KLA TENCOR CORP
Form 10-K
August 06, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K
(Mark One)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended June 30, 2018
OR
o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Transition Period from to
Commission File Number 000-09992
KLA-TENCOR CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	04-2564110
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
One Technology Drive, Milpitas, California	95035
(Address of Principal Executive Offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: (408) 875-3000
Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $0.001 par value per share	The Nasdaq Stock Market, LLC The 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 x No o
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 o No x
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 x No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No o
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this

Form 10-K. o

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 x	Accelerated filer o
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o
	Emerging growth companyo

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 Exchange Act). Yes o No x

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant based upon the closing price of the registrant’s stock, as of December 31, 2017, was approximately $16.43 billion.

The registrant had 156,126,508 shares of common stock outstanding as of July 13, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2018 Annual Meeting of Stockholders (“Proxy Statement”), and to be filed pursuant to Regulation 14A within 120 days after the registrant’s fiscal year ended June 30, 2018, are incorporated by reference into Part III of this report.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements other than statements of historical fact may be forward-looking statements. You can identify these and other forward-looking statements by the use of words such as “may,” “will,” “could,” “would,” “should,” “expects,” “plans,” “anticipates,” “relies,” “believes,” “estimates,” “predict “potential,” “continue,” “thinks,” “seeks,” or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements. Such forward-looking statements include, among others, forecasts of the future results of our operations, including profitability; orders for our products and capital equipment generally; sales of semiconductors; the investments by our customers in advanced technologies and new materials; the allocation of capital spending by our customers (and, in particular, the percentage of spending that our customers allocate to process control); growth of revenue in the semiconductor industry, the semiconductor capital equipment industry and our business; technological trends in the semiconductor industry; future developments or trends in the global capital and financial markets; our future product offerings and product features; the success and market acceptance of new products; timing of shipment of backlog; our future product shipments and product and service revenues; our future gross margins; our future research and development expenses and selling, general and administrative expenses; our ability to successfully maintain cost discipline; international sales and operations; our ability to maintain or improve our existing competitive position; success of our product offerings; creation and funding of programs for research and development; attraction and retention of employees; results of our investment in leading edge technologies; the effects of hedging transactions; the effect of the sale of trade receivables and promissory notes from customers; our future effective income tax rate; our recognition of tax benefits; future payments of dividends to our stockholders; the completion of any acquisitions of third parties, or the technology or assets thereof; benefits received from any acquisitions and development of acquired technologies; sufficiency of our existing cash balance, investments, cash generated from operations and unfunded revolving line of credit under a Credit Agreement (the “Credit Agreement”) to meet our operating and working capital requirements, including debt service and payment thereof; future dividends, and stock repurchases; our compliance with the financial covenants under the Credit Agreement; the expected timing of the completion of our global employee workforce reduction; the additional charges that we may incur in connection with our global employee workforce reduction; the expected cost savings that we expect to recognize as a result of such workforce reduction; the adoption of new accounting pronouncements; and our repayment of our outstanding indebtedness.

Our actual results may differ significantly from those projected in the forward-looking statements in this report. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in Item 1A, “Risk Factors” in this Annual Report on Form 10-K, as well as in Item 1, “Business” and Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this report. You should carefully review these risks and also review the risks described in other documents we file from time to time with the Securities and Exchange Commission, including the Quarterly Reports on Form 10-Q that we will file in the fiscal year ending June 30, 2019. You are cautioned not to place undue reliance on these forward-looking statements, and we expressly assume no obligation and do not intend to update the forward-looking statements in this report after the date hereof.

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PART I

ITEM 1. BUSINESS

The Company

KLA-Tencor Corporation ("KLA-Tencor" or the "Company" and also referred to as "we" or "our") is a leading supplier of process control and yield management solutions for the semiconductor and related nanoelectronics industries. Our products are also used in a number of other high technology industries, including the packaging, light emitting diode ("LED"), power device, compound semiconductor, and data storage industries, as well as general materials research. Within our primary area of focus, our comprehensive portfolio of inspection, metrology and data analytic products, and related service, software and other offerings, helps integrated circuit ("IC" or "chip") manufacturers manage yield throughout the entire semiconductor fabrication process—from research and development ("R&D") to final volume production. These products and offerings are designed to provide comprehensive solutions to help our customers to accelerate their development and production ramp cycles, to achieve higher and more stable semiconductor die yields, and to improve their overall profitability.

KLA-Tencor's products and services are used by the vast majority of bare wafer, IC, reticle ("reticle" or "mask") and hard disk drive manufacturers around the world. These customers turn to us for inline wafer and IC defect monitoring, review and classification; reticle defect inspection and metrology; packaging and interconnect inspection; critical dimension ("CD") metrology; pattern overlay metrology; film thickness, surface topography and composition measurements; measurement of in-chamber process conditions; wafer shape and stress metrology; computational lithography tools; and overall yield and fab-wide data management and analysis systems. Our advanced products, coupled with our unique yield management services, allow us to deliver the solutions our customers need to accelerate their yield learning rates and significantly reduce their risks and costs.

Certain industry and technical terms used in this section are defined in the subsection entitled "Glossary" found at the end of this Item 1.

KLA-Tencor was formed in April 1997 through the merger of KLA Instruments Corporation and Tencor Instruments, two long-time leaders in the semiconductor equipment industry that began operations in 1975 and 1976, respectively. Additional information about KLA-Tencor is available on our website at www.kla-tencor.com. Our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on our website as soon as reasonably practicable after we electronically file them with or furnish them to the Securities and Exchange Commission ("SEC"). Information contained on our website is not part of this Annual Report on Form 10-K or our other filings with the SEC. Additionally, these filings may be obtained through the SEC's website (www.sec.gov), which contains reports, proxy and information statements, and other information regarding issuers that file electronically. Documents that are not available through the SEC's website may also be obtained by mailing a request to the U.S. Securities and Exchange Commission, Office of FOIA/PA Operations, 100 F Street, NE, Washington, DC 20549-2736, by submitting an online request to the SEC at www.sec.gov or by calling the SEC at 1-800-732-0330.

Investors and others should note that we announce material financial information to our investors using our investor relations web site (ir.kla-tencor.com), SEC filings, press releases, public conference calls and webcasts. We use these channels as well as social media to communicate with the public about our company, our products and services and other matters. It is possible that the information we post on social media could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our company to review the information we post on the social media channels listed on our investor relations website.

Proposed Merger with Orbotech, Ltd.

On March 18, 2018, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with Orbotech, Ltd. ("Orbotech") pursuant to which KLA-Tencor would acquire Orbotech for $38.86 in cash and 0.25 of a share of KLA-Tencor common stock in exchange for each ordinary share of Orbotech, which at the time of announcement valued Orbotech at $3.2 billion in enterprise value. The merger contemplated by the Merger Agreement (the "Orbotech Merger") is subject to receipt of required regulatory approvals and satisfaction of the other

customary closing conditions. KLA-Tencor intends to fund the cash portion of the purchase price with cash from the combined company's balance sheet.

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In addition, KLA-Tencor announced a $2 billion share repurchase authorization. The share repurchase program is targeted to be completed within 12 to 18 months following the close of this transaction. KLA-Tencor intends to raise approximately $1 billion in new long-term debt financing to complete the share repurchase

Industry

General Background

KLA-Tencor's core focus is the semiconductor industry. The semiconductor fabrication process begins with a bare silicon wafer—a round disk that is typically 200 millimeters or 300 millimeters in diameter, about as thick as a credit card and gray in color. The process of manufacturing wafers is in itself highly sophisticated, involving the creation of large ingots of silicon by pulling them out of a vat of molten silicon. The ingots are then sliced into wafers. Prime silicon wafers are then polished to a mirror finish. Other, more specialized wafers, such as epitaxial silicon ("epi"), silicon on insulator ("SOI"), gallium nitride ("GaN") and silicon carbide ("SiC"), are also common in the semiconductor industry.

The manufacturing cycle of an IC is grouped into three phases: design, fabrication and testing. IC design involves the architectural layout of the circuit, as well as design verification and reticle generation. The fabrication of a chip is accomplished by depositing a series of film layers that act as conductors, semiconductors or insulators on bare wafers. The deposition of these film layers is interspersed with numerous other process steps that create circuit patterns, remove portions of the film layers, and perform other functions such as heat treatment, measurement and inspection. Most advanced chip designs require hundreds of individual steps, many of which are performed multiple times. Most chips consist of two main structures: the lower structure, typically consisting of transistors or capacitors which perform the "smart" functions of the chip; and the upper "interconnect" structure, typically consisting of circuitry which connects the components in the lower structure. When all of the layers on the wafer have been fabricated, each chip on the wafer is tested for functionality. The wafer is then cut into individual chips, and those chips that passed functional testing are packaged. Final testing is performed on all packaged chips.

Current Trends

The semiconductor equipment industry is currently experiencing growth from multiple drivers, such as demand for chips providing computational power and connectivity for Artificial Intelligence ("AI") applications, and continued need for chips from leading edge foundry and logic chip manufacturers that support mobile devices. Qualification of early extreme ultraviolet ("EUV") lithography processes and equipment is driving growth at leading logic/foundry and dynamic random-access memory ("DRAM") manufacturers. Expansion of the Internet of Things ("IoT") together with increasing acceptance of advanced driver assistance systems ("ADAS") that support the introduction of autonomous cars have begun to accelerate legacy-node technology conversions and capacity expansions. Intertwined in these areas, spurred by data storage and connectivity needs, is the growth in demand for memory chips. Finally, China is emerging as a major region for manufacturing of logic and memory chips, adding to its role as the world's largest consumer of ICs. Government initiatives are propelling China to expand its domestic manufacturing capacity and attracting semiconductor manufacturers from Taiwan, Korea, Japan and the US. China is currently seen as an important long-term growth region for the semiconductor capital equipment sector.

Supporting this multi-segmented market growth, the semiconductor industry continues to introduce numerous technology changes. New techniques and architectures in production today include three dimensional finFET transistors; three dimensional flash memory ("3D NAND"); design technology co-optimization ("DTCO"); advanced patterning technologies, including self-aligned multiple patterning and EUV lithography; and packaging.

KLA-Tencor's inspection, metrology and data analytic technologies play key roles in enabling our customers to develop and manufacture advanced semiconductor devices to support these trends.

Companies that anticipate future market demands by developing and refining new technologies and manufacturing processes are better positioned to lead in the semiconductor market. Accelerating the yield ramp and maximizing production yields of high-performance devices are key goals of modern semiconductor manufacturing. Ramping to high volume production ahead of competitors can dramatically increase the revenue an IC manufacturer realizes for a given product. During past industry cycles, semiconductor manufacturers generally contended with a few key new technologies or market trends, such as a specific design rule shrink. Today, the leading semiconductor manufacturers are investing in simultaneous production integration of multiple new process technologies, some requiring new

substrate and film materials, new geometries, advanced multi-patterning and EUV lithography and packaging techniques. While many of these technologies have been adopted at the development and pilot production stages of chip manufacturing, significant challenges and risks associated with each technology have affected the adoption of these technologies into full volume production. For example, as design rules decrease, yields become more sensitive to the size and density of defects, and device performance characteristics (namely speed, capacity or power management) become more sensitive to parameters such as linewidth and film thickness variation. New process materials, such as photoresists for EUV lithography, require extensive characterization before they can be used in the

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manufacturing process. Moving several of these advanced technologies into production at once only adds to the risks that chipmakers face.

The continuing evolution of semiconductor devices to smaller geometries and more complex multi-level circuitry has significantly increased the performance and cost requirements of the capital equipment used to manufacture these devices. Construction of an advanced wafer fabrication facility today can cost over $5.00 billion, substantially more than previous-generation facilities. In addition, chipmakers are demanding increased productivity and higher returns from their manufacturing equipment and are also seeking ways to extend the performance of their existing equipment. By developing new process control and yield management tools that help chipmakers accelerate the adoption of these new technologies into volume production, we enable our customers to better leverage these increasingly expensive facilities and improve their return on investment ("ROI"). Once customers' production lines are operating at high volume, our systems help ensure that yields are stable and process excursions are identified for quick resolution. In addition, the move to each new generation's smaller design rules, coupled with new materials and device innovation, has increased in-process variability, which requires an increase in inspection and metrology sampling.

KLA-Tencor systems not only analyze defectivity and metrology issues at critical points in the wafer, reticle and IC manufacturing processes, but also provide information to our customers so that they can identify and address the underlying process problems. The ability to locate the source of defects and resolve the underlying process issues enables our customers to improve control over their manufacturing processes. This helps them increase their yield of high-performance parts and deliver their products to market faster—thus maximizing their profits. With our broad portfolio of application-focused technologies and our dedicated yield technology expertise, we are in position to be a key supplier of comprehensive yield management solutions for customers' next-generation products, helping our customers respond to the challenges posed by shrinking device sizes, the transition to new production materials, new device and circuit architectures, more demanding lithography processes, and new packaging techniques.

Products

KLA-Tencor is engaged primarily in the design, manufacture and marketing of process control and yield management solutions for the semiconductor and related nanoelectronics industries and provides a comprehensive portfolio of inspection, metrology and data analytics products, and related service, software and other offerings.

KLA-Tencor's inspection, metrology and data analytics products and related offerings can be broadly categorized as supporting customers in the following groups: Chip and Wafer Manufacturing; Reticle Manufacturing; Packaging Manufacturing; Compound Semiconductor and Hard Disk Drive Manufacturing; and General Purpose/Lab Applications. The more significant of these products are included in the product table at the end of this "Products" section.

For customers manufacturing legacy design rule devices, our K-T Pro division provides refurbished KLA-Tencor systems as part of our K-T Certified program; remanufactured trailing edge systems; and, enhancements and upgrades for last-generation KLA-Tencor systems.

Chip and Wafer Manufacturing

KLA-Tencor's comprehensive portfolio of inspection, metrology and data analytics products, and related service, software and other offerings, helps chip manufacturers manage yield throughout the entire semiconductor fabrication process—from research and development to final volume production. These products and offerings are designed to provide comprehensive solutions to help our customers to accelerate their development and production ramp cycles, to achieve higher and more stable semiconductor die yields, and to improve their overall profitability.

Defect Inspection and Review

KLA-Tencor's defect inspection and review systems cover a broad range of yield applications within the IC manufacturing environment, including: research and development; incoming wafer qualification; reticle qualification; and tool, process and line monitoring. Patterned and unpatterned wafer inspectors find particles, pattern defects and electrical issues on the front surface, back surface and edge of the wafer, allowing engineers to detect and monitor critical yield excursions. Our defect review systems capture high resolution images of the defects detected by inspection tools, helping chipmakers identify and resolve yield issues. Fabs rely on our high sensitivity reticle inspection systems to identify defects on reticles at an early stage and to prevent reticle defects from printing on production wafers. The defect data generated by our inspectors are compiled and reduced to relevant root cause and

yield analysis information with our suite of data analytics and management tools. By implementing our defect inspection, review and data analytics systems, chipmakers are able to take quick corrective action, resulting in faster yield improvement and better time to market.

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For patterned wafer optical inspection, we launched the Voyager 1015 Series during the fiscal year ended June 30, 2018. The Voyager 1015 laser scanning patterned wafer inspection system provides enhanced defect capture for high throughput lithography cell monitoring, as well as other production ramp monitoring applications. We also offer our 3900 Series (for high resolution broadband plasma defect inspection); our 2930 Series and 2920 Series (for broadband plasma defect inspection); our Puma 9980 Series, Puma 9850 Series and Puma 9650 Series (for laser scanning defect inspection); our 8 Series systems (for high productivity defect inspection); and our CIRCL cluster tool (for defect inspection, review and metrology of all wafer surfaces - frontside, edge and back side).

In the field of unpatterned wafer and surface inspection, we launched the Surfscan SP7 during the fiscal year ended June 30, 2018. The Surfscan SP7 unpatterned wafer defect inspection system provides high sensitivity on bare wafers, smooth films and rough films, supporting development and production of advanced substrates, processes and devices at wafer shops, OEMs and IC fabs. In addition, we offer the Surfscan SP5 Series and Surfscan SP3 Series (wafer defect inspection systems for process tool qualification and monitoring using blanket films and bare wafers); and SURFmonitor, which enables surface quality measurements and capture of low-contrast defects. In the wafer manufacturing segment, these specialized inspection systems assess surface quality and detect, count and bin defects during the development and production monitoring of polished wafers, epi wafers and engineered substrates, and as a critical part of outgoing inspection. FabVision offers fab-wide data management and automated yield analysis for wafer manufacturers.

Our eDR7280 electron-beam wafer defect review and classification system identifies detected defects, producing an accurate representation of the detected defect population.

For in-fab reticle qualification, we offer the Teron SL650 Series and X5.3 reticle inspection systems. These inspectors allow IC fabs to qualify incoming reticles and inspect production reticles for contaminants and other process-related changes. The Teron SL655 reticle inspection system enables IC manufacturers to assess incoming reticle quality, monitor reticle degradation and detect yield-critical reticle defects. The Teron SL655 introduced STARlightGold technology, which provides a golden reference to maximize detection of defects critical to the mask requalification process.

In addition, we offer a number of other products for the defect inspection market, as reflected in the product table at the conclusion of this “Products” section.

Metrology

KLA-Tencor’s array of metrology solutions addresses IC and substrate manufacturing, as well as scientific research and other applications. Precise metrology and control of pattern dimensions, film thicknesses, layer-to-layer alignment, pattern placement, surface topography and electro-optical properties are important in many industries as critical dimensions narrow, film thicknesses shrink to countable numbers of atomic layers and devices become more complex.

The Archer imaging-based overlay metrology systems enable characterization of overlay error on lithography process layers for advanced patterning technologies. The ATL100 (Accurate Tunable Laser) scatterometry-based overlay metrology systems, introduced in September 2017, utilize tunable laser technology to automatically maintain highly accurate and robust overlay error measurements in the presence of process variations, supporting fast technology ramps and wafer disposition during production.

The SpectraShape optical CD and shape metrology systems characterize and monitor the critical dimensions and 3D shapes of geometrically complex features incorporated by some IC manufacturers into their latest generation devices. The SpectraShape 10K metrology system measures the CDs and three dimensional shapes of finFET, 3D NAND and other complex IC device structures following etch, chemical mechanical planarization (CMP) and other process steps.

The SpectraFilm and Aleris film metrology systems provide precise measurement of film thickness, refractive index, stress and composition for a broad range of film layers. The SpectraFilm F1 film metrology system, introduced in September 2017, employs new optical technologies that determine single- and multi-layer film thicknesses and uniformity with high precision to monitor deposition processes in production, and deliver bandgap data that predict device electrical performance earlier than end of line test.

The WaferSight PWG2 system measures patterned wafer geometry after a wide range of IC processes, helping identify and monitor variations that can affect patterning, and providing comprehensive wafer stress and shape

uniformity data at high productivity. The system enables faster process ramp, overlay control, lithography focus window control and inline process monitoring for processes such as thin films, etch, CMP and rapid thermal processing (“RTP”).

In addition, we offer a number of other products for the metrology market, as reflected in the product table at the conclusion of this “Products” section.

