the date the business combination is approved by the board and authorized at a meeting of stockholders by at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 defines “business combination” to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of a corporation and any entity or person affiliated with or controlling or controlled by any of these entities or persons.

A Delaware corporation may opt out of this provision either with an express provision in its original certificate of incorporation or in an amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out, and do not currently intend to opt out, of this provision. The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire us.

SUBSIDIARIES OF THE REGISTRANT*

SUBSIDIARY (as of August 20, 2019)	STATE OR OTHER JURISDICTION OF OPERATION
Lam Research AG	Austria
Lam Research Management GmbH	Austria
Lam Research Belgium BVBA	Belgium
Novellus Systems, Inc.	California, United States
Novellus Systems International, LLC	California, United States
Lam Research International Holdings Ltd.	Cayman Islands
Lam Research International Holdings II Ltd.	Cayman Islands
Lam Research Capital Ltd.	Cayman Islands
Lam Research (Shanghai) Co., Ltd.	China
Lam Research Service Co., Ltd.	China
Coventor, Inc.	Delaware, United States
Lam Research Capital, LLC	Delaware, United States
Lam Research International Holding Company	Delaware, United States
Novellus International Holdco, LLC.	Delaware, United States
Silfex, Inc.	Delaware, United States
SpeedFam-IPEC International Services, LLC	Delaware, United States
Coventor Sarl	France
Lam Research SAS	France
Lam Research GmbH	Germany
Lam Research (H.K.) Limited	Hong Kong
Lam Research Illinois IAG, Inc	Illinois, United States
Lam Research (India) Private Ltd.	India
Lam Research (Ireland) Limited	Ireland
Lam Research (Israel) Ltd.	Israel
Lam Research Services Ltd.	Israel
Lam Research S.r.l.	Italy
Lam Research Co., Ltd.	Japan
Lam Research Luxembourg S.à.r.l.	Luxembourg
Lam Research Malaysia Sdn. Bhd.	Malaysia
Lam Research B.V.	Netherlands
Lam Research International B.V.	Netherlands
Novellus Systems International B.V. **	Netherlands
Coventor Korea Limited **	Republic of Korea
Lam Research Korea Limited	Republic of Korea
Lam Research Korea LLC YH	Republic of Korea
Lam Research Manufacturing Korea, LLC	Republic of Korea
Lam Research Singapore Pte Ltd.	Singapore
Lam Research Holding GmbH	Switzerland
Lam Research International Sàrl	Switzerland
Coventor, Inc. Representative Office Taiwan	Taiwan

SUBSIDIARY (as of August 20, 2019)	STATE OR OTHER JURISDICTION OF OPERATION
Lam Research Co., Ltd.	Taiwan
Lam Research (H.K.) Limited, Taiwan Branch	Taiwan
Lam Research Ltd.	United Kingdom
Metryx, Ltd.	United Kingdom

*In accordance with Item 601(b)(21) of Regulation S-K, the Company has omitted from this Exhibit the names of some of its subsidiaries which, considered in the aggregate as a single subsidiary, do not constitute a significant subsidiary as defined in Rule 1-02(w) of Regulation S-X.

**In liquidation.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

1. Registration Statement (Form S-4 No. 333-30545) of Lam Research Corporation and in the related Prospectus;
2. Registration Statement (Form S-4 No. 333-179267) of Lam Research Corporation and in the related Prospectus;
3. Registration Statements (Form S-8 No. 333-66833, 333-127936, 333-156335, and 333-231138) pertaining to the 1999 Employee Stock Purchase Plan;
4. Registration Statements (Form S-8 No. 333-84638 and 333-185641) pertaining to the Savings Plus Plan, Lam Research 401(k);
5. Registration Statement (Form S-8 No. 333-138545) pertaining to the 2007 Stock Incentive Plan, as amended;
6. Registration Statement (Form S-8 No. 333-181878) pertaining to the Novellus Systems, Inc. 2011 Stock Incentive Plan, Novellus Systems, Inc. Retirement Plan, and Lam Research Corporation 1999 Employee Stock Purchase Plan, as amended;
7. Registration Statement (Form S-8 No. 333-207844) pertaining to the 2015 Stock Incentive Plan of Lam Research Corporation; and
8. Registration Statement (Form S-3 No. 333-229762) of Lam Research Corporation and in the related Prospectus;

of our reports dated August 20, 2019, with respect to the consolidated financial statements and schedule of Lam Research Corporation and the effectiveness of internal control over financial reporting of Lam Research Corporation included in this Annual Report (Form 10-K) of Lam Research Corporation for the year ended June 30, 2019.

/s/ Ernst & Young LLP

San Jose, California
August 20, 2019

RULE 13a-14(a)/15d-14(a) CERTIFICATION (PRINCIPAL EXECUTIVE OFFICER)

I, Timothy M. Archer, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lam Research Corporation;
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 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 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.

August 20, 2019

/s/ Timothy M. Archer

Timothy M. Archer

President and Chief Executive Officer

RULE 13a-14(a)/15d-14(a) CERTIFICATION (PRINCIPAL FINANCIAL OFFICER)

I, Douglas R. Bettinger, certify that:

1. I have reviewed this Annual Report on Form 10-K of Lam Research Corporation;
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 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 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.

August 20, 2019

/s/ Douglas R. Bettinger

Douglas R. Bettinger

Executive Vice President, Chief Financial Officer and Chief Accounting Officer

SECTION 1350 CERTIFICATION (PRINCIPAL EXECUTIVE OFFICER)

In connection with the Annual Report of Lam Research Corporation (the "Company") on Form 10-K for the fiscal period ending June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Timothy M. Archer, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

August 20, 2019

/s/ Timothy M. Archer

Timothy M. Archer

President and Chief Executive Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that Lam Research Corporation specifically incorporates it by reference.

SECTION 1350 CERTIFICATION (PRINCIPAL FINANCIAL OFFICER)

In connection with the Annual Report of Lam Research Corporation (the "Company") on Form 10-K for the fiscal period ending June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Douglas R. Bettinger, Executive Vice President, Chief Financial Officer and Chief Accounting Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

August 20, 2019

/s/ Douglas R. Bettinger

Douglas R. Bettinger

Executive Vice President, Chief Financial Officer and Chief Accounting Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liability of that section. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that Lam Research Corporation specifically incorporates it by reference.