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In Situ Process Monitoring

KLA-Tencor's SensArray systems are a portfolio of advanced wireless and wired wafers and reticles that enable in situ monitoring of the production process environment. These sensor wafers and reticles provide insight into critical process parameters, such as thermal uniformity, profile temperature and light intensity, under real production conditions. For example, the EtchTemp in situ wafer temperature measurement systems capture the effect of the plasma etch process environment on production wafers. By characterizing thermal conditions that closely represent product wafer conditions, the EtchTemp-SE wireless wafer assists process engineers with tuning of the etch process conditions and the qualification, matching and post-PM verification of front end of line plasma etch chambers. SensArray products are used for many semiconductor and flat panel display fabrication processes, including lithography, etch and deposition, and for reticle manufacturing, including e-beam mask writer qualification and process monitoring.

Patterning Simulation

KLA-Tencor's PROLITH computational lithography software is used by researchers at advanced IC manufacturers, lithography hardware suppliers, track companies and material providers to explore critical feature designs, manufacturability and process-limited yield of proposed lithographic and patterning technologies without the time and expense of printing hundreds of test wafers using experimental materials and prototype process equipment.

Data Analytics

The 5D Analyzer X1 data analysis system, introduced in September 2017, offers an extendible, open architecture that accepts data from a wide range of metrology and process tools to enable advanced analysis, characterization and real-time control of fab-wide process variations.

Reticle Manufacturing

Error-free reticles, or masks, are necessary to achieve high semiconductor device yields, since reticle defects can be replicated in every die on production wafers. KLA-Tencor offers high sensitivity reticle inspection, metrology and data analytics systems for mask shops, to help them manufacture reticles that are free of pattern defects and meet pattern placement and critical dimension uniformity specifications.

The Teron 640e reticle inspection product line, introduced in September 2017, incorporates optical, detector and algorithm enhancements that detect critical pattern and particle defects at high throughput, advancing the development and qualification of EUV and optical patterned reticles in leading-edge mask shops. Our reticle inspection portfolio also includes the Teron 600 Series for development and manufacturing of advanced optical and EUV masks, the TeraScan 500XR system for production of reticles for the 32nm node and above, and our X5.3 and Teron SL650 Series products for reticle quality control at IC fabs.

In addition, we offer the LMS IPRO Series of reticle registration metrology systems for measuring mask pattern placement error. If the pattern on the reticle is displaced from its intended location, overlay error can result on the wafer, which can lead to electrical continuity issues affecting yield, performance or reliability of the IC device. The LMS IPRO7 reticle registration metrology system, introduced in September 2017, leverages a new operating mode to accurately measure on-device reticle pattern placement error with fast cycle time, enabling comprehensive reticle qualification for e-beam mask writer corrections and reduction of reticle-related contributions to device overlay errors in the IC fab.

RDC is a comprehensive data analysis and storage platform that supports multiple KLA-Tencor reticle inspection and metrology platforms for mask shops and IC fabs.

In August 2017, we entered the dedicated reticle blank inspection market. The FlashScan reticle blank inspection product line is used by blank manufacturers for defect control during process development and volume manufacturing, and by reticle manufacturers ("mask shops") for incoming inspection, tool monitoring and process control.

Packaging Manufacturing

KLA-Tencor offers standalone and cluster inspection and metrology systems for various applications in the field of semiconductor packaging.

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Wafer-level packaging inspection/metrology

Our CIRCL-AP all-surface and 8 Series AP front side wafer inspection, metrology and review systems support advanced wafer-level packaging processes, such as 2.5D/3D IC integration using through silicon vias (“TSVs”), wafer-level chip scale packaging (“WLCSP”) and fan-out wafer-level packaging (“FOWLP”). Used for packaging applications associated with LEDs, MEMS, image sensors and flip-chip packaging, our WI-2280 products focus on front side wafer inspection and provide feedback on wafer surface quality, quality of the wafer dicing, or quality of wafer bumps, pads, pillars and interconnects. Zeta-5xx and Zeta-6xx optical surface profilers measure both wafers and large panels for packaging metrology applications. These applications include under-bump metallization (“UBM”) height and roughness, copper pillar height and roughness, and redistribution layer (“RDL”) height and width.

Component inspection/metrology

Our component inspector products, including the ICOS T890, inspect various semiconductor components that are handled in a tray, such as microprocessors or memory chips. Component inspection capability includes 3D coplanarity inspection, measurement of the evenness of the contacts, component height and two dimensional (“2D”) surface inspection. The ICOS T3 and T7 Series tools provide high performance, fully automated optical inspection of packaged integrated circuit (IC) components, with either tray (T3) or tape (T7) output capability. Both incorporate the SPECTRUM and SIGMA modules, which produce increased 2D and 3D measurement sensitivity for improved detection of issues that affect final package quality.

Compound Semiconductor, Power Device, LED and MEMS Manufacturing

The compound semiconductor market is comprised of a diverse group of applications including power devices, RF (“radio frequency”) communications devices, photonics, LED lighting and photovoltaic and display markets. Our primary products for compound semiconductor manufacturing include the Candela CS920, Candela CS20 and WI-2280 inspection systems, MicroXAM and Zeta optical profilers, and the P-Series and HRP-Series stylus profilers, used for the inspection and metrology of substrates, epitaxial (“epi”) layers and process films.

Leading power device manufacturers are targeting faster development and ramp times, high product yields and lower device costs. To achieve these goals, they are implementing solutions for characterizing yield-limiting defects and processes. Full-surface, high sensitivity defect inspection and profiler metrology systems provide accurate process feedback, enabling improvements in SiC substrate quality and optimal epitaxial growth yields on both SiC epi and GaN-on-silicon processes.

KLA-Tencor offers inspection and metrology systems to support power device manufacturing. The Candela CS920 inspection system integrates surface defect detection and photoluminescence technology for inspection and defect classification of a wide range of defects on SiC substrates and epi layers. The MicroXAM optical profilers measure step height, texture and form for power device applications. The P-Series and HRP-Series stylus profilers measure step heights and roughness for SiC substrates and patterned wafer applications.

LEDs are becoming more commonly used in solid state lighting, television and notebook backlighting, and automotive applications. As LED device makers target aggressive cost and performance targets, they place significant emphasis on improved process control and yield during the manufacturing process.

KLA-Tencor offers a portfolio of systems to help LED manufacturers reduce production costs and increase product output: Candela 8720, WI-2280, 8 Series, MicroXAM and Zeta optical profilers and P-Series and HRP-Series stylus profilers. The Candela 8720 substrate and epi wafer inspection system provides automated inspection and quality control of LED substrates, detecting defects that can impact device performance, yield and field reliability. The WI-2280 system is designed specifically for defect inspection and 2D metrology for LED applications. The 8 Series provides patterned wafer defect inspection capability for LED manufacturing. The MicroXAM and Zeta optical profilers measure step height, texture and form for LED applications. The P-Series and HRP-Series stylus profilers are metrology systems for measurement of step heights and roughness for LED substrates and patterned wafer applications. The Zeta-388 measures patterned sapphire substrates (“PSS”) and inspects for defects on high brightness LED substrates.

KLA-Tencor offers a variety of products for the display market, including the ZetaScan Series defect inspector, SensArray Process Probe 2070, Zeta-300 optical profiler, P-17 OF stylus profiler, and the Nano Indenter nanomechanical tester.

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The increasing demand for MEMS technology is coming from diverse industries such as automotive, space and consumer electronics. MEMS have the potential to transform many product categories by bringing together silicon-based microelectronics with micromachining technology, making possible the realization of complete systems-on-a-chip. KLA-Tencor offers tools and techniques for this emerging market, such as defect inspection and review, optical inspection and surface profiling, which were first developed for the integrated circuit industry. Products that we offer for MEMS manufacturing are highlighted in the product table at the conclusion of this "Products" section.

Data Storage Media/Head Manufacturing

Advancements in data storage are being driven by a wave of innovative consumer electronics with small form factors and immense storage capacities, as well as an increasing need for high-volume storage options to back up modern methods of remote computing and networking (such as cloud computing). Our process control and yield management solutions are designed to enable customers to rapidly understand and resolve complex manufacturing problems, which can help improve time to market and product yields. In the front end and back end of thin film head wafer manufacturing, we offer the same process control equipment that we provide to the semiconductor industry. In addition, we offer an extensive range of test equipment and surface profilers with particular strength in photolithography. In substrate and media manufacturing, we offer metrology and defect inspection solutions with KLA-Tencor's optical surface analyzers. Products that we offer for the data storage media/head manufacturing market manufacturing are highlighted in the product table at the conclusion of this "Products" section.

General Purpose/Lab Applications

A range of industries, including general scientific and materials research and optoelectronics, require measurements of surface topography to either control their processes or research new material characteristics. Typical measurement parameters that our tools address include flatness, roughness, curvature, peak-to-valley, asperity, waviness, texture, volume, sphericity, slope, density, stress, hardness, bearing ratio and distance (mainly in the micron to nanometer range). The optical and stylus profiler and in situ process monitoring products that we offer for general purpose/lab applications are highlighted in the product table at the conclusion of this "Products" section.

K-T Pro

K-T Pro includes our K-T Certified fully refurbished, tested and certified systems, in addition to remanufactured legacy systems, and enhancements and upgrades for previous-generation KLA-Tencor systems. When a customer needs to move to the next manufacturing node, KLA-Tencor can help maximize the value of the customer's existing assets.

K-T Services

Our K-T Services program enables our customers in all business sectors to maintain the high performance and productivity of our products through a flexible portfolio of services. Whether a manufacturing site is producing integrated circuits, wafers or reticles, K-T Services delivers yield management expertise spanning advanced technology nodes, including collaboration with customers to determine the best products and services to meet technology requirements and optimize cost of ownership. Our comprehensive services include service engineers, technical support teams and knowledge management systems; and an extensive parts network to ensure worldwide availability of parts.

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Product Table

MARKETS	APPLICATIONS	PRODUCTS
Chip and Wafer Manufacturing		
Defect Inspection/ Review	Patterned Wafer	3900 Series, 2930 Series, 2920 Series, Puma™ 9980 Series, Puma™ 9850 Series, Puma™ 9650 Series, Voyager™ 1015 Series
	High Productivity and All Surface	CIRCL™ with 8 Series, CV350i, BDR300™ and Micro300 modules 8 Series
	Unpatterned Wafer/Surface	Surfscan® SP7 Series, Surfscan® SP5 Series, Surfscan® SP3 Series
	Electron-beam Review	eDR7200™ Series
Metrology	Data Analytics	Klarity® product family 5D Analyzer® RDC FabVision® ProDATA™
	Overlay	Archer™ Series ATL™ Series
	Optical CD and Shape	SpectraShape™ product family
	Film Thickness/Index	SpectraFilm™ product family Aleris® product family
	Wafer Geometry and Topography	WaferSight™ Series
	Edge Bead Removal	CIRCL™
	Ion Implant and Anneal	Therma-Probe® 680xp
	Resistivity	RS product family
	Surface Metrology	HRP®-Series P-Series
	Data Analytics	5D Analyzer®
In Situ Process Management	Lithography, Plasma Etch, Deposition, CMP, Ion Implant, Wet Processing	SensArray® product family
In Situ Data Analytics	Lithography, Plasma Etch, Deposition, CMP, Ion Implant, Wet Processing	SensArray® PlasmaSuite, LithoSuite, Thermal MAP
Patterning Simulation	Lithography Simulation	PROLITH™

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MARKETS AND APPLICATIONS	PRODUCTS
Reticle Manufacturing and Quality Control	
Defect Inspection (mask shop)	Teron™ 600 Series, TeraScan™ 500XR
Defect Inspection (wafer fab)	Teron™ SL650 Series, X5.3™
Defect Inspection (mask blanks)	FlashScan®
Pattern Placement Metrology	LMS IPRO Series
Data Analytics	RDC, Klarity® Defect
Packaging Manufacturing	
	CIRCL™-AP
Wafer-Level Packaging Inspection | Metrology	8 Series-AP
	WI-2280
	Zeta-5xx/6xx
Component Inspection | Metrology	ICOS® T890, ICOS® T3 and T7 Series
Data Analytics	Klarity® Defect
Compound Semiconductor | HDD Manufacturing	
LED, Photonics, RF Communications	8-Series, WI-2280, Candela® 8720, Zeta-388, MicroXAM Series, P-Series, HRP®-Series
Power Devices	8 Series, WI-2280, Candela® CS920, MicroXAM Series, P-Series, HRP®-Series
MEMS	8 Series, P-Series, HRP®-Series, MicroXAM Series, Zeta-20, Zeta-300, Zeta-388, Nano Indenter G200
CPV Solar	ZetaScan Series, Zeta-20, Zeta-300
Display	ZetaScan Series, SensArray® Process Probe 2070, Zeta-300, P-17 OF, Nano Indenter G200
Data Storage Media/Head Manufacturing	8 Series, Candela® 71xx, Candela® 63xx, HRP®-Series, P-Series, Zeta-20, MicroXAM Series
Data Analytics	Klarity® Defect
General Purpose/Lab Applications	
	P-Series
Surface Metrology: Stylus Profiling	Alpha-Step® product family
	HRP®-Series
Surface Metrology: Optical Profiling	MicroXAM Series
Nanomechanical Testers	Nano Indenter® G200
	T150 UTM
Process Chamber Conditions	SensArray® product family

The product information shown in the tables above excludes some products that were solely offered through our K-T Certified refurbished tools program.

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Customers

To support our growing global customer base, we maintain a significant presence throughout Asia, the United States and Europe, staffed with local sales and applications engineers, customer and field service engineers and yield management consultants. We count among our largest customers the leading semiconductor manufacturers in each of these regions.

For the fiscal years ended June 30, 2018, 2017, and 2016, the following customers each accounted for more than 10% of total revenues:

Year ended June 30,		
2018	2017	2016
Samsung Electronics Co., Ltd.	Samsung Electronics Co., Ltd.	Micron Technology, Inc.
	Taiwan Semiconductor Manufacturing Company Limited	Taiwan Semiconductor Manufacturing Company Limited

Our business depends upon the capital expenditures of semiconductor manufacturers, which in turn is driven by the current and anticipated market demand for ICs and products utilizing ICs. We do not consider our business to be seasonal in nature, but it has historically been cyclical with respect to the capital equipment procurement practices of semiconductor manufacturers, and it is impacted by the investment patterns of such manufacturers in different global markets. Downturns in the semiconductor industry or slowdowns in the worldwide economy as well as customer consolidation could have a material adverse effect on our future business and financial results.

Sales, Service and Marketing

Our sales, service and marketing efforts are aimed at building long-term relationships with our customers. We focus on providing a single and comprehensive resource for the full breadth of process control and yield management products and services. Our customers benefit from the simplified planning and coordination, as well as the increased equipment compatibility, which are realized as a result of dealing with a single supplier for multiple products and services. Our revenues are derived primarily from product sales, mostly through our direct sales force.

We believe that the size and location of our field sales, service and applications engineering, and marketing organizations represent a competitive advantage in our served markets. We have direct sales forces in Asia, the United States and Europe. We maintain an export compliance program that is designed to meet the requirements of the United States Departments of Commerce and State.

As of June 30, 2018, we employed approximately 2,420 full-time sales and related personnel, service engineers and applications engineers. In addition to sales and service offices in the United States, we conduct sales, marketing and services out of subsidiaries or branches in other countries, including China, Germany, Israel, Japan, Singapore, Korea and Taiwan. International revenues accounted for approximately 88%, 86% and 82% of our total revenues in the fiscal years ended June 30, 2018, 2017 and 2016, respectively. Additional information regarding our revenues from foreign operations for our last three fiscal years can be found in Note 17, “Segment Reporting and Geographic Information” to the consolidated financial statements.

We believe that sales outside the United States will continue to be a significant percentage of our total revenues. Our future performance will depend, in part, on our ability to continue to compete successfully in Asia, one of the largest markets for our equipment. Our ability to compete in this area is dependent upon the continuation of favorable trading relationships between countries in the region and the United States, and our continuing ability to maintain satisfactory relationships with leading semiconductor companies in the region.

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International sales and operations may be adversely affected by the imposition of governmental controls, restrictions on export technology, political instability, trade restrictions, changes in tariffs and the difficulties associated with staffing and managing international operations. In addition, international sales may be adversely affected by the economic conditions in each country and by fluctuations in currency exchange rates, and such fluctuations may negatively impact our ability to compete on price with local providers or the value of revenues we generate from our international business. Although we attempt to manage some of the currency risk inherent in non-U.S. dollar product sales through hedging activities, there can be no assurance that such efforts will be adequate. These factors, as well as any of the other risk factors related to our international business and operations that are described in Item 1A, "Risk Factors," could have a material adverse effect on our future business and financial results.

Backlog

Our shipment backlog for systems and associated warranty totaled $1.56 billion and $1.46 billion as of June 30, 2018 and 2017, respectively, and primarily consists of sales orders where written customer requests have been received and the delivery is anticipated within the next 12 months. Orders for service contracts and unreleased products are excluded from shipment backlog. All orders are subject to cancellation or delay by the customer, often with limited or no penalties. We make adjustments for shipment backlog obtained from acquired companies, sales order cancellations, customer delivery date changes and currency adjustments. Shipment backlog is not subject to normal accounting controls for information that is either reported in or derived from our consolidated financial statements. In addition, the concept of shipment backlog is not defined in the accounting literature, making comparisons between periods and with other companies difficult and potentially misleading.

Our revenue backlog, which includes the gross value of sales orders where physical deliveries have been completed, but for which revenue has not been recognized pursuant to our policy for revenue recognition, totaled $415.0 million and $328.0 million as of June 30, 2018 and 2017, respectively. Orders for service contracts are excluded from revenue backlog.

Because customers can potentially change delivery schedules or delay or cancel orders, and because some orders are received and shipped within the same quarter, our shipment backlog at any particular date is not necessarily indicative of business volumes or actual sales for any succeeding periods. The historical cyclicality of the semiconductor industry combined with the lead times from our suppliers sometimes result in timing disparities between, on the one hand, our ability to manufacture, deliver and install products and, on the other, the requirements of our customers. In our efforts to balance the requirements of our customers with the availability of resources, management of our operating model and other factors, we often must exercise discretion and judgment as to the timing and prioritization of manufacturing, deliveries and installations of products, which may impact the timing of revenue recognition with respect to such products.

Research and Development

The market for yield management and process monitoring systems is characterized by rapid technological development and product innovation. These technical innovations are inherently complex and require long development cycles and appropriate professional staffing. We believe that continued and timely development of new products and enhancements to existing products are necessary to maintain our competitive position. Accordingly, we devote a significant portion of our human and financial resources to research and development programs and seek to maintain close relationships with customers to remain responsive to their needs. In addition, we may enter into certain strategic development and engineering programs whereby certain government agencies or other third parties fund a portion of our research and development costs. As of June 30, 2018, we employed approximately 1,720 full-time research and development personnel.

Our key research and development activities during the fiscal year ended June 30, 2018 involved the development of process control and yield management equipment aimed at addressing the challenges posed by shrinking device sizes, the transition to new production materials, new device and circuit architecture, more demanding lithography processes and new packaging techniques. For information regarding our research and development expenses during the last three fiscal years, see Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K.

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The strength of our competitive positions in many of our existing markets is largely due to our leading technology, which is the result of our continuing significant investments in product research and development. Even during down cycles in the semiconductor industry, we have remained committed to significant engineering efforts toward both product improvement and new product development in order to enhance our competitive position. New product introductions, however, may contribute to fluctuations in operating results, since customers may defer ordering existing products, and, if new products have reliability or quality problems, those problems may result in reduced orders, higher manufacturing costs, delays in acceptance of and payment for new products, and additional service and warranty expenses. There can be no assurance that we will successfully develop and manufacture new products, or that new products introduced by us will be accepted in the marketplace. If we do not successfully introduce new products, our results of operations will be adversely affected.

Manufacturing, Raw Materials and Supplies

We perform system design, assembly and testing in-house and utilize an outsourcing strategy for the manufacture of components and major subassemblies. Our in-house manufacturing activities consist primarily of assembling and testing components and subassemblies that are acquired through third-party vendors and integrating those subassemblies into our finished products. Our principal manufacturing activities take place in the United States (Milpitas, California), Singapore, Israel, Germany and China. As of June 30, 2018, we employed approximately 1,150 full-time manufacturing personnel.

Some critical parts, components and subassemblies (collectively, “parts”) that we use are designed by us and manufactured by suppliers in accordance with our specifications, while other parts are standard commercial products. We use numerous vendors to supply parts and raw materials for the manufacture and support of our products. Although we make reasonable efforts to ensure that these parts and raw materials are available from multiple suppliers, this is not always possible, and certain parts and raw materials included in our systems may be obtained only from a single supplier or a limited group of suppliers. Through our business interruption planning, we endeavor to minimize the risk of production interruption by, among other things, monitoring the financial condition of suppliers of key parts and raw materials, identifying (but not necessarily qualifying) possible alternative suppliers of such parts and materials, and ensuring adequate inventories of key parts and raw materials are available to maintain manufacturing schedules.

Although we seek to reduce our dependence on sole and limited source suppliers, in some cases the partial or complete loss of certain of these sources, or disruptions within our suppliers’ often-complex supply chains, could disrupt scheduled deliveries to customers, damage customer relationships and have a material adverse effect on our results of operations.

Competition

The worldwide market for process control and yield management systems is highly competitive. In each of our product markets, we face competition from established and potential competitors, such as Applied Materials, Inc., ASML Holding N.V., Hitachi High-Technologies Corporation, Nanometrics, Inc. and Rudolph Technologies, Inc., some of which may have greater financial, research, engineering, manufacturing and marketing resources than we have. We may also face future competition from new market entrants from other overseas and domestic sources. We expect our competitors to continue to improve the design and performance of their current products and processes and to introduce new products and processes with improved price and performance characteristics. We believe that, to remain competitive, we will require significant financial resources to offer a broad range of products, to maintain customer service and support centers worldwide, and to invest in product and process research and development.

We believe that, while price and delivery are important competitive factors, the customers’ overriding requirement is for systems that easily and effectively incorporate automated and highly accurate inspection and metrology capabilities into their existing manufacturing processes to enhance productivity. Significant competitive factors in the market for process control and yield management systems include system performance, ease of use, reliability, interoperability with the existing installed base and technical service and support, as well as overall cost of ownership. Management believes that we are well positioned in the market with respect to both our products and services. However, any loss of competitive position could negatively impact our prices, customer orders, revenues, gross margins and market share, any of which would negatively impact our operating results and financial condition.

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Acquisitions and Alliances

We continuously evaluate strategic acquisitions and alliances to expand our technologies, product offerings and distribution capabilities. Acquisitions involve numerous risks, including management issues and costs in connection with integration of the operations, technologies and products of the acquired companies, and the potential loss of key employees of the acquired companies. The inability to manage these risks effectively could negatively impact our operating results and financial condition.

Patents and Other Proprietary Rights

We protect our proprietary technology through reliance on a variety of intellectual property laws, including patent, copyright and trade secret. We have filed and obtained a number of patents in the United States and abroad and intend to continue pursuing the legal protection of our technology through intellectual property laws. In addition, from time to time we acquire license rights under United States and foreign patents and other proprietary rights of third parties, and we attempt to protect our trade secrets and other proprietary information through confidentiality and other agreements with our customers, suppliers, employees and consultants and through other security measures.

Although we consider patents and other intellectual property significant to our business, due to the rapid pace of innovation within the process control and yield management systems industry, we believe that our protection through patent and other intellectual property rights is less important than factors such as our technological expertise, continuing development of new systems, market penetration, installed base and the ability to provide comprehensive support and service to customers worldwide.

No assurance can be given that patents will be issued on any of our applications, that license assignments will be made as anticipated, or that our patents, licenses or other proprietary rights will be sufficiently broad to protect our technology. No assurance can be given that any patents issued to or licensed by us will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide us with a competitive advantage. In addition, there can be no assurance that we will be able to protect our technology or that competitors will not be able to independently develop similar or functionally competitive technology.

Environmental Matters

We are subject to a variety of federal, state and local governmental laws and regulations related to the protection of the environment, including without limitation the management of hazardous materials that we use in our business operations. Compliance with these environmental laws and regulations has not had, and is not expected to have, a material effect on our capital expenditures, financial condition, results of operations or competitive position. However, any failure to comply with environmental laws and regulations may subject us to a range of consequences, including fines, suspension of certain of our business activities, limitations on our ability to sell our products, obligations to remediate environmental contamination, and criminal and civil liabilities or other sanctions. In addition, changes in environmental laws and regulations could require us to invest in potentially costly pollution control equipment, alter our manufacturing processes or use substitute materials. Our failure to comply with these laws and regulations could subject us to future liabilities.

Employees

As of June 30, 2018, we employed approximately 6,550 full-time employees. Except for our employees in Belgium (where a trade union delegation has been recognized) and our employees in the German operations of our MIE business unit (who are represented by employee works council), none of our employees are represented by a labor union. We have not experienced work stoppages and believe that our employee relations are good.

Competition is intense in the recruiting of personnel in the semiconductor and semiconductor equipment industry. We believe that our future success will depend, in part, on our continued ability to hire and retain qualified management, marketing and technical employees.

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Glossary

This section provides definitions for certain industry and technical terms commonly used in our business, which are used elsewhere in this Item 1:

broadband	An illumination source with a wide spectral bandwidth.
critical dimension (CD)	The dimension of a specified geometry (such as the width of a patterned line or the distance between two lines) that must be within design tolerances in order to maintain semiconductor device performance consistency.
design rules	Rules that set forth the allowable dimensions of particular features used in the design and layout of integrated circuits.
design technology co-optimization (DTCO)	The methodology of optimizing semiconductor design and process simultaneously during the technology definition phase.
die	The term for a single semiconductor chip on a wafer.
electron-beam	An illumination source comprised of a stream of electrons emitted by a single source.
epitaxial silicon (epi)	A substrate technology based on growing a crystalline silicon layer on top of a silicon wafer. The added layer, where the structure and orientation are matched to those of the silicon wafer, includes dopants (impurities) to imbue the substrate with special electronic properties.
excursion	For a manufacturing step or process, a deviation from normal operating conditions that can lead to decreased performance or yield of the final product.
fab	The main manufacturing facility for processing semiconductor wafers.
front end	The processes that make up the first half of the semiconductor manufacturing process, from wafer start through final contact window processing.
in situ	Refers to processing steps or tests that are done without moving the wafer. Latin for “in original position.”
interconnect	A highly conductive material, usually copper or aluminum, which carries electrical signals to different parts of a die.
lithography	A process in which a masked pattern is projected onto a photosensitive coating that covers a substrate.
mask shop	A manufacturer that produces the reticles used by semiconductor manufacturers.
metrology	The science of measurement to determine dimensions, quantity or capacity. In the semiconductor industry, typical measurements include critical dimension, overlay and film thickness.
microelectromechanical systems (MEMS)	Micron-sized mechanical devices powered by electricity, created using processes similar to those used to manufacture IC devices.

micron	A metric unit of linear measure that equals 1/1,000,000 meter (10^{-6}m), or 10,000 angstroms (the diameter of a human hair is approximately 75 microns).
Moore's Law	An observation made by Gordon Moore in 1965 and revised in 1975 that the number of transistors on a typical integrated circuit doubles approximately every two years.
nanometer (nm)	One billionth (10^{-9}) of a meter.
patterned	For semiconductor manufacturing and industries using similar processing technologies, refers to substrates that have electronic circuits (transistors, interconnects, etc.) fabricated on the surface.

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photoresist	A radiation-sensitive material that, when properly applied to a variety of substrates and then properly exposed and developed, masks portions of the substrate with a high degree of integrity.
process control	The ability to maintain specifications of products and equipment during manufacturing operations.
reticle	A very flat glass plate that contains the patterns to be reproduced on a wafer.
silicon on insulator (SOI)	A substrate technology comprised of a thin top silicon layer separated from the silicon substrate by a thin insulating layer of glass or silicon dioxide, used to improve performance and reduce the power consumption of IC circuits.
substrate	A wafer on which layers of various materials are added during the process of manufacturing semiconductor devices or circuits.
unpatterned	For semiconductor manufacturing and industries using similar processing technologies, refers to substrates that do not have electronic circuits (transistors, interconnects, etc.) fabricated on the surface. These can include bare silicon wafers, other bare substrates or substrates on which blanket films have been deposited.
yield management	The ability of a semiconductor manufacturer to oversee, manage and control its manufacturing processes so as to maximize the percentage of manufactured wafers or die that conform to pre-determined specifications.

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The definitions above are from internal sources, as well as online semiconductor dictionaries such as https://www.semiconductors.org/faq/glossary/.

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ITEM 1A. RISK FACTORS

A description of factors that could materially affect our business, financial condition or operating results is provided below.

Risks Associated with Our Industry

Ongoing changes in the technology industry, as well as the semiconductor industry in particular, could expose our business to significant risks.

The semiconductor equipment industry and other industries that we serve are constantly developing and changing over time. Many of the risks associated with operating in these industries are comparable to the risks faced by all technology companies, such as the uncertainty of future growth rates in the industries that we serve, pricing trends in the end-markets for consumer electronics and other products (which place a growing emphasis on our customers' cost of ownership), changes in our customers' capital spending patterns and, in general, an environment of constant change and development, including decreasing product and component dimensions; use of new materials; and increasingly complex device structures, applications and process steps. If we fail to appropriately adjust our cost structure and operations to adapt to any of these trends, or, with respect to technological advances, if we do not timely develop new technologies and products that successfully anticipate and address these changes, we could experience a material adverse effect on our business, financial condition and operating results.

In addition, we face a number of risks specific to ongoing changes in the semiconductor industry, as the significant majority of our sales are made to semiconductor manufacturers. Some of the trends that our management monitors in operating our business include the following:

- the potential for reversal of the long-term historical trend of declining cost per transistor with each new generation of technological advancement within the semiconductor industry, and the adverse impact that such reversal may have upon our business;
- the increasing cost of building and operating fabrication facilities and the impact of such increases on our customers' investment decisions;
- differing market growth rates and capital requirements for different applications, such as memory, logic and foundry;
- lower level of process control adoption by our memory customers compared to our foundry and logic customers;
- our customers' reuse of existing and installed products, which may decrease their need to purchase new products or solutions at more advanced technology nodes;
- the emergence of disruptive technologies that change the prevailing semiconductor manufacturing processes (or the economics associated with semiconductor manufacturing) and, as a result, also impact the inspection and metrology requirements associated with such processes;
- the higher design costs for the most advanced integrated circuits, which could economically constrain leading-edge manufacturing technology customers to focus their resources on only the large, technologically advanced products and applications;
- the possible introduction of integrated products by our larger competitors that offer inspection and metrology functionality in addition to managing other semiconductor manufacturing processes;
- changes in semiconductor manufacturing processes that are extremely costly for our customers to implement and, accordingly, our customers could reduce their available budgets for process control equipment by reducing inspection and metrology sampling rates for certain technologies;
- the bifurcation of the semiconductor manufacturing industry into (a) leading edge manufacturers driving continued research and development into next-generation products and technologies and (b) other manufacturers that are content with existing (including previous generation) products and technologies;
- the ever escalating cost of next-generation product development, which may result in joint development programs between us and our customers or government entities to help fund such programs that could restrict our control of, ownership of and profitability from the products and technologies developed through those programs; and
- the entry by some semiconductor manufacturers into collaboration or sharing arrangements for capacity, cost or risk with other manufacturers, as well as increased outsourcing of their manufacturing activities, and greater focus only on specific markets or applications, whether in response to adverse market conditions or other market pressures.

Any of the changes described above may negatively affect our customers' rate of investment in the capital equipment that we produce, which could result in downward pressure on our prices, customer orders, revenues and gross margins. If we do not successfully manage the risks resulting from any of these or other potential changes in our industries, our business, financial condition and operating results could be adversely impacted.

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We are exposed to risks associated with a highly concentrated customer base.

Our customer base, particularly in the semiconductor industry, historically has been highly concentrated due to corporate consolidation, acquisitions and business closures. In this environment, orders from a relatively limited number of manufacturers have accounted for, and are expected to continue to account for, a substantial portion of our sales. This increasing concentration exposes our business, financial condition and operating results to a number of risks, including the following:

- The mix and type of customers, and sales to any single customer, may vary significantly from quarter to quarter and from year to year, which exposes our business and operating results to increased volatility tied to individual customers.
- New orders from our foundry customers in the past several years have constituted a significant portion of our total orders. This concentration increases the impact that future business or technology changes within the foundry industry may have on our business, financial condition and operating results.
- In a highly concentrated business environment, if a particular customer does not place an order, or if they delay or cancel orders, we may not be able to replace the business. Furthermore, because our products are configured to each customer's specifications, any changes, delays or cancellations of orders may result in significant, non-recoverable costs.
- As a result of this consolidation, the customers that survive the consolidation represent a greater portion of our sales and, consequently, have greater commercial negotiating leverage. Many of our large customers have more aggressive policies regarding engaging alternative, second-source suppliers for the products we offer and, in addition, may seek and, on occasion, receive pricing, payment, intellectual property-related or other commercial terms that may have an adverse impact on our business. Any of these changes could negatively impact our prices, customer orders, revenues and gross margins.
- Certain customers have undergone significant ownership changes, created alliances with other companies, experienced management changes or have outsourced manufacturing activities, any of which may result in additional complexities in managing customer relationships and transactions. Any future change in ownership or management of our existing customers may result in similar challenges, including the possibility of the successor entity or new management deciding to select a competitor's products.
- The highly concentrated business environment also increases our exposure to risks related to the financial condition of each of our customers. For example, as a result of the challenging economic environment during fiscal year 2009, we were (and in some cases continue to be) exposed to additional risks related to the continued financial viability of certain of our customers. To the extent our customers experience liquidity issues in the future, we may be required to incur additional bad debt expense with respect to receivables owed to us by those customers. In addition, customers with liquidity issues may be forced to reduce purchases of our equipment, delay deliveries of our products, discontinue operations or may be acquired by one of our customers, and in either case such event would have the effect of further consolidating our customer base.
- Semiconductor manufacturers generally must commit significant resources to qualify, install and integrate process control and yield management equipment into a semiconductor production line. We believe that once a semiconductor manufacturer selects a particular supplier's process control and yield management equipment, the manufacturer generally relies upon that equipment for that specific production line application for an extended period of time. Accordingly, we expect it to be more difficult to sell our products to a given customer for that specific production line application and other similar production line applications if that customer initially selects a competitor's equipment. Similarly, we expect it to be challenging for a competitor to sell its products to a given customer for a specific production line application if that customer initially selects our equipment.
- Prices differ among the products we offer for different applications due to differences in features offered or manufacturing costs. If there is a shift in demand by our customers from our higher-priced to lower-priced products, our gross margin and revenue would decrease. In addition, when products are initially introduced, they tend to have higher costs because of initial development costs and lower production volumes relative to the previous product generation, which can impact gross margin.

Any of these factors could have a material adverse effect on our business, financial condition and operating results.

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The semiconductor equipment industry has been cyclical. The purchasing decisions of our customers are highly dependent on the economies of both the local markets in which they are located and the semiconductor industry worldwide. If we fail to respond to industry cycles, our business could be seriously harmed.

The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. The historically cyclical nature of the primary industry in which we operate is largely a function of our customers' capital spending patterns and need for expanded manufacturing capacity, which in turn are affected by factors such as capacity utilization, consumer demand for products, inventory levels and our customers' access to capital. Cyclicality affects our ability to accurately predict future revenue and, in some cases, future expense levels. During down cycles in our industry, the financial results of our customers may be negatively impacted, which could result not only in a decrease in, or cancellation or delay of, orders (which are generally subject to cancellation or delay by the customer with limited or no penalty) but also a weakening of their financial condition that could impair their ability to pay for our products or our ability to recognize revenue from certain customers. Our ability to recognize revenue from a particular customer may also be negatively impacted by the customer's funding status, which could be weakened not only by adverse business conditions or inaccessibility to capital markets for any number of macroeconomic or company-specific reasons, but also by funding limitations imposed by the customer's unique organizational structure. Any of these factors could negatively impact our business, operating results and financial condition.

When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary for us to remain competitive and financially sound. During periods of declining revenues, we must be in a position to adjust our cost and expense structure to prevailing market conditions and to continue to motivate and retain our key employees. If we fail to respond, or if our attempts to respond fail to accomplish our intended results, then our business could be seriously harmed. Furthermore, any workforce reductions and cost reduction actions that we adopt in response to down cycles may result in additional restructuring charges, disruptions in our operations and loss of key personnel. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles. Each of these factors could adversely impact our operating results and financial condition.

In addition, our management typically provides quarterly forecasts for certain financial metrics, which, when made, are based on business and operational forecasts that are believed to be reasonable at the time. However, largely due to the historical cyclicality of our business and the industries in which we operate, and the fact that business conditions in our industries can change very rapidly as part of these cycles, our actual results may vary (and have varied in the past) from forecasted results. These variations can occur for any number of reasons, including, but not limited to, unexpected changes in the volume or timing of customer orders, product shipments or product acceptance; an inability to adjust our operations rapidly enough to adapt to changing business conditions; or a different than anticipated effective tax rate. The impact on our business of delays or cancellations of customer orders may be exacerbated by the short lead times that our customers expect between order placement and product shipment. This is because order delays and cancellations may lead not only to lower revenues, but also, due to the advance work we must do in anticipation of receiving a product order to meet the expected lead times, to significant inventory write-offs and manufacturing inefficiencies that decrease our gross margin. Any of these factors could materially and adversely affect our financial results for a particular quarter and could cause those results to differ materially from financial forecasts we have previously provided. We provide these forecasts with the intent of giving investors and analysts a better understanding of management's expectations for the future, but those reviewing such forecasts must recognize that such forecasts are comprised of, and are themselves, forward-looking statements subject to the risks and uncertainties described in this Item 1A and elsewhere in this report and in our other public filings and public statements. If our operating or financial results for a particular period differ from our forecasts or the expectations of investment analysts, or if we revise our forecasts, the market price of our common stock could decline.

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Risks Related to Our Business Model and Capital Structure

If we do not develop and introduce new products and technologies in a timely manner in response to changing market conditions or customer requirements, our business could be seriously harmed.

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. 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 appears to be slowing, which may cause semiconductor manufacturers to delay investments in equipment, investigate more complex device architectures, use new materials and develop innovative fabrication processes. These and other evolving customer plans and needs require us to respond with continued development programs and cut back or discontinue older programs, which may no longer have industry-wide support. Technical innovations are inherently complex and require long development cycles and appropriate staffing of highly qualified employees. Our competitive advantage and future business success depend on our ability to accurately predict evolving industry standards, develop and introduce new products and solutions that successfully address changing customer needs, win market acceptance of these new products and solutions, and manufacture these new products in a timely and cost-effective manner. Our failure to accurately predict evolving industry standards and develop as well as offer competitive technology solutions in a timely manner with cost-effective products could result in loss of market share, unanticipated costs, and inventory obsolescence, which would adversely impact our business, operating results and financial condition.

We must continue to make significant investments in research and development in order to enhance the performance, features and functionality of our products, to keep pace with competitive products and to satisfy customer demands. Substantial research and development costs typically are incurred before we confirm the technical feasibility and commercial viability of a new product, and not all development activities result in commercially viable products. There can be no assurance that revenues from future products or product enhancements will be sufficient to recover the development costs associated with such products or enhancements. In addition, we cannot be sure that these products or enhancements will receive market acceptance or that we will be able to sell these products at prices that are favorable to us. Our business will be seriously harmed if we are unable to sell our products at favorable prices or if the market in which we operate does not accept our products.

In addition, the complexity of our products exposes us to other risks. We regularly recognize revenue from a sale upon shipment of the applicable product to the customer (even before receiving the customer's formal acceptance of that product) in certain situations, including sales of products for which installation is considered perfunctory, transactions in which the product is sold to an independent distributor and we have no installation obligations, and sales of products where we have previously delivered the same product to the same customer location and that prior delivery has been accepted. However, our products are very technologically complex and rely on the interconnection of numerous subcomponents (all of which must perform to their respective specifications), so it is conceivable that a product for which we recognize revenue upon shipment may ultimately fail to meet the overall product's required specifications. In such a situation, the customer may be entitled to certain remedies, which could materially and adversely affect our operating results for various periods and, as a result, our stock price.

We derive a substantial percentage of our revenues from sales of inspection products. As a result, any delay or reduction of sales of these products could have a material adverse effect on our business, financial condition and operating results. The continued customer demand for these products and the development, introduction and market acceptance of new products and technologies are critical to our future success.

Our success is dependent in part on our technology and other proprietary rights. If we are unable to maintain our lead or protect our proprietary technology, we may lose valuable assets.

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies and obtain patents relating to our business that are similar or superior to our technology or may design around the patents we own, adversely affecting our business. In addition, we at times

engage in collaborative technology development efforts with our customers and suppliers, and these collaborations may constitute a key component of certain of our ongoing technology and product research and development projects. The termination of any such collaboration, or delays caused by disputes or other unanticipated challenges that may arise in connection with any such collaboration, could significantly impair our research and development efforts, which could have a material adverse impact on our business and operations.

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We also maintain trademarks on certain of our products and services and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through confidentiality and other agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for strategic technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States. In any event, the extent to which we can protect our trade secrets through the use of confidentiality agreements is limited, and our success will depend to a significant extent on our ability to innovate ahead of our competitors.

Our future performance depends, in part, upon our ability to continue to compete successfully worldwide.

Our industry includes large manufacturers with substantial resources to support customers worldwide. Some of our competitors are diversified companies with greater financial resources and more extensive research, engineering, manufacturing, marketing, and customer service and support capabilities than we possess. We face competition from companies whose strategy is to provide a broad array of products and services, some of which compete with the products and services that we offer. These competitors may bundle their products in a manner that may discourage customers from purchasing our products, including pricing such competitive tools significantly below our product offerings. In addition, we face competition from smaller emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services that we offer, using innovative technology to sell products into specialized markets. The strength of our competitive positions in many of our existing markets is largely due to our leading technology, which is the result of continuing significant investments in product research and development. However, we may enter new markets, whether through acquisitions or new internal product development, in which competition is based primarily on product pricing, not technological superiority. Further, some new growth markets that emerge may not require leading technologies. Loss of competitive position in any of the markets we serve, or an inability to sell our products on favorable commercial terms in new markets we may enter, could negatively affect our prices, customer orders, revenues, gross margins and market share, any of which would negatively affect our operating results and financial condition.

Our business would be harmed if we do not receive parts sufficient in number and performance to meet our production requirements and product specifications in a timely and cost-effective manner.

We use a wide range of materials in the production of our products, including custom electronic and mechanical components, and we use numerous suppliers to supply these materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customers' orders, we do not maintain an extensive inventory of materials for manufacturing. Through our business interruption planning, we seek to minimize the risk of production and service interruptions and/or shortages of key parts by, among other things, monitoring the financial stability of key suppliers, identifying (but not necessarily qualifying) possible alternative suppliers and maintaining appropriate inventories of key parts. Although we make reasonable efforts to ensure that parts are available from multiple suppliers, certain key parts are available only from a single supplier or a limited group of suppliers. Also, key parts we obtain from some of our suppliers incorporate the suppliers' proprietary intellectual property; in those cases we are increasingly reliant on third parties for high-performance, high-technology components, which reduces the amount of control we have over the availability and protection of the technology and intellectual property that is used in our products. In addition, if certain of our key suppliers experience liquidity issues and are forced to discontinue operations, which is a heightened risk during economic downturns, it could affect their ability to deliver parts and could result in delays for our products. Similarly, especially with respect to suppliers of high-technology components, our suppliers themselves have increasingly complex supply chains, and delays or disruptions at any stage of their supply chains may prevent us from obtaining parts in a timely manner and result in delays for our products. Our operating results and business may be adversely impacted if we are unable to obtain parts

to meet our production requirements and product specifications, or if we are only able to do so on unfavorable terms. Furthermore, a supplier may discontinue production of a particular part for any number of reasons, including the supplier's financial condition or business operational decisions, which would require us to purchase, in a single transaction, a large number of such discontinued parts in order to ensure that a continuous supply of such parts remains available to our customers. Such "end-of-life" parts purchases could result in significant expenditures by us in a particular period, and ultimately any unused parts may result in a significant inventory write-off, either of which could have an adverse impact on our financial condition and results of operations for the applicable periods.

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If we fail to operate our business in accordance with our business plan, our operating results, business and stock price may be significantly and adversely impacted.

We attempt to operate our business in accordance with a business plan that is established annually, revised frequently (generally quarterly), and reviewed by management even more frequently (at least monthly). Our business plan is developed based on a number of factors, many of which require estimates and assumptions, such as our expectations of the economic environment, future business levels, our customers' willingness and ability to place orders, lead-times, and future revenue and cash flow. Our budgeted operating expenses, for example, are based in part on our future revenue expectations. However, our ability to achieve our anticipated revenue levels is a function of numerous factors, including the volatile and historically cyclical nature of our primary industry, customer order cancellations, macroeconomic changes, operational matters regarding particular agreements, our ability to manage customer deliveries, the availability of resources for the installation of our products, delays or accelerations by customers in taking deliveries and the acceptance of our products (for products where customer acceptance is required before we can recognize revenue from such sales), our ability to operate our business and sales processes effectively, and a number of the other risk factors set forth in this Item 1A.

Because our expenses are in most cases relatively fixed in the short term, any revenue shortfall below expectations could have an immediate and significant adverse effect on our operating results. Similarly, if we fail to manage our expenses effectively or otherwise fail to maintain rigorous cost controls, we could experience greater than anticipated expenses during an operating period, which would also negatively affect our results of operations. If we fail to operate our business consistent with our business plan, our operating results in any period may be significantly and adversely impacted. Such an outcome could cause customers, suppliers or investors to view us as less stable, or could cause us to fail to meet financial analysts' revenue or earnings estimates, any of which could have an adverse impact on our stock price.

In addition, our management is constantly striving to balance the requirements and demands of our customers with the availability of resources, the need to manage our operating model and other factors. In furtherance of those efforts, we often must exercise discretion and judgment as to the timing and prioritization of manufacturing, deliveries, installations and payment scheduling. Any such decisions may impact our ability to recognize revenue, including the fiscal period during which such revenue may be recognized, with respect to such products, which could have a material adverse effect on our business, results of operations or stock price.

Our capital structure is highly leveraged.

As of June 30, 2018, we had $2.25 billion aggregate principal amount of senior, unsecured long-term notes. Additionally, we have commitments for an unfunded revolving credit facility of $750.0 million under the Credit Agreement. We may incur additional indebtedness in the future by accessing the unfunded portion of our revolving credit facility and/or entering into new financing arrangements. For example, at the same time we announced our intention to acquire Orbotech, we also announced a new stock repurchase program authorizing the repurchase up to $2.00 billion of our common stock, a large portion of which would be financed with new indebtedness. Our ability to pay interest and repay the principal of our current indebtedness is dependent upon our ability to manage our business operations, our credit rating, the ongoing interest rate environment and the other risk factors discussed in this section. There can be no assurance that we will be able to manage any of these risks successfully.

In addition, the interest rates of the senior, unsecured long-term notes may be subject to adjustments from time to time if Moody's Investors Service, Inc. ("Moody's"), Standard & Poor's Ratings Services ("S&P") or, under certain circumstances, a substitute rating agency selected by us as a replacement for Moody's or S&P, as the case may be (a "Substitute Rating Agency"), downgrades (or subsequently upgrades) its rating assigned to the respective series of notes such that the adjusted rating is below investment grade. Accordingly, changes by Moody's, S&P, or a Substitute Rating Agency to the rating of any series of notes, our outlook or credit rating could require us to pay additional interest, which may negatively affect the value and liquidity of our debt and the market price of our common stock could decline. Factors that can affect our credit rating include changes in our operating performance, the economic environment, conditions in the semiconductor and semiconductor equipment industries, our financial position, including the incurrence of additional indebtedness, and our business strategy.

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In certain circumstances involving a change of control followed by a downgrade of the rating of a series of notes by at least two of Moody's, S&P and Fitch Inc., unless we have exercised our right to redeem the notes of such series, we will be required to make an offer to repurchase all or, at the holder's option, any part, of each holder's notes of that series pursuant to the offer described below (the "Change of Control Offer"). In the Change of Control Offer, we will be required to offer payment in cash equal to 101% of the aggregate principal amount of notes repurchased plus accrued and unpaid interest, if any, on the notes repurchased, up to, but not including, the date of repurchase. We cannot make any assurance that we will have sufficient financial resources at such time or will be able to arrange financing to pay the repurchase price of that series of notes. Our ability to repurchase that series of notes in such event may be limited by law, by the indenture associated with that series of notes, or by the terms of other agreements to which we may be party at such time. If we fail to repurchase that series of notes as required by the terms of such notes, it would constitute an event of default under the indenture governing that series of notes which, in turn, may also constitute an event of default under other of our obligations.

Borrowings under our Revolving Credit Facility bear interest at a floating rate, and an increase in interest rates would require us to pay additional interest on any borrowings, which may have an adverse effect on the value and liquidity of our debt and the market price of our common stock could decline. The interest rate under our Revolving Credit Facility is also subject to an adjustment in conjunction with our credit rating downgrades or upgrades. Additionally, under our Revolving Credit Facility, we are required to comply with affirmative and negative covenants, which include the maintenance of certain financial ratios, the details of which can be found in Note 7, "Debt," to our consolidated financial statements.

If we fail to comply with these covenants, we will be in default and our borrowings will become immediately due and payable. There can be no assurance that we will have sufficient financial resources or we will be able to arrange financing to repay our borrowings at such time. In addition, certain of our domestic subsidiaries are required to guarantee our borrowings under our Revolving Credit Facility. In the event that we default on our borrowings, these domestic subsidiaries shall be liable for our borrowings, which could disrupt our operations and result in a material adverse impact on our business, financial condition or stock price.

Our leveraged capital structure may adversely affect our financial condition, results of operations and net income per share.

Our issuance and maintenance of higher levels of indebtedness could have adverse consequences including, but not limited to:

- a negative impact on our ability to satisfy our future obligations;
- an increase in the portion of our cash flows that may have to be dedicated to increased interest and principal payments that may not be available for operations, working capital, capital expenditures, acquisitions, investments, dividends, stock repurchases, general corporate or other purposes;
- an impairment of our ability to obtain additional financing in the future; and
- obligations to comply with restrictive and financial covenants as noted in the above risk factor and Note 7, "Debt," to our consolidated financial statements.

Our ability to satisfy our future expenses as well as our new debt obligations will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. Furthermore, our future operations may not generate sufficient cash flows to enable us to meet our future expenses and service our new debt obligations, which may impact our ability to manage our capital structure to preserve and maintain our investment grade rating. If our future operations do not generate sufficient cash flows, we may need to access the unfunded portion of our Revolving Credit Facility of $750.0 million or enter into new financing arrangements to obtain 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, we may not be able to obtain it on acceptable terms. Any additional borrowing under our revolving credit facility will place further pressure on us to comply with the financial covenants. If we fail to make a payment associated with our debt obligations, we could be in default on such debt, and such a default could cause us to be in default on our other obligations.

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There can be no assurance that we will continue to declare cash dividends at all or in any particular amounts.

Our Board of Directors first instituted a quarterly dividend during the fiscal year ended June 30, 2005. Since that time, we have announced a number of increases in the amount of our quarterly dividend level as well as payment of a special cash dividend that was declared and substantially paid in the second quarter of our fiscal year ended June 30, 2015. We intend to continue to pay quarterly dividends 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. Future dividends may 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; stock repurchase programs; changes in federal and state income tax laws or corporate laws; changes to our business model; and our increased interest and principal payments required by our outstanding indebtedness and any additional indebtedness that we may incur in the future. Our dividend payments may change from time to time, and we cannot provide assurance that we will continue to declare dividends at all or in any particular amounts. A reduction in our dividend payments could have a negative effect on our stock price.

We are exposed to risks related to our commercial terms and conditions, including our indemnification of third parties, as well as the performance of our products.

Although our standard commercial documentation sets forth the terms and conditions that we intend to apply to commercial transactions with our business partners, counterparties to such transactions may not explicitly agree to our terms and conditions. In situations where we engage in business with a third party without an explicit master agreement regarding the applicable terms and conditions, or where the commercial documentation applicable to the transaction is subject to varying interpretations, we may have disputes with those third parties regarding the applicable terms and conditions of our business relationship with them. Such disputes could lead to a deterioration of our commercial relationship with those parties, costly and time-consuming litigation, or additional concessions or obligations being offered by us to resolve such disputes, or could impact our revenue or cost recognition. Any of these outcomes could materially and adversely affect our business, financial condition and results of operations.

In addition, in our commercial agreements, from time to time in the normal course of business we indemnify third parties with whom we enter into contractual relationships, including customers, suppliers and lessors, 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. We may be compelled to enter into or accrue for probable settlements of alleged indemnification obligations, or we may be subject to potential liability arising from our customers' involvements in legal disputes. In addition, notwithstanding the provisions related to limitations on our liability that we seek to include in our business agreements, the counterparties to such agreements may dispute our interpretation or application of such provisions, and a court of law may not interpret or apply such provisions in our favor, any of which could result in an obligation for us to pay material damages to third parties and engage in costly legal proceedings. It is difficult to determine the maximum potential amount of liability under any indemnification obligations, whether or not asserted, due to our limited history of prior indemnification claims and the unique facts and circumstances that are likely to be involved in any particular claim. Our business, financial condition and results of operations in a reported fiscal period could be materially and adversely affected if we expend significant amounts in defending or settling any purported claims, regardless of their merit or outcomes.

We are also exposed to potential costs associated with unexpected product performance issues. Our products and production processes are extremely complex and thus could contain unexpected product defects, especially when products are first introduced. Unexpected product performance issues could result in significant costs being incurred by us, including increased service or warranty costs, providing product replacements for (or modifications to) defective products, litigation related to defective products, reimbursement for damages caused by our products, product recalls, or product write-offs or disposal costs. These costs could be substantial and could have an adverse impact upon our business, financial condition and operating results. In addition, our reputation with our customers could be damaged as a result of such product defects, which could reduce demand for our products and negatively

impact our business.

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Furthermore, we occasionally enter into volume purchase agreements with our larger customers, and these agreements may provide for certain volume purchase incentives, such as credits toward future purchases. We believe that these arrangements are beneficial to our long-term business, as they are designed to encourage our customers to purchase higher volumes of our products. However, these arrangements could require us to recognize a reduced level of revenue for the products that are initially purchased, to account for the potential future credits or other volume purchase incentives. Our volume purchase agreements require significant estimation for the amounts to be accrued depending upon the estimate of volume of future purchases. As such, we are required to update our estimates of the accruals on a periodic basis. Until the earnings process is complete, our estimates could differ in comparison to actuals. As a result, these volume purchase arrangements, while expected to be beneficial to our business over time, could materially and adversely affect our results of operations in near-term periods, including the revenue we can recognize on product sales and therefore our gross margins.

In addition, we may, in limited circumstances, enter into agreements that contain customer-specific commitments on pricing, tool reliability, spare parts stocking levels, response time and other commitments. Furthermore, we may give these customers limited audit or inspection rights to enable them to confirm that we are complying with these commitments. If a customer elects to exercise its audit or inspection rights, we may be required to expend significant resources to support the audit or inspection, as well as to defend or settle any dispute with a customer that could potentially arise out of such audit or inspection. To date, we have made no significant accruals in our consolidated financial statements for this contingency. While we have not in the past incurred significant expenses for resolving disputes regarding these types of commitments, we cannot make any assurance that we will not incur any such liabilities in the future. Our business, financial condition and results of operations in a reported fiscal period could be materially and adversely affected if we expend significant amounts in supporting an audit or inspection, or defending or settling any purported claims, regardless of their merit or outcomes.

There are risks associated with our receipt of government funding for research and development.

We are exposed to additional risks related to our receipt of external funding for certain strategic development programs from various governments and government agencies, both domestically and internationally. Governments and government agencies typically have the right to terminate funding programs at any time in their sole discretion, or a project may be terminated by mutual agreement if the parties determine that the project’s goals or milestones are not being achieved, so there is no assurance that these sources of external funding will continue to be available to us in the future. In addition, under the terms of these government grants, the applicable granting agency typically has the right to audit the costs that we incur, directly and indirectly, in connection with such programs. Any such audit could result in modifications to, or even termination of, the applicable government funding program. For example, if an audit were to identify any costs as being improperly allocated to the applicable program, those costs would not be reimbursed, and any such costs that had already been reimbursed would have to be refunded. We do not know the outcome of any future audits. Any adverse finding resulting from any such audit could lead to penalties (financial or otherwise), termination of funding programs, suspension of payments, fines and suspension or prohibition from receiving future government funding from the applicable government or government agency, any of which could adversely impact our operating results, financial condition and ability to operate our business.

We have recorded significant restructuring, inventory write-off and asset impairment charges in the past and may do so again in the future, which could have a material negative impact on our business.

Historically, we recorded material restructuring charges related to our prior global workforce reductions, large excess inventory write-offs, and material impairment charges related to our goodwill and purchased intangible assets. Workforce changes can also temporarily reduce workforce productivity, which could be disruptive to our business and adversely affect our results of operations. In addition, we may not achieve or sustain the expected cost savings or other benefits of our restructuring plans, or do so within the expected time frame. If we again restructure our organization and business processes, implement additional cost reduction actions or discontinue certain business operations, we may take additional, potentially material, restructuring charges related to, among other things, employee terminations or exit costs. We may also be required to write-off additional inventory if our product build plans or usage of service inventory decline. Also, as our lead times from suppliers increase (due to the increasing complexity of the parts and components they provide) and the lead times demanded by our customers decrease (due to the time pressures they face

when introducing new products or technology or bringing new facilities into production), we may be compelled to increase our commitments, and therefore our risk exposure, to inventory purchases to meet our customers' demands in a timely manner, and that inventory may need to be written-off if demand for the underlying product declines for any reason. Such additional write-offs could result in material charges.

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In the past, we recorded a material charge related to the impairment of our goodwill and purchased intangible assets. Goodwill represents the excess of costs over the net fair value of net assets acquired in a business combination. Goodwill is not amortized, but is instead tested for impairment at least annually in accordance with authoritative guidance for goodwill. Purchased intangible assets with estimable useful lives are amortized over their respective estimated useful lives based on economic benefit if known or using the straight-line method, and are reviewed for impairment in accordance with authoritative guidance for long-lived assets. The valuation of goodwill and intangible assets requires assumptions and estimates of many critical factors, including revenue and market growth, operating cash flows, market multiples, and discount rates. A substantial decline in our stock price, or any other adverse change in market conditions, particularly if such change has the effect of changing one of the critical assumptions or estimates we previously used to calculate the value of our goodwill or intangible assets (and, as applicable, the amount of any previous impairment charge), could result in a change to the estimation of fair value that could result in an additional impairment charge.

Any such additional material charges, whether related to restructuring or goodwill or purchased intangible asset impairment, may have a material negative impact on our operating results and related financial statements.

We are exposed to risks related to our financial arrangements with respect to receivables factoring and banking arrangements.

We enter into factoring arrangements with financial institutions to sell certain of our trade receivables and promissory notes from customers without recourse. In addition, we maintain bank accounts with several domestic and foreign financial institutions, any of which may prove not to be financially viable. If we were to stop entering into these factoring arrangements, our operating results, financial condition and cash flows could be adversely impacted by delays or failures in collecting trade receivables. However, by entering into these arrangements, and by engaging these financial institutions for banking services, we are exposed to additional risks. If any of these financial institutions experiences financial difficulties or is otherwise unable to honor the terms of our factoring or deposit arrangements, we may experience material financial losses due to the failure of such arrangements or a lack of access to our funds, any of which could have an adverse impact upon our operating results, financial condition and cash flows.

We are subject to the risks of additional government actions in the event we were to breach the terms of any settlement arrangement into which we have entered.

In connection with the settlement of certain government actions and other legal proceedings related to our historical stock option practices, we have explicitly agreed as a condition to such settlements that we will comply with certain laws, such as the books and records provisions of the federal securities laws. If we were to violate any such law, we might not only be subject to the significant penalties applicable to such violation, but our past settlements may also be impacted by such violation, which could give rise to additional government actions or other legal proceedings. Any such additional actions or proceedings may require us to expend significant management time and incur significant accounting, legal and other expenses, and may divert attention and resources from the operation of our business. These expenditures and diversions, as well as an adverse resolution of any such action or proceeding, could have a material adverse effect on our business, financial condition and results of operations.

General Commercial, Operational, Financial and Regulatory Risks

We are exposed to risks associated with a weakening in the condition of the financial markets and the global economy.

The markets for semiconductors, and therefore our business, are ultimately driven by the global demand for electronic devices by consumers and businesses. Economic uncertainty frequently leads to reduced consumer and business spending, which caused our customers to decrease, cancel or delay their equipment and service orders from us in the economic slowdown during fiscal year 2009. In addition, the tightening of credit markets and concerns regarding the availability of credit that accompanied that slowdown made it more difficult for our customers to raise capital, whether debt or equity, to finance their purchases of capital equipment, including the products we sell. Reduced demand, combined with delays in our customers' ability to obtain financing (or the unavailability of such financing), has at times in the past adversely affected our product and service sales and revenues and therefore has harmed our business and operating results, and our operating results and financial condition may again be adversely impacted if economic conditions decline from their current levels.

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In addition, a decline in the condition of the global financial markets could adversely impact the market values or liquidity of our investments. Our investment portfolio includes corporate and government securities, money market funds and other types of debt and equity investments. Although we believe our portfolio continues to be comprised of sound investments due to the quality and (where applicable) credit ratings, a decline in the capital and financial markets would adversely impact the market value of our investments and their liquidity. If the market value of such investments were to decline, or if we were to have to sell some of our investments under illiquid market conditions, we may be required to recognize an impairment charge on such investments or a loss on such sales, either of which could have an adverse effect on our financial condition and operating results.

If we are unable to timely and appropriately adapt to changes resulting from difficult macroeconomic conditions, our business, financial condition or results of operations may be materially and adversely affected.

A majority of our annual revenues are derived from outside the United States, and we maintain significant operations outside the United States. We are exposed to numerous risks as a result of the international nature of our business and operations.

A majority of our annual revenues are derived from outside the United States, and we maintain significant operations outside the United States. We expect that these conditions will continue in the foreseeable future. Managing global operations and sites located throughout the world presents a number of challenges, including but not limited to:

- managing cultural diversity and organizational alignment;
- exposure to the unique characteristics of each region in the global semiconductor market, which can cause capital equipment investment patterns to vary significantly from period to period;
- periodic local or international economic downturns;
- potential adverse tax consequences, including withholding tax rules that may limit the repatriation of our earnings, and higher effective income tax rates in foreign countries where we do business;
- government controls, either by the United States or other countries, that restrict our business overseas or the import or export of semiconductor products or increase the cost of our operations;
- compliance with customs regulations in the countries in which we do business;
- tariffs or other trade barriers (including those applied to our products or to parts and supplies that we purchase);
- political instability, natural disasters, legal or regulatory changes, acts of war or terrorism in regions where we have operations or where we do business;
- fluctuations in interest and currency exchange rates may adversely impact our ability to compete on price with local providers or the value of revenues we generate from our international business. Although we attempt to manage some of our near-term currency risks through the use of hedging instruments, there can be no assurance that such efforts will be adequate;
- longer payment cycles and difficulties in collecting accounts receivable outside of the United States;
- difficulties in managing foreign distributors (including monitoring and ensuring our distributors' compliance with applicable laws); and
- inadequate protection or enforcement of our intellectual property and other legal rights in foreign jurisdictions.

Any of the factors above could have a significant negative impact on our business and results of operations.

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We might be involved in claims or disputes related to intellectual property or other confidential information that may be costly to resolve, prevent us from selling or using the challenged technology and seriously harm our operating results and financial condition.

As is typical in the semiconductor equipment industry, from time to time we have received communications from other parties asserting the existence of patent rights, copyrights, trademark rights or other intellectual property rights which they believe cover certain of our products, processes, technologies or information. In addition, we occasionally receive notification from customers who believe that we owe them indemnification or other obligations related to intellectual property claims made against such customers by third parties. With respect to intellectual property infringement disputes, our customary practice is to evaluate such infringement assertions and to consider whether to seek licenses where appropriate. However, we cannot ensure that licenses can be obtained or, if obtained, will be on acceptable terms or that costly litigation or other administrative proceedings will not occur. The inability to obtain necessary licenses or other rights on reasonable terms could seriously harm our results of operations and financial condition. Furthermore, we may potentially be subject to claims by customers, suppliers or other business partners, or by governmental law enforcement agencies, related to our receipt, distribution and/or use of third-party intellectual property or confidential information. Legal proceedings and claims, regardless of their merit, and associated internal investigations with respect to intellectual property or confidential information disputes are often expensive to prosecute, defend or conduct; may divert management's attention and other company resources; and/or may result in restrictions on our ability to sell our products, settlements on significantly adverse terms or adverse judgments for damages, injunctive relief, penalties and fines, any of which could have a significant negative effect on our business, results of operations and financial condition. There can be no assurance regarding the outcome of future legal proceedings, claims or investigations. The instigation of legal proceedings or claims, our inability to favorably resolve or settle such proceedings or claims, or the determination of any adverse findings against us or any of our employees in connection with such proceedings or claims could materially and adversely affect our business, financial condition and results of operations, as well as our business reputation.

We are exposed to various risks related to the legal, regulatory and tax environments in which we perform our operations and conduct our business.

We are subject to various risks related to compliance with new, existing, different, inconsistent or even conflicting laws, rules and regulations enacted by legislative bodies and/or regulatory agencies in the countries in which we operate and with which we must comply, including environmental, safety, antitrust, anti-corruption/anti-bribery, unclaimed property and export control regulations. Our failure or inability to comply with existing or future laws, rules or regulations, or changes to existing laws, rules or regulations (including changes that result in inconsistent or conflicting laws, rules or regulations), in the countries in which we operate could result in violations of contractual or regulatory obligations that may adversely affect our operating results, financial condition and ability to conduct our business. From time to time, we may receive inquiries or audit notices from governmental or regulatory bodies, or we may participate in voluntary disclosure programs, related to legal, regulatory or tax compliance matters, and these inquiries, notices or programs may result in significant financial cost (including investigation expenses, defense costs, assessments and penalties), reputational harm and other consequences that could materially and adversely affect our operating results and financial condition.

Our properties and many aspects of our business operations are subject to various domestic and international environmental laws and regulations, including those that control and restrict the use, transportation, emission, discharge, storage and disposal of certain chemicals, gases and other substances. Any failure to comply with applicable environmental laws, regulations or requirements may subject us to a range of consequences, including fines, suspension of certain of our business activities, limitations on our ability to sell our products, obligations to remediate environmental contamination, and criminal and civil liabilities or other sanctions. In addition, changes in environmental regulations (including regulations relating to climate change and greenhouse gas emissions) could require us to invest in potentially costly pollution control equipment, alter our manufacturing processes or use substitute (potentially more expensive and/or rarer) materials. Further, we use hazardous and other regulated materials that subject us to risks of strict liability for damages caused by any release, regardless of fault. We also face increasing complexity in our manufacturing, product design and procurement operations as we adjust to new and prospective

requirements relating to the materials composition of our products, including restrictions on lead and other substances and requirements to track the sources of certain metals and other materials. The cost of complying, or of failing to comply, with these and other regulatory restrictions or contractual obligations could adversely affect our operating results, financial condition and ability to conduct our business.

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In addition, we may from time to time be involved in legal proceedings or claims regarding employment, immigration, contracts, product performance, product liability, antitrust, environmental regulations, securities, unfair competition and other matters. These legal proceedings and claims, regardless of their merit, may be time-consuming and expensive to prosecute or defend, divert management's attention and resources, and/or inhibit our ability to sell our products. There can be no assurance regarding the outcome of current or future legal proceedings or claims, which could adversely affect our operating results, financial condition and ability to operate our business.

We depend on key personnel to manage our business effectively, and if we are unable to attract, retain and motivate our key employees, our sales and product development could be harmed.

Our employees are vital to our success, and our key management, engineering and other employees are difficult to replace. We generally do not have employment contracts with our key employees. Further, we do not maintain key person life insurance on any of our employees. The expansion of high technology companies worldwide has increased demand and competition for qualified personnel. If we are unable to attract and retain key personnel, or if we are not able to attract, assimilate and retain additional highly qualified employees to meet our current and future needs, our business and operations could be harmed.

We outsource a number of services to third-party service providers, which decreases our control over the performance of these functions. Disruptions or delays at our third-party service providers could adversely impact our operations.

We outsource a number of services, including our transportation, information systems management and logistics management of spare parts and certain accounting and procurement functions, to domestic and overseas third-party service providers. While outsourcing arrangements may lower our cost of operations, they also reduce our direct control over the services rendered. It is uncertain what effect such diminished control will have on the quality or quantity of products delivered or services rendered, on our ability to quickly respond to changing market conditions, or on our ability to ensure compliance with all applicable domestic and foreign laws and regulations. In addition, many of these outsourced service providers, including certain hosted software applications that we use for confidential data storage, employ cloud computing technology for such storage. These providers' cloud computing systems may be susceptible to "cyber incidents," such as intentional cyber attacks aimed at theft of sensitive data or inadvertent cyber-security compromises, which are outside of our control. If we do not effectively develop and manage our outsourcing strategies, if required export and other governmental approvals are not timely obtained, if our third-party service providers do not perform as anticipated or do not adequately protect our data from cyber-related security breaches, or if there are delays or difficulties in enhancing business processes, we may experience operational difficulties (such as limitations on our ability to ship products), increased costs, manufacturing or service interruptions or delays, loss of intellectual property rights or other sensitive data, quality and compliance issues, and challenges in managing our product inventory or recording and reporting financial and management information, any of which could materially and adversely affect our business, financial condition and results of operations.

We are exposed to risks related to cybersecurity threats and cyber incidents.

In the conduct of our business, we collect, use, transmit and store data on information systems. This data includes confidential information, transactional information and intellectual property belonging to us, our customers and our business partners, as well as personally-identifiable information of individuals. We allocate significant resources to network security, data encryption and other measures to protect our information systems and data from unauthorized access or misuse. Despite our ongoing efforts to enhance our network security measures, our information systems are susceptible to computer viruses, cyber-related security breaches and similar disruptions from unauthorized intrusions, tampering, misuse, criminal acts, including phishing, or other events or developments that we may be unable to anticipate or fail to mitigate and are subject to the inherent vulnerabilities of network security measures. We have experienced cyber-related attacks in the past, and may experience cyber-related attacks in the future. Our security measures may also be breached due to employee errors, malfeasance, or otherwise. Third parties may also attempt to influence employees, users, suppliers or customers to disclose sensitive information in order to gain access to our, our customers' or business partners' data. Because the techniques used to obtain unauthorized access to the information systems change frequently, and may not be recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures.

Any of such occurrences could result in disruptions to our operations; misappropriation, corruption or theft of confidential information, including intellectual property and other critical data, of KLA-Tencor, our customers and other business partners; misappropriation of funds and company assets; reduced value of our investments in research, development and engineering; litigation with, or payment of damages to, third parties; reputational damage; costs to comply with regulatory inquiries or actions; data privacy issues; costs to rebuild our internal information systems; and increased cybersecurity protection and remediation costs.

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We carry insurance that provides some protection against the potential losses arising from a cybersecurity incident but it will not likely cover all such losses, and the losses that it does not cover may be significant.

We rely upon certain critical information systems for our daily business operations. Our inability to use or access our information systems at critical points in time could unfavorably impact our business operations.

Our global operations are dependent upon certain information systems, including telecommunications, the internet, our corporate intranet, network communications, email and various computer hardware and software applications. System failures or malfunctioning, such as difficulties with our customer relationship management ("CRM") system, could disrupt our operations and our ability to timely and accurately process and report key components of our financial results. Our enterprise resource planning ("ERP") system is integral to our ability to accurately and efficiently maintain our books and records, record transactions, provide critical information to our management, and prepare our financial statements. Any disruptions or difficulties that may occur in connection with our ERP system or other systems (whether in connection with the regular operation, periodic enhancements, modifications or upgrades of such systems or the integration of our acquired businesses into such systems) could adversely affect our ability to complete important business processes, such as the evaluation of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002. Any of these events could have an adverse effect on our business, operating results and financial condition.

Acquisitions are an important element of our strategy but, because of the uncertainties involved, we may not find suitable acquisition candidates and we may not be able to successfully integrate and manage acquired businesses. We are also exposed to risks in connection with strategic alliances into which we may enter.

In addition to our efforts to develop new technologies from internal sources, part of our growth strategy is to pursue acquisitions and acquire new technologies from external sources. As part of this effort, in March 2018, we announced that we had entered into a definitive agreement to acquire Orbotech. We may also enter into definitive agreements for and consummate acquisitions of, or significant investments in, businesses with complementary products, services and/or technologies. There can be no assurance that we will find suitable acquisition candidates or that acquisitions we complete will be successful. In addition, we may use equity to finance future acquisitions, which would increase our number of shares outstanding and be dilutive to current stockholders.

If we are unable to successfully integrate and manage acquired businesses or if acquired businesses perform poorly, then our business and financial results may suffer. It is possible that the businesses we have acquired, as well as businesses that we may acquire in the future, may perform worse than expected or prove to be more difficult to integrate and manage than anticipated. In addition, we may lose key employees of the acquired companies. As a result, risks associated with acquisition transactions may give rise to a material adverse effect on our business and financial results for a number of reasons, including:

- we may have to devote unanticipated financial and management resources to acquired businesses;
- the combination of businesses may cause the loss of key personnel or an interruption of, or loss of momentum in, the activities of our company and/or the acquired business;
- we may not be able to realize expected operating efficiencies or product integration benefits from our acquisitions;
- we may experience challenges in entering into new market segments for which we have not previously manufactured and sold products;
- we may face difficulties in coordinating geographically separated organizations, systems and facilities;
- the customers, distributors, suppliers, employees and others with whom the companies we acquire have business dealings may have a potentially adverse reaction to the acquisition;
- we may have to write-off goodwill or other intangible assets; and
- we may incur unforeseen obligations or liabilities in connection with acquisitions.

At times, we may also enter into strategic alliances with customers, suppliers or other business partners with respect to development of technology and intellectual property. These alliances typically require significant investments of capital and exchange of proprietary, highly sensitive information. The success of these alliances depends on various factors over which we may have limited or no control and requires ongoing and effective cooperation with our strategic partners. Mergers and acquisitions and strategic alliances are inherently subject to significant risks, and the inability to effectively manage these risks could materially and adversely affect our business, financial condition and

operating results.

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Disruption of our manufacturing facilities or other operations, or in the operations of our customers, due to earthquake, flood, other natural catastrophic events, health epidemics or terrorism could result in cancellation of orders, delays in deliveries or other business activities, or loss of customers and could seriously harm our business.

We have significant manufacturing operations in the United States, Singapore, Israel, Germany and China. In addition, our business is international in nature, with our sales, service and administrative personnel and our customers located in numerous countries throughout the world. Operations at our manufacturing facilities and our assembly subcontractors, as well as our other operations and those of our customers, are subject to disruption for a variety of reasons, including work stoppages, acts of war, terrorism, health epidemics, fire, earthquake, volcanic eruptions, energy shortages, flooding or other natural disasters. Such disruption could cause delays in, among other things, shipments of products to our customers, our ability to perform services requested by our customers, or the installation and acceptance of our products at customer sites. We cannot ensure that alternate means of conducting our operations (whether through alternate production capacity or service providers or otherwise) would be available if a major disruption were to occur or that, if such alternate means were available, they could be obtained on favorable terms.

In addition, as part of our cost-cutting actions, we have consolidated several operating facilities. Our California operations are now primarily centralized in our Milpitas facility. The consolidation of our California operations into a single campus could further concentrate the risks related to any of the disruptive events described above, such as acts of war or terrorism, earthquakes, fires or other natural disasters, if any such event were to impact our Milpitas facility. We are predominantly uninsured for losses and interruptions caused by terrorist acts and acts of war. If international political instability continues or increases, our business and results of operations could be harmed.

The threat of terrorism targeted at, or acts of war in, the regions of the world in which we do business increases the uncertainty in our markets. Any act of terrorism or war that affects the economy or the semiconductor industry could adversely affect our business. Increased international political instability in various parts of the world, disruption in air transportation and further enhanced security measures as a result of terrorist attacks may hinder our ability to do business and may increase our costs of operations. We maintain significant manufacturing and research and development operations in Israel, an area that has historically experienced a high degree of political instability, and we are therefore exposed to risks associated with future instability in that region. Such instability could directly impact our ability to operate our business (or our customers' ability to operate their businesses) in the affected region, cause us to incur increased costs in transportation, make such transportation unreliable, increase our insurance costs, and cause international currency markets to fluctuate. Such instability could also have the same effects on our suppliers and their ability to timely deliver their products. If international political instability continues or increases in any region in which we do business, our business and results of operations could be harmed. We are predominantly uninsured for losses and interruptions caused by terrorist acts and acts of war.

We self-insure certain risks including earthquake risk. If one or more of the uninsured events occurs, we could suffer major financial loss.

We purchase insurance to help mitigate the economic impact of certain insurable risks; however, certain risks are uninsurable, are insurable only at significant cost or cannot be mitigated with insurance. Accordingly, we may experience a loss that is not covered by insurance, either because we do not carry applicable insurance or because the loss exceeds the applicable policy amount or is less than the deductible amount of the applicable policy. For example, we do not currently hold earthquake insurance. An earthquake could significantly disrupt our manufacturing operations, a significant portion of which are conducted in California, an area highly susceptible to earthquakes. It could also significantly delay our research and engineering efforts on new products, much of which is also conducted in California. We take steps to minimize the damage that would be caused by an earthquake, but there is no certainty that our efforts will prove successful in the event of an earthquake. We self-insure earthquake risks because we believe this is a prudent financial decision based on our cash reserves and the high cost and limited coverage available in the earthquake insurance market. Certain other risks are also self-insured either based on a similar cost-benefit analysis, or based on the unavailability of insurance. If one or more of the uninsured events occurs, we could suffer major financial loss.

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We are exposed to foreign currency exchange rate fluctuations. Although we hedge certain currency risks, we may still be adversely affected by changes in foreign currency exchange rates or declining economic conditions in these countries.

We have some exposure to fluctuations in foreign currency exchange rates, primarily the Japanese Yen and the euro. We have international subsidiaries that operate and sell our products globally. In addition, an increasing proportion of our manufacturing activities are conducted outside of the United States, and many of the costs associated with such activities are denominated in foreign currencies. We routinely hedge our exposures to certain foreign currencies with certain financial institutions in an effort to minimize the impact of certain currency exchange rate fluctuations, but these hedges may be inadequate to protect us from currency exchange rate fluctuations. To the extent that these hedges are inadequate, or if there are significant currency exchange rate fluctuations in currencies for which we do not have hedges in place, our reported financial results or the way we conduct our business could be adversely affected. Furthermore, if a financial counterparty to our hedges experiences financial difficulties or is otherwise unable to honor the terms of the foreign currency hedge, we may experience material financial losses.

We are exposed to fluctuations in interest rates and the market values of our portfolio investments; impairment of our investments could harm our earnings. In addition, we and our stockholders are exposed to risks related to the volatility of the market for our common stock.

Our investment portfolio primarily consists of both corporate and government debt securities that are susceptible to changes in market interest rates and bond yields. As market interest rates and bond yields increase, those securities with a lower yield-at-cost show a mark-to-market unrealized loss. We believe we have the ability to realize the full value of all these investments upon maturity. However, an impairment of the fair market value of our investments, even if unrealized, must be reflected in our financial statements for the applicable period and may therefore have a material adverse effect on our results of operations for that period.

In addition, the market price for our common stock is volatile and has fluctuated significantly during recent years. The trading price of our common stock could continue to be highly volatile and fluctuate widely in response to various factors, including without limitation conditions in the semiconductor industry and other industries in which we operate, fluctuations in the global economy or capital markets, our operating results or other performance metrics, any perception that we might be unable to complete the merger with Orbotech, material delays in our ability to complete the merger with Orbotech, or adverse consequences experienced by us as a result of any of the risks described elsewhere in this Item 1A. Volatility in the market price of our common stock could cause an investor in our common stock to experience a loss on the value of their investment in us and could also adversely impact our ability to raise capital through the sale of our common stock or to use our common stock as consideration to acquire other companies.

We are exposed to risks in connection with tax and regulatory compliance audits in various jurisdictions.

We are subject to tax and regulatory compliance audits (such as related to customs or product safety requirements) in various jurisdictions, and such jurisdictions may assess additional income or other taxes, penalties, fines or other prohibitions against us. Although we believe our tax estimates are reasonable and that our products and practices comply with applicable regulations, the final determination of any such audit and any related litigation could be materially different from our historical income tax provisions and accruals related to income taxes and other contingencies. The results of an audit or litigation could have a material adverse effect on our operating results or cash flows in the period or periods for which that determination is made.

A change in our effective tax rate can have a significant adverse impact on our business.

We earn profits in, and are therefore potentially subject to taxes in, the U.S. and numerous foreign jurisdictions, including Singapore, Israel and the Cayman Islands, the countries in which we earn the majority of our non-U.S. profits. Due to economic, political or other conditions, tax rates in those jurisdictions may be subject to significant change. A number of factors may adversely impact our future effective tax rates, such as the jurisdictions in which our profits are determined to be earned and taxed; changes in the tax rates imposed by those jurisdictions; expiration of tax holidays in certain jurisdictions that are not renewed; the resolution of issues arising from tax audits with various tax authorities; changes in the valuation of our deferred tax assets and liabilities; adjustments to estimated taxes upon finalization of various tax returns; increases in expenses not deductible for tax purposes, including write-offs of acquired in-process research and development and impairment of goodwill in connection with acquisitions; changes in

available tax credits; changes in stock-based compensation expense; changes in tax laws or the interpretation of such tax laws; changes in generally accepted accounting principles; and the repatriation of earnings from outside the United States for which we have not previously provided for United States taxes. A change in our effective tax rate can materially and adversely impact our results from operations. For example, as a consequence of the newly enacted Tax Cuts and Jobs Act ("the Act"), foreign earnings are now deemed to be repatriated, which resulted in a higher effective tax rate for the Company's fiscal year ending June 30, 2018.

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In addition, recent changes to U.S. tax laws will significantly impact how U.S. multinational corporations are taxed on foreign earnings. Numerous countries are evaluating their existing tax laws due in part, to recommendations made by the Organization for Economic Co-operation and Development's ("OECD's") Base Erosion and Profit Shifting ("BEPS") project. To address the impact of the recent U.S. tax law changes, we recorded a provisional tax amount of $339.6 million for the transitional tax liability and recorded a provisional tax amount of $102.1 million to re-measure certain deferred tax assets and liabilities as a result of the enactment of the Act. These provisional tax amounts recorded are based on our reasonable estimate until we fully complete our assessment and we may need additional information to complete our assessment. We are still evaluating the tax provisions related to Global Intangible Low-Taxed Income ("GILTI") and we have not made a policy election on how to account for the GILTI provisions of the Act as allowed by the U.S. generally accepted accounting standards. Our selection of an accounting policy with respect to the new GILTI tax rules will depend, in part, on analyzing our global income to determine whether we expect to have future U.S. inclusions in taxable income related to GILTI and, if so, what the impact is expected to be. Also, the recent U.S. tax law changes are subject to further interpretations from the U.S. federal and state governments and regulatory organizations, such as Treasury Department and/or IRS and this could change the provisional tax liability or the accounting treatment of the provisional tax liability based on updated guidance and interpretations. A significant portion of the additional provisions for income taxes we have made due to the enactment of the Act is payable by us over a period of up to eight years. As a result, our cash flows from operating activities will be adversely impacted until the additional tax provisions are paid in full.

Compliance with federal securities laws, rules and regulations, as well as NASDAQ requirements, has become increasingly complex, and the significant attention and expense we must devote to those areas may have an adverse impact on our business.

Federal securities laws, rules and regulations, as well as NASDAQ rules and regulations, require companies to maintain extensive corporate governance measures, impose comprehensive reporting and disclosure requirements, set strict independence and financial expertise standards for audit and other committee members and impose civil and criminal penalties for companies and their chief executive officers, chief financial officers and directors for securities law violations. These laws, rules and regulations have increased, and in the future are expected to continue to increase, the scope, complexity and cost of our corporate governance, reporting and disclosure practices, which could harm our results of operations and divert management's attention from business operations.

A change in accounting standards or practices or a change in existing taxation rules or practices (or changes in interpretations of such standards, practices or rules) can have a significant effect on our reported results and may even affect reporting of transactions completed before the change is effective.

New accounting standards and taxation rules and varying interpretations of accounting pronouncements and taxation rules have occurred and will continue to occur in the future. Changes to (or revised interpretations or applications of) existing accounting standards or tax rules or the questioning of current or past practices may adversely affect our reported financial results or the way we conduct our business. For example, in May 2014, the Financial Accounting Standards Board ("FASB") issued an accounting standard update regarding revenue from contracts with customers, and in February 2016, the FASB issued an accounting standard update which amends the existing accounting standards for leases. Adoption of new standards may require changes to our processes, accounting systems, and internal controls. Difficulties encountered during adoption could result in internal control deficiencies or delay the reporting of our financial results. In addition, the passing of the Act in December 2017 caused us to significantly increase our provision for income taxes, which had a material adverse effect on our net income for the year ended June 30, 2018. Further interpretations of the Act from the government and regulatory organizations may change our tax expense provided for our transitional tax liability and deferred tax adjustments as well as our provision liability or accounting treatment of the provisional liability which may potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts.

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Risks Related to Our Pending Acquisition of Orbotech

If we are unable to complete our contemplated acquisition of Orbotech, our expected financial results and the market value of our common stock could be adversely affected.

On March 18, 2018, we entered into a definitive agreement to acquire Orbotech. Consummation of the acquisition is subject to customary conditions to closing, including the receipt of required regulatory approvals. If any condition to the closing of the acquisition is not satisfied or waived, the acquisition will not be completed. We and Orbotech also may terminate the acquisition agreement under certain circumstances. Any or all of the preceding could jeopardize our ability to consummate the acquisition on the already negotiated terms. To the extent the acquisition is not completed for any reason, we would have devoted substantial resources and management attention to the transaction without realizing the accompanying benefits expected by our management, and our financial condition and results of operations and the market value of our stock may be adversely affected. Additional risks and uncertainties associated with the acquisition include:

- the failure to consummate the acquisition may result in negative publicity and a negative impression of us in the investment community;
- we and Orbotech may be subject to additional proceedings in the future, which may effect the closing of the acquisition within the expected time frame, or at all;
- required regulatory approvals from governmental entities may delay the acquisition or result in the imposition of conditions that could cause the abandonment of the acquisition;
- the attention of our employees and management may be diverted due to activities related to the acquisition; and
- disruptions from the acquisition, whether completed or not, may harm our relationships with our employees, customers, distributors, suppliers or other business partners.

Even if the Orbotech acquisition is consummated, we may not be able to integrate the business of Orbotech successfully with our own or realize the anticipated benefits of the acquisition.

The acquisition involves the combination of two companies that currently operate as independent public companies. The combined company will be required to devote significant management attention and resources to integrating our business practices with those of Orbotech. Potential difficulties that the combined company may encounter as part of the integration process include the following:

- the inability to successfully combine our business with Orbotech in a manner that permits the combined company to achieve the cost synergies and other benefits anticipated to result from the acquisition;
- required regulatory approvals from governmental entities may result in limitations, additional costs or placement of restrictions on the conduct of the combined company, imposition of additional material costs on or materially limiting the revenues of the combined company following the acquisition;
- complexities associated with managing the combined businesses, including difficulty addressing possible differences in corporate cultures and management philosophies; and
- potential unknown liabilities and unforeseen increased expenses or delays associated with the acquisition.

In addition, we have operated and, until the completion of the acquisition will continue to operate, independently. It is possible that the integration process could result in:

- diversion of the attention of our management; and
- the disruption of, or the loss of momentum in, our ongoing business or inconsistencies in standards, controls, procedures or policies,

any of which could adversely affect our ability to maintain relationships with customers, suppliers, employees and other constituencies or our ability to achieve the anticipated benefits of the acquisition, or could reduce our earnings or otherwise adversely affect the business and financial results of the combined company.

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The combined company is expected to incur substantial expenses related to the acquisition of and the integration of Orbotech.

We have incurred and expect to continue to incur substantial expenses in connection with the acquisition of and the integration of Orbotech. There are a large number of processes, policies, procedures, operations, technologies and systems that may need to be integrated, including purchasing, accounting and finance, sales, payroll, pricing, marketing and benefits. While we have assumed that a certain level of expenses will be incurred, there are many factors beyond our or their control that could affect the total amount or the timing of the integration expenses. Moreover, many of the expenses that will be incurred are, by their nature, difficult to estimate accurately. These expenses could, particularly in the near term, exceed the savings that the combined company expects to achieve from the elimination of duplicative expenses and the realization of economies of scale and cost savings. These integration expenses likely will result in the combined company taking charges against earnings following the completion of the acquisition, and the amount and timing of such charges are uncertain at present.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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ITEM 2. PROPERTIES

Information regarding our principal properties as of June 30, 2018 is set forth below:

Location	Type	Principal Use	Square Footage	Ownership
Milpitas, CA	Office, plant and warehouse	Principal Executive Offices, Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	727,302	Owned
Serangoon, Singapore(2)	Office and plant	Sales, Service and Manufacturing	248,155	Owned
Migdal Ha'Emek, Israel	Office and plant	Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	191,982	Owned
Westwood, MA(1)	Office and plant	Engineering, Marketing, Manufacturing and Service	146,742	Leased
Weilburg, Germany	Office and plant	Engineering, Marketing, Manufacturing, Service and Sales Administration	138,119	Leased
Hsinchu, Taiwan	Office	Sales and Service	73,676	Leased
Leuven, Belgium(1)	Office, plant and warehouse	Engineering, Marketing and Service and Sales Administration	60,654	Owned
Shanghai, China	Office	Research, Service and Sales Administration	56,790	Leased
Shenzhen, China	Office and plant	Sales, Service and Manufacturing	47,840	Leased
Chennai, India	Office	Engineering	46,351	Leased
Chennai, India	Office	Engineering	33,366	Owned
Yokohama, Japan	Office and warehouse	Sales and Service	27,079	Leased

(1) Portions of this property are sublet, are vacant and marketed to sublease, or are leased to third parties.

(2) We own the building at our location in Serangoon, Singapore, but the land on which this building resides is leased.

As of June 30, 2018, we owned or leased a total of approximately 2.1 million square feet of space worldwide, including the locations listed above and office space for smaller sales and service offices in several locations throughout the world. Our operating leases expire at various times through November 8, 2028, subject to renewal, with some of the leases containing renewal option clauses at the fair market value, for additional periods up to five years. Additional information regarding these leases is incorporated herein by reference to Note 13, "Commitments and Contingencies" to the consolidated financial statements. We believe our properties are adequately maintained and suitable for their intended use and that our production facilities have capacity adequate for our current needs.

ITEM 3. LEGAL PROCEEDINGS

The information set forth below under Note 14, "Litigation and Other Legal Matters" to the consolidated financial statements is incorporated herein by reference.

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

Our common stock is listed and traded on the NASDAQ Global Select Market under the symbol "KLAC."

The prices per share reflected in the following table represent the high and low prices for our common stock on the NASDAQ Global Select Market for the periods indicated:

	Year ended June 30, 2018			Year ended June 30, 2017		
	High	Low	Cash Dividends Declared per share	High	Low	Cash Dividends Declared per share
First Fiscal Quarter	$106.09	$87.93	$ 0.59	$77.85	$66.88	$ 0.52
Second Fiscal Quarter	$114.43	$98.91	$ 0.59	$83.23	$69.75	$ 0.54
Third Fiscal Quarter	$123.96	$96.12	$ 0.59	$96.91	$77.86	$ 0.54
Fourth Fiscal Quarter	$118.56	$97.94	$ 0.75	$109.59	$91.09	$ 0.54

On August 2, 2018, we announced that our Board of Directors had declared a quarterly cash dividend of $0.75 per share to be paid on August 31, 2018 to stockholders of record as of the close of business on August 15, 2018.

As of July 13, 2018, there were 375 holders of record of our common stock.

Equity Repurchase Plans

The following is a summary of stock repurchases for each month during the fourth quarter of the fiscal year ended June 30, 2018[1]:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Approximate Dollar Value that May Yet Be Purchased Under the Plans or Programs (2)
April 1, 2018 to April 30, 2018	—	$ —	$ 1,000,000,000
May 1, 2018 to May 31, 2018	290,400	$ 110.00	$ 968,055,978
June 1, 2018 to June 30, 2018	52,800	$ 116.69	$ 961,894,818
Total	343,200	$ 111.03	

(1) On March 16, 2018, our Board of Directors authorized a new repurchase program which permits us to repurchase up to $1.00 billion of our common stock, or up to $2.00 billion if the Orbotech Merger closes. Shares are reported based on the trade date of the applicable repurchase.

(2) The stock repurchase program has no expiration date and may be suspended at any time. Future repurchases of our common stock under our repurchase program may be effected through various different repurchase transaction structures, including isolated open market transactions or systematic repurchase plans.

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Stock Performance Graph and Cumulative Total Return

Notwithstanding any statement to the contrary in any of our previous or future filings with the Securities and Exchange Commission, the following information relating to the price performance of our common stock shall not be deemed "filed" with the Commission or "soliciting material" under the Securities Exchange Act of 1934 and shall not be incorporated by reference into any such filings.

The following graph compares the cumulative 5-year total return attained by stockholders on our common stock relative to the cumulative total returns of the S&P 500 Index (as required by SEC regulations) and the Philadelphia Semiconductor Index (PHLX). 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) from June 30, 2013 to June 30, 2018.

	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018
KLA-Tencor Corporation	$100.00	$134.17	$133.10	$179.39	$230.12	$264.19
S&P 500	$100.00	$124.61	$133.86	$139.20	$164.11	$187.70
PHLX Semiconductor	$100.00	$134.53	$138.83	$150.22	$208.31	$271.06

* Assumes $100 invested on June 30, 2013 in stock or index, including reinvestment of dividends.

Our fiscal year ends June 30. The comparisons in the graph above are based upon historical data and are not necessarily indicative of, nor intended to forecast, future stock price performance.

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ITEM 6. SELECTED FINANCIAL DATA

The following tables include selected consolidated summary financial data for each of our last five fiscal years. This data should be read in conjunction with Item 8, "Financial Statements and Supplementary Data," and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K.

	Year ended June 30,				
(In thousands, except per share amounts)	2018	2017	2016	2015	2014
Consolidated Statements of Operations:					
Total revenues	$4,036,701	$3,480,014	$2,984,493	$2,814,049	$2,929,408
Net income[1]	$802,265	$926,076	$704,422	$366,158	$582,755
Cash dividends declared per share (including a special cash dividend of $16.50 per share declared during the three months ended December 31, 2014)	$2.52	$2.14	$2.08	$18.50	$1.80
Net income per share:					
Basic	$5.13	$5.92	$4.52	$2.26	$3.51
Diluted	$5.10	$5.88	$4.49	$2.24	$3.47

	As of June 30,				
	2018	2017	2016	2015	2014
Consolidated Balance Sheets:					
Cash, cash equivalents and marketable securities	$2,880,318	$3,016,740	$2,491,294	$2,387,111	$3,152,637
Working capital[2]	$3,330,917	$3,098,904	$2,865,609	$2,902,813	$3,690,484
Total assets	$5,619,356	$5,532,173	$4,962,432	$4,826,012	$5,535,846
Long-term debt[3]	$2,237,402	$2,680,474	$3,057,936	$3,173,435	$745,101
Total stockholders' equity[3]	$1,620,511	$1,326,417	$689,114	$421,439	$3,669,346

(1) Our net income decreased to $802.3 million in the fiscal year ended June 30, 2018, primarily as a result of the income tax effects from the enacted tax reform legislation through the Tax Cuts and Jobs Act, which was signed into law on December 22, 2017. Our net income decreased to $366.2 million in the fiscal year ended June 30, 2015, primarily as a result of the impact of the pre-tax net loss of $131.7 million for the loss on extinguishment of debt and certain one-time expenses of $2.5 million associated with the leveraged recapitalization that was completed during the three months ended December 31, 2014.

(2) We adopted the accounting standards update regarding classification of deferred taxes on a prospective basis at the beginning of the fourth quarter of fiscal year ended 2016. Upon adoption, approximately $218.0 million in net current deferred tax assets were reclassified to noncurrent. No prior periods were retrospectively adjusted.

(3) Our long-term debt increased to $3.17 billion at the end of fiscal year ended June 30, 2015, because, as part of the leveraged recapitalization plan, we issued $2.50 billion aggregate principal amount of senior, unsecured long-term notes (collectively referred to as "Senior Notes"), entered into $750.0 million of five-year senior unsecured prepayable term loans and a $500.0 million unfunded revolving credit facility and redeemed our $750.0 million aggregate principal amount of 6.900% Senior Notes due in 2018 (the "2018 Notes"). Refer to Note 7, "Debt" for additional details. Our total stockholders' equity decreased to $421.4 million at the end of fiscal year ended June 30, 2015, because, as part of our leveraged recapitalization plan, we declared a special cash dividend of approximately $2.76 billion. Refer to Note 8, "Equity and Long-term Incentive Compensation Plans" to the consolidated financial statements for additional details.

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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 should be read in conjunction with our Consolidated Financial Statements and the related notes included in Item 8, "Financial Statements and Supplementary Data," in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risks and uncertainties. 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 Item 1A, "Risk Factors" and elsewhere in this Annual Report on Form 10-K. (See "Special Note Regarding Forward-Looking Statements.")

CRITICAL ACCOUNTING ESTIMATES AND POLICIES

The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions in applying our accounting policies that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We base these estimates and assumptions on historical experience, and evaluate them on an ongoing basis to ensure that they remain reasonable under current conditions. Actual results could differ from those estimates. We discuss the development and selection of the critical accounting estimates with the Audit Committee of our Board of Directors on a quarterly basis, and the Audit Committee has reviewed our related disclosure in this Annual Report on Form 10-K. The accounting policies that reflect our more significant estimates, judgments and assumptions and which we believe are the most critical to aid in fully understanding and evaluating our reported financial results include the following:

Revenue Recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the selling price is fixed or determinable, and collectibility is reasonably assured. We derive revenue from three sources—sales of systems, spare parts and services. In general, we recognize revenue for systems when the system has been installed, is operating according to predetermined specifications and is accepted by the customer. When we have demonstrated a history of successful installation and acceptance, we recognize revenue upon delivery and customer acceptance. Under certain circumstances, however, we recognize revenue prior to acceptance from the customer, as follows:

- When the customer fab has previously accepted the same tool, with the same specifications, and when we can objectively demonstrate that the tool meets all of the required acceptance criteria.
- When system sales to independent distributors have no installation requirement, contain no acceptance agreement, and 100% of the payment is due based upon shipment.
- When the installation of the system is deemed perfunctory.
- When the customer withholds acceptance due to issues unrelated to product performance, in which case revenue is recognized when the system is performing as intended and meets predetermined specifications.

In circumstances in which we recognize revenue prior to installation, the portion of revenue associated with installation is deferred based on estimated fair value, and that revenue is recognized upon completion of the installation.

In many instances, products are sold in stand-alone arrangements. Services are sold separately through renewals of annual maintenance contracts. We have multiple element revenue arrangements in cases where certain elements of a sales arrangement are not delivered and accepted in one reporting period. To determine the relative fair value of each element in a revenue arrangement, we allocate arrangement consideration based on the selling price hierarchy. For substantially all of the arrangements with multiple deliverables pertaining to products and services, we use vendor-specific objective evidence ("VSOE") or third-party evidence ("TPE") to allocate the selling price to each deliverable. We determine TPE based on historical prices charged for products and services when sold on a stand-alone basis. When we are unable to establish relative selling price using VSOE or TPE, we use estimated selling price ("ESP") in our allocation of arrangement consideration. The objective of ESP is to determine the price at which we would transact a sale if the product or service were sold on a stand-alone basis. ESP could potentially be used for new or customized products. We regularly review relative selling prices and maintain internal controls over the establishment and updates of these estimates.

In a multiple element revenue arrangement, we defer revenue recognition associated with the relative fair value of each undelivered element until that element is delivered to the customer. To be considered a separate element, the product or service in question must represent a separate unit of accounting, which means that such product or service must fulfill the following criteria: (a) the delivered item(s) has value to the customer on a stand-alone basis; and (b) if the arrangement includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered item(s) is considered probable and substantially in our control. If the arrangement does not meet all the above criteria, the entire amount of the sales contract is deferred until all elements are accepted by the customer.

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Trade-in rights are occasionally granted to customers to trade in tools in connection with subsequent purchases. We estimate the value of the trade-in right and reduce the revenue recognized on the initial sale. This amount is recognized at the earlier of the exercise of the trade-in right or the expiration of the trade-in right.

We enter into volume purchase agreements with some of our customers. We accrue the estimated credits earned by our customers for such incentives, and in situations when the credit levels vary depending upon sales volume, we update our accrual based on the amount that we estimate will be purchased pursuant to the volume purchase agreements. Accruals for customer credits are recorded as an offset to revenue or deferred revenue.

Spare parts revenue is recognized when the parts have been shipped, risk of loss has passed to the customer and collection of the resulting receivable is reasonably assured.

Service and maintenance contract revenue is recognized ratably over the term of the maintenance contract. Revenue from services performed in the absence of a maintenance contract, including consulting and training revenue, is recognized when the related services are performed and collectibility is reasonably assured.

We sell stand-alone software that is subject to software revenue recognition guidance. We periodically review selling prices to determine whether VSOE exists, and in situations where we are unable to establish VSOE for undelivered elements such as post-contract service, revenue is recognized ratably over the term of the service contract.

We also defer the fair value of non-standard warranty bundled with equipment sales as unearned revenue. Non-standard warranty includes services incremental to the standard 40-hour per week coverage for 12 months. Non-standard warranty is recognized ratably as revenue when the applicable warranty term period commences.

The deferred system profit balance equals the value of products that have been shipped and billed to customers which have not met our revenue recognition criteria, less applicable product and warranty costs. Deferred system profit does not include the profit associated with product shipments to certain customers in Japan, to whom title does not transfer until customer acceptance. Shipments to such customers in Japan are classified as inventory at cost until the time of acceptance.

We enter into sales arrangements that may consist of multiple deliverables of our products and services where certain elements of the sales arrangement are not delivered and accepted in one reporting period. Judgment is required to properly identify the accounting units of the multiple deliverable transactions and to determine the manner in which revenue should be allocated among the accounting units. Additionally, judgment is required to interpret various commercial terms and determine when all criteria of revenue recognition have been met in order for revenue recognition to occur in the appropriate accounting period. While changes in the allocation of the estimated selling price between the accounting units will not affect the amount of total revenue recognized for a particular arrangement, any material changes in these allocations could impact the timing of revenue recognition, which could have a material effect on our financial position and results of operations.

Inventories. Inventories are stated at the lower of cost (on a first-in, first-out basis) or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Demonstration units are stated at their manufacturing cost and written down to their net realizable value. We review and set standard costs semi-annually at current manufacturing costs in order to approximate actual costs. Our manufacturing overhead standards for product costs are calculated assuming full absorption of forecasted spending over projected volumes, adjusted for excess capacity. Abnormal inventory costs such as costs of idle facilities, excess freight and handling costs, and spoilage are recognized as current period charges. We write down product inventory based on forecasted demand and technological obsolescence and service spare parts inventory based on forecasted usage. These factors are impacted by market and economic conditions, technology changes, new product introductions and changes in strategic direction and require estimates that may include uncertain elements. Actual demand may differ from forecasted demand, and such differences may have a material effect on recorded inventory values.

Allowance for Doubtful Accounts. A majority of our accounts receivables are derived from sales to large multinational semiconductor manufacturers throughout the world. In order to monitor potential credit losses, we perform ongoing credit evaluations of our customers' financial condition. An allowance for doubtful accounts is maintained for probable credit losses based upon our assessment of the expected collectibility of the accounts receivable. The allowance for doubtful accounts is reviewed on a quarterly basis to assess the adequacy of the

allowance. We take into consideration (1) any circumstances of which we are aware of a customer's inability to meet its financial obligations; and (2) our judgments as to prevailing economic conditions in the industry and their impact on our customers. If circumstances change, such that the financial conditions of our customers are adversely affected and they are unable to meet their financial obligations to us, we may need to record additional allowances, which would result in a reduction of our net income.

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Accounting for Stock-Based Compensation Plans. We account for stock-based awards granted to employees for services based on the fair value of those awards. The fair value of stock-based awards is measured at the grant date and is recognized as expense over the employee's requisite service period. The fair value for restricted stock units granted without "dividend equivalent" rights is determined using the closing price of our common stock on the grant date, adjusted to exclude the present value of dividends which are not accrued on the restricted stock units. The fair value for restricted stock units granted with "dividend equivalent" rights is determined using the closing price of our common stock on the grant date. The award holder is not entitled to receive payments under dividend equivalent rights unless the associated restricted stock unit award vests (i.e., the award holder is entitled to receive credits, payable in cash or shares of our common stock, equal to the cash dividends that would have been received on the shares of our common stock underlying the restricted stock units had the shares been issued and outstanding on the dividend record date, but such dividend equivalents are only paid subject to the recipient satisfying the vesting requirements of the underlying award). Additionally, we estimate forfeitures based on historical experience and revise those estimates in subsequent periods if actual forfeitures differ from the estimated amounts. The fair value is determined using a Black-Scholes valuation model for purchase rights under our Employee Stock Purchase Plan. The Black-Scholes option-pricing model requires the input of assumptions, including the option's expected term and the expected price volatility of the underlying stock. The expected stock price volatility assumption is based on the market-based historical implied volatility from traded options of our common stock.

Contingencies and Litigation. We are subject to the possibility of losses from various contingencies. Considerable judgment is necessary to estimate the probability and amount of any loss from such contingencies. An accrual is made when it is probable that a liability has been incurred or an asset has been impaired and the amount of loss can be reasonably estimated. We accrue a liability and recognize as expense the estimated costs expected to be incurred over the next twelve months to defend or settle asserted and unasserted claims existing as of the balance sheet date. See Note 13, "Commitments and Contingencies" and Note 14, "Litigation and Other Legal Matters" to the Consolidated Financial Statements for additional details.

Goodwill and Intangible Assets. We assess goodwill for impairment annually as well as whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Long-lived purchased intangible assets are tested for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. See Note 6, "Goodwill and Purchased Intangible Assets" to the Consolidated Financial Statements for additional details. Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in each business combination. We performed our annual qualitative assessment of the goodwill by reporting unit during the fiscal year ended June 30, 2018 and concluded that there was no impairment. There have been no significant events or circumstances affecting the valuation of goodwill subsequent to our annual impairment test. The next annual evaluation of the goodwill by reporting unit will be performed in the third quarter of the fiscal year ending June 30, 2019.

If we were to encounter challenging economic conditions, such as a decline in our operating results, an unfavorable industry or macroeconomic environment, a substantial decline in our stock price, or any other adverse change in market conditions, we may be required to perform the two-step quantitative goodwill impairment analysis. In addition, if such conditions have the effect of changing one of the critical assumptions or estimates we use to calculate the value of our goodwill or intangible assets, we may be required to record goodwill and/or intangible asset impairment charges in future periods, whether in connection with our next annual impairment assessment or prior to that, if any triggering event occurs outside of the quarter during which the annual goodwill impairment assessment is performed. It is not possible at this time to determine if any such future impairment charge would occur or, if it does, whether such charge would be material to our results of operations.

Income Taxes. We account for income taxes in accordance with the authoritative guidance, which requires income tax effects for changes in tax laws are recognized in the period in which the law is enacted.

Transition tax liability is recognized in the period when the change in the U.S. tax law was enacted and the income tax effects are recorded as a component of provision for income taxes from continuing operations. The calculation of the transition tax liability includes assumptions and reasonable estimates of the income tax effects and are based on provisional tax amounts. Several inputs were considered in the calculation, such as the calculation of the post-1986

foreign earnings and profit ("E&P"), income tax pools for all foreign subsidiaries, and the amount of those earnings held in cash and other specified assets. We applied the current interpretations from the U.S. federal and state governments and regulatory organization in our calculation of the transition tax liability and our reasonable estimate of the transition tax liability could change if further interpretations are provided for in the future. We expect to fully complete our provisional transition tax liability calculation within the reasonable measurement period allowed by the authoritative guidance.

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Deferred tax assets and liabilities are recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. The guidance also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized. We have determined that a valuation allowance is necessary against a portion of the deferred tax assets, but we anticipate that our future taxable income will be sufficient to recover the remainder of our deferred tax assets. However, should there be a change in our ability to recover our deferred tax assets that are not subject to a valuation allowance, we could be required to record an additional valuation allowance against such deferred tax assets. This would result in an increase to our tax provision in the period in which we determine that the recovery is not probable.
On a quarterly basis, we provide for income taxes based upon an estimated annual effective income tax rate. The effective tax rate is highly dependent upon the geographic composition of worldwide earnings, tax regulations governing each region, availability of tax credits and the effectiveness of our tax planning strategies. We carefully monitor the changes in many factors and adjust our effective income tax rate on a timely basis. If actual results differ from these estimates, this could have a material effect on our financial condition and results of operations.
In addition, the calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. In accordance with the authoritative guidance on accounting for uncertainty in income taxes, we recognize liabilities for uncertain tax positions based on the two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained in audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement. We reevaluate these 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 these factors could result in the recognition of a tax benefit or an additional charge to the tax provision.
Valuation of Marketable Securities. Our investments in available-for-sale securities are reported at fair value. Unrealized gains related to increases in the fair value of investments and unrealized losses related to decreases in the fair value are included in accumulated other comprehensive income (loss), net of tax, as reported on our Consolidated Statements of Stockholders' Equity. However, changes in the fair value of investments impact our net income only when such investments are sold or an impairment charge is recognized. Realized gains and losses on the sale of securities are determined by specific identification of the security's cost basis. We periodically review our investment portfolio to determine if any investment is other-than-temporarily impaired due to changes in credit risk or other potential valuation concerns, which would require us to record an impairment charge in the period during which any such determination is made. In making this judgment, we evaluate, among other things, the duration of the investment, the extent to which the fair value of an investment is less than its cost, the credit rating and any changes in credit rating for the investment, default and loss rates of the underlying collateral, structure and credit enhancements to determine if a credit loss may exist. Our assessment that an investment is not other-than-temporarily impaired could change in the future due to new developments or changes in our strategies or assumptions related to any particular investment.
Recent Accounting Pronouncements
For a description of recent accounting pronouncements, including those recently adopted and the expected dates of adoption as well as estimated effects, if any, on our consolidated financial statements of those not yet adopted, see Note 1, "Description of Business and Summary of Significant Accounting Policies" of the Notes to Consolidated Financial Statements.

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EXECUTIVE SUMMARY

KLA-Tencor Corporation is a leading supplier of process control and yield management solutions for the semiconductor and related nanoelectronics industries. Our broad portfolio of inspection and metrology products, and related service, software and other offerings primarily supports integrated circuit ("IC" or "chip") manufacturers throughout the entire semiconductor fabrication process, from research and development to final volume production. We provide leading edge equipment, software and support that enable IC manufacturers to identify, resolve and manage significant advanced technology manufacturing process challenges and obtain higher finished product yields at lower overall cost. In addition to serving the semiconductor industry, we also provide a range of technology solutions to a number of other high technology industries, including advanced packaging, light emitting diode ("LED"), power devices, compound semiconductor, and data storage industries, as well as general materials research.

Our products and services are used by the vast majority of bare wafer, IC, lithography reticle ("reticle" or "mask") and hard disk drive manufacturers around the world. Our products, services and expertise are used by our customers to measure, detect, analyze and resolve critical product defects that arise in that environment in order to control nanometric level manufacturing processes. Our revenues are driven largely by our customers' spending on capital equipment and related maintenance services necessary to support key transitions in their underlying product technologies, or to increase their production volumes in response to market demand or expansion plans. Our semiconductor customers generally operate in one or more of the three major semiconductor markets - memory, foundry and logic. All three of these markets are characterized by rapid technological changes and sudden shifts in end-user demand, which influence the level and pattern of our customers' spending on our products and services. Although capital spending in all three semiconductor markets has historically been very cyclical, the demand for more advanced and lower cost chips used in a growing number of consumer electronics, communications, data processing, and industrial and automotive products has resulted over the long term in a favorable demand environment for our process control and yield management solutions, particularly in the foundry and logic markets, which have higher levels of process control adoption than the memory market.

As we are a supplier to the global semiconductor and semiconductor-related industries, our customer base continues to become more highly concentrated over time, thereby increasing the potential impact of a sudden change in capital spending by a major customer on our revenues and profitability. As our customer base becomes increasingly more concentrated, large orders from a relatively limited number of customers account for a substantial portion of our sales, which potentially exposes us to more volatility for revenues and earnings. In the global semiconductor related industries, China is emerging as a major region for manufacturing of logic and memory chips, adding to its role as the world's largest consumer of ICs. Government initiatives are propelling China to expand its domestic manufacturing capacity and attracting semiconductor manufacturers from Taiwan, Korea, Japan and the US. China is currently seen as an important long-term growth region for the semiconductor capital equipment sector. We are also subject to the cyclical capital spending that has historically characterized the semiconductor and semiconductor-related industries. The timing, length, intensity and volatility of the capacity-oriented capital spending cycles of our customers are unpredictable.

The semiconductor industry has also been characterized by constant technological innovation. Currently, there are multiple drivers for growth in the industry with increased demand for chips providing computation power and connectivity for Artificial Intelligence ("AI") applications and support for mobile devices at the leading edge of foundry and logic chip manufacturing. Qualification of early extreme ultraviolet ("EUV") lithography processes and equipment is driving growth at leading logic/foundry and dynamic random-access memory ("DRAM") manufacturers. Expansion of the Internet of Things ("IoT") together with increasing acceptance of advanced driver assistance systems ("ADAS") in anticipation of the introduction of autonomous cars have begun to accelerate legacy-node technology conversions and capacity expansions. Intertwined in these areas, spurred by data storage and connectivity needs, is the growth in demand for memory chips. On the other hand, higher design costs for the most advanced ICs could economically constrain leading-edge manufacturing technology customers to focus their resources on only the large technologically advanced products and applications. We believe that, over the long term, our customers will continue to invest in advanced technologies and new materials to enable smaller design rules and higher density applications that fuel demand for process control equipment, although the growth for such equipment may be adversely impacted by higher

design costs for advanced ICs, reuse of installed products, and delays in production ramps by our customers in response to higher costs and technical challenges at more advanced technology nodes.

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The demand for our products and our revenue levels are driven by our customers' needs to solve the process challenges that they face as they adopt new technologies required to fabricate advanced ICs that are incorporated into sophisticated mobile devices. The timing for our customers in ordering and taking delivery of process control and yield management equipment is also determined by our customers' requirements to meet the next generation production ramp schedules, and the timing for capacity expansion to meet end customer demand. Our earnings will depend not only on our revenue levels, but also on the amount of research and development spending required to meet our customers' technology roadmaps. We have maintained production volumes and capacity to meet anticipated customer requirements and remain at risk of incurring significant inventory-related and other restructuring charges if business conditions deteriorate. Over the past year, our customers have taken delivery of higher volumes of process control equipment than they did in the previous year. However, any delay or push out by our customers in taking delivery of process control and yield management equipment may cause earnings volatility, due to increases in the risk of inventory related charges as well as timing of revenue recognition.

The following table sets forth some of our key consolidated financial information for each of our last three fiscal years:

	Year ended June 30,		
(Dollar amounts in thousands, except diluted net income per share)	2018	2017	2016
Total revenues	$4,036,701	$3,480,014	$2,984,493
Costs of revenues	$1,447,369	$1,287,547	$1,163,391
Gross margin percentage	64 %	63 %	61 %
Net income	$802,265	$926,076	$704,422
Diluted net income per share	$5.10	$5.88	$4.49

Total revenues during the fiscal year ended June 30, 2018 increased by 16% compared to the fiscal year ended June 30, 2017. Our year over year revenue growth was primarily due to increases from sales of both our wafer inspection and patterning products as our customers continue to invest in process control and services, and an increase in the number of post-warranty systems installed at our customers' sites over this time period for our service revenues.

Total revenues during the fiscal year ended June 30, 2017 increased by 17% compared to the fiscal year ended June 30, 2016. Our year over year revenue growth reflected increases from sales of both our inspection and metrology products as our customers continue to invest in process control and services. Increased revenues during the fiscal year ended June 30, 2017 were also driven by strong demand from our foundry customers and an increase in the number of post-warranty systems installed at our customers' sites over this time period for our service revenues.

Proposed Merger with Orbotech, Ltd.

On March 18, 2018, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with Orbotech, Ltd. ("Orbotech") pursuant to which we would acquire Orbotech for $38.86 in cash and 0.25 of a share of our common stock in exchange for each ordinary share of Orbotech, which at the time of announcement valued Orbotech at $3.2 billion in enterprise value. The merger contemplated by the Merger Agreement (the "Orbotech Merger") is subject to receipt of required regulatory approvals and satisfaction of the other customary closing conditions. We intend to fund the cash portion of the purchase price with cash from the combined company's balance sheet.

In addition, we announced a $2 billion share repurchase authorization. The share repurchase program is targeted to be completed within 12 to 18 months following the close of this transaction. We intend to raise approximately $1 billion in new long-term debt financing to complete the share repurchase

For additional details, refer to Note 1 "Description of Business and Summary of Significant Accounting Policies" to the consolidated financial statements, and Item 1A, "Risk Factors".

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Revenues and Gross Margin

	Year ended June 30,						
(Dollar amounts in thousands)	2018	2017	2016	FY18 vs. FY17		FY17 vs. FY16	
Revenues:							
Product	$3,160,671	$2,703,934	$2,250,260	$456,737	17%	$453,674	20%
Service	876,030	776,080	734,233	99,950	13%	41,847	6 %
Total revenues	$4,036,701	$3,480,014	$2,984,493	$556,687	16%	$495,521	17%
Costs of revenues	$1,447,369	$1,287,547	$1,163,391	$159,822	12%	$124,156	11%
Gross margin percentage	64 %	63 %	61 %	1 %		2 %	

Product revenues

Our business is affected by the concentration of our customer base and our customers' capital equipment procurement schedules as a result of their investment plans. Our product revenues in any particular period are significantly impacted by the amount of new orders that we receive during that period and, depending upon the duration of manufacturing and installation cycles, in the preceding period.

Product revenues increased by 17% in the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017, primarily due to growth in revenues from our customers in Korea, China, and Japan. Our year over year increase in our product revenues were primarily driven by increased investments from our memory and wafer customers for next generation technology as well as capacity-related investments.

Product revenues increased by 20% in the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016, primarily due to growth in revenues from our customers in Korea, Taiwan, and Europe & Israel. Our year over year increase in our product revenues were primarily driven by strong demand for our inspection and metrology products, increased investments by our foundry customers to support their new device architectures and, and sales of our next generation inspection products.

Service revenues

Service revenues are generated from maintenance contracts, as well as billable time and material service calls made to our customers after the expiration of the warranty period. The amount of our service revenues is typically a function of the number of post-warranty systems installed at our customers' sites and the utilization of those systems, but it is also impacted by other factors, such as our rate of service contract renewals, the types of systems being serviced and fluctuations in foreign exchange rates. Service revenues increased sequentially over the fiscal years ended June 30, 2016, 2017 and 2018, primarily as a result of an increase over time in the number of post-warranty systems installed at our customers' sites over that time period.

Revenues - Top Customers

The following customers each accounted for more than 10% of our total revenues for the indicated periods:

Year ended June 30,		
2018	2017	2016
Samsung Electronics Co., Ltd.	Samsung Electronics Co., Ltd.	Micron Technology, Inc.
	Taiwan Semiconductor Manufacturing Company Limited	Taiwan Semiconductor Manufacturing Company Limited

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Revenues by region

Revenues by region for the periods indicated were as follows:

	Year ended June 30,								
(Dollar amounts in thousands)	2018			2017			2016		
Korea	$1,178,601	29	%	$688,094	20	%	$367,905	12	%
China	643,033	16	%	412,098	12	%	430,074	14	%
Japan	638,358	16	%	351,202	10	%	444,216	15	%
Taiwan	636,363	16	%	1,104,307	32	%	894,557	30	%
North America	494,330	12	%	523,024	14	%	521,335	18	%
Europe & Israel	300,883	7	%	263,789	8	%	167,936	6	%
Rest of Asia	145,133	4	%	137,500	4	%	158,470	5	%
Total	$4,036,701	100	%	$3,480,014	100	%	$2,984,493	100	%

A significant portion of our revenues continues to be generated in Asia, where a substantial portion of the world's semiconductor manufacturing capacity is located, and we expect that trend to continue.

Gross margin

Our gross margin fluctuates with revenue levels and product mix and is affected by variations in costs related to manufacturing and servicing our products, including our ability to scale our operations efficiently and effectively in response to prevailing business conditions.

The following table summarizes the major factors that contributed to the changes in gross margin percentage:

	Gross Margin Percentage	
Fiscal year ended June 30, 2016	61.0	%
Revenue volume of products and services	1.5	%
Mix of products and services sold	0.6	%
Manufacturing labor, overhead and efficiencies	—	%
Other service and manufacturing costs	(0.1	)%
Fiscal year ended June 30, 2017	63.0	%
Revenue volume of products and services	0.8	%
Mix of products and services sold	0.9	%
Manufacturing labor, overhead and efficiencies	(0.4	)%
Other service and manufacturing costs	(0.2	)%
Fiscal year ended June 30, 2018	64.1	%

Changes in gross margin percentage driven by revenue volume of products and services reflect our ability to leverage existing infrastructure to generate higher revenues. It also includes the effect of fluctuations in foreign exchange rates, average customer pricing and customer revenue deferrals associated with volume purchase agreements. Changes in gross margin percentage from mix of products and services sold reflect the impact of changes in the composition within product and service offerings. Changes in gross margin percentage from manufacturing labor, overhead and efficiencies reflect our ability to manage costs and drive productivity as we scale our manufacturing activity to respond to customer requirements; this includes the impact of capacity utilization, use of overtime and variability of cost structure. Changes in gross margin percentage from other service and manufacturing costs include the impact of customer support costs, including the efficiencies with which we deliver services to our customers, and the effectiveness with which we manage our production plans and inventory risk.

Our gross margin increased to 64.1% during the fiscal year ended June 30, 2018 from 63.0% during the fiscal year ended June 30, 2017, primarily due to a favorable mix of products and services sold, a higher revenue volume of products and services, and lower customer support costs, partially offset by higher manufacturing and service costs to support increased volume of product shipments.

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Our gross margin increased to 63.0% during the fiscal year ended June 30, 2017 from 61.0% during the fiscal year ended June 30, 2016, primarily due to a higher revenue volume of products and services and a favorable mix of products and services sold, partially offset by other service and manufacturing costs.

Research and Development ("R&D")

	Year ended June 30,				
(Dollar amounts in thousands)	2018	2017	2016	FY18 vs. FY17	FY17 vs. FY16
R&D expenses	$608,712	$526,870	$481,258	$81,842 16%	$45,612 9%
R&D expenses as a percentage of total revenues	15 %	15 %	16 %	— %	(1)%

R&D expenses may fluctuate with product development phases and project timing as well as our focused R&D efforts that are aligned with our overall business strategy. As technological innovation is essential to our success, we may incur significant costs associated with R&D projects, including compensation for engineering talent, engineering material costs, and other expenses.

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R&D expenses during the fiscal year ended June 30, 2018 were higher compared to the fiscal year ended June 30, 2017, primarily due to an increase in employee-related expenses of $39.0 million as a result of additional engineering headcount, higher variable compensation, and higher employee benefit costs and an increase in engineering materials and supplies expenses of $32.7 million.

R&D expenses during the fiscal year ended June 30, 2017 were higher compared to the fiscal year ended June 30, 2016, primarily due to an increase in employee-related expenses of $25.4 million as a result of additional engineering headcount, higher variable compensation, and higher employee benefit costs, an increase in consulting expenses of $12.5 million, and an increase in engineering materials and supplies expenses of $9.9 million, partially offset by a decrease in depreciation expense of $7.3 million.

Our future operating results will depend significantly on our ability to produce products and provide services that have a competitive advantage in our marketplace. To do this, we believe that we must continue to make substantial and focused investments in our research and development. We remain committed to product development in new and emerging technologies as we address the yield challenges our customers face at future technology nodes.

Selling, General and Administrative ("SG&A")

	Year ended June 30,						
(Dollar amounts in thousands)	2018	2017	2016	FY18 vs. FY17		FY17 vs. FY16	
SG&A expenses	$443,426	$389,336	$379,399	$54,090	14%	$9,937	3%
SG&A expenses as a percentage of total revenues	11 %	11 %	13 %	—	%	(2	)%

SG&A expenses during the fiscal year ended June 30, 2018 were higher compared to the fiscal year ended June 30, 2017, primarily due to an increase in employee-related expenses of $36.5 million mainly as a result of additional headcount, higher variable compensation and employee benefit costs, an increase in Orbotech merger-related expense of $10.6 million, an increase in facilities-related expense of $4.8 million, and an increase in travel-related costs of $4.6 million, partially offset by $9.3 million of lower Lam Research Corporation merger-related expenses.

SG&A expenses during the fiscal year ended June 30, 2017 were higher compared to the fiscal year ended June 30, 2016, primarily due to an increase in consulting expenses of $7.1 million, an increase in employee-related expenses of $6.7 million mainly as a result of higher variable compensation and employee benefit costs, partially offset by a decrease in merger-related expenses of $6.6 million.

Restructuring Charges

During the fourth quarter of the fiscal year ended 2015, we announced a plan to reduce our global employee workforce to streamline our organization and business processes in response to changing customer requirements in its industry. The goals of this reduction were to enable continued innovation, direct our resources toward its best opportunities and lower our ongoing expense run rate.

We completed our global workforce reduction during the second quarter of the fiscal year ended June 30, 2017. Restructuring charges for the fiscal year ended June 30, 2017 was immaterial. Restructuring charges for the year ended June 30, 2016 were $8.9 million, of which $3.6 million were related to cost of revenues, $1.6 million to research and development expense and $3.7 million to selling, general and administrative expense lines of the consolidated statements of operations.

Interest Expense and Other Expense (Income), Net

	Year ended June 30,		
(Dollar amounts in thousands)	2018	2017	2016
Interest expense	$114,376	$122,476	$122,887
Other expense (income), net	$(33,113)	$(19,461)	$(20,634)
Interest expense as a percentage of total revenues	3 %	4 %	4 %
Other expense (income), net as a percentage of total revenues	1 %	1 %	1 %

The decrease in interest expense during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017, was primarily due to a $250.0 million repayment of the Senior Notes at maturity and prepayment of term loans.

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During the fiscal year ended June 30, 2017 interest expense remained relatively unchanged compared to the fiscal year ended June 30, 2016.

Other expense (income), net is comprised primarily of realized gains or losses on sales of marketable securities, gains or losses from revaluations of certain foreign currency denominated assets and liabilities as well as foreign currency contracts, impairments associated with equity investments in privately-held companies, interest related accruals (such as interest and penalty accruals related to our tax obligations) and interest income earned on our investment and cash portfolio.

The increase in other expense (income), net during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017 was primarily due to an increase in interest income of $13.9 million and a decrease in accruals related to uncertain tax positions of $2.1 million, partially offset by a decrease in net gains from our investments in privately-held companies of $1.6 million.

The decrease in other expense (income), net during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016 was primarily due to an increase in interest accruals related to uncertain tax positions of $6.4 million, a decrease in net gains from our investments in privately-held companies of $3.6 million, partially offset by an increase in interest income of $8.8 million.

Provision for Income Taxes

The following table provides details of income taxes:

	Year ended June 30,		
(Dollar amounts in thousands)	2018	2017	2016
Income before income taxes	$1,455,931	$1,173,246	$858,192
Provision for income taxes	$653,666	$247,170	$153,770
Effective tax rate	44.9 %	21.1 %	17.9 %

Our effective tax rate during the fiscal year ended June 30, 2018 was impacted by the Tax Cuts and Jobs Act ("the Act"), which was enacted into law on December 22, 2017. Income tax effects resulting from changes in tax laws are accounted for by us in accordance with the authoritative guidance, which requires that these tax effects be recognized in the period in which the law is enacted and the effects are recorded as a component of provision for income taxes from continuing operations. We have not fully completed our accounting for the tax effects of the enactment of the Act. As a result, we made an additional provision for income tax during the three months ended June 30, 2018 relating to the enactment of the Act.

This Act includes significant changes to the U.S. corporate income tax system which reduces the U.S. federal corporate tax rate from 35.0% to 21.0% as of January 1, 2018; shifts to a modified territorial tax regime which requires companies to pay a transition tax on earnings of certain foreign subsidiaries that were previously tax deferred; and creates new taxes on certain foreign-sourced earnings. The decrease in the U.S. federal corporate tax rate from 35.0% to 21.0% results in a blended statutory tax rate of 28.1% for the fiscal year ended June 30, 2018. The new taxes for certain foreign-sourced earnings under the Act are effective for the Company after the fiscal year ended June 30, 2018.

Tax expense was higher as a percentage of income before taxes during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017 primarily due to the impact of the following items:

- Tax expense increased by $339.6 million during the fiscal year ended June 30, 2018 relating to a transition tax on the Company's total post-1986 earnings and profits ("E&P") which, prior to the enactment of the Act, was previously deferred from U.S. income taxes;
- Tax expense increased by $102.1 million during the fiscal year ended June 30, 2018 relating to the re-measurement of the Company's deferred tax assets and liabilities based on the Act's new corporate tax rate of 21.0%; partially offset by
- Tax expense decreased by $50.9 million relating to the reduction of the U.S. federal corporate tax rate from 35.0% to 28.1% for the fiscal year ended June 30, 2018.

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As of June 30, 2018, we had not yet completed our accounting for the tax effects of the enactment of the Act. Our provision for income taxes for the fiscal year ended June 30, 2018 is based in part on a reasonable estimate of the effects on its transition tax and existing deferred tax balances. For the amounts which we were able to reasonably estimate, we recognized a provisional tax amount of $441.7 million for the fiscal year ended June 30, 2018. The provisional tax amount is included as a component of provision for income taxes from continuing operations. The components of the provisional tax amounts are as follows:

- We recorded a provisional tax amount of $339.6 million for the transition tax liability. We will elect to remit the U.S. transition tax liability in installments over an eight-year period. We have not yet completed the calculation of the total post-1986 foreign E&P and the income tax pools for all foreign subsidiaries. Further, the transition tax is based in part on the amount of those earnings held in cash and other specified assets. This amount may change when we finalize the calculation of post-1986 foreign E&P previously deferred from U.S. federal and state governments and regulatory organizations may change the provisional tax liability or the accounting treatment of the provisional tax liability.
- We recorded a provisional tax amount of $102.1 million to re-measure certain deferred tax assets and liabilities as a result of the enactment of the Act. We are still analyzing certain aspects of the Act and refining the estimate of the expected reversal of our deferred tax balances. This can potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts.

The Act also includes provisions for Global Intangible Low-Taxed Income ("GILTI") wherein taxes on foreign income are imposed in excess of a deemed return on tangible assets of foreign corporations. This income will effectively be taxed at a 10.5% tax rate in general. As a result, our deferred tax assets and liabilities are being evaluated if the deferred tax assets and liabilities should be recognized for the basis differences expected to reverse as a result of GILTI provisions that are effective for us after the fiscal year ending June 30, 2018, or should the tax on GILTI provisions be recognized in the period the Act was signed into law. Because of the complexity of the new provisions, we are continuing to evaluate on how the provisions will be accounted for under the U.S. generally accepted accounting principles wherein companies are allowed to make an accounting policy election of either (i) account for GILTI as a component of tax expense in the period in which we are subject to the rules (the "period cost method"), or (ii) account for GILTI in our measurement of deferred taxes (the "deferred method"). Currently, we have not elected a method and will only do so after our completion of the analysis of the GILTI provisions and our election method will depend, in part, on analyzing our global income to determine whether we expect to have future U.S. inclusions in our taxable income related to GILTI and, if so, the impact that is expected.

Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, the amount of our pre-tax income as business activities fluctuate, non-deductible expenses incurred in connection with acquisitions, research and development credits as a percentage of aggregate pre-tax income, the domestic manufacturing deduction, non-taxable or non-deductible increases or decreases in the assets held within our Executive Deferred Savings Plan, the tax effects of employee stock activity and the effectiveness of our tax planning strategies.

In the normal course of business, we are subject to examination by tax authorities throughout the world. We are under United States federal income tax examination for the fiscal year ended June 30, 2016. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals. The results of an audit or litigation could have a material adverse effect on our results of operations or cash flows in the period or periods for which that determination is made.

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Liquidity and Capital Resources

	As of June 30,		
(Dollar amounts in thousands)	2018	2017	2016
Cash and cash equivalents	$1,404,382	$1,153,051	$1,108,488
Marketable securities	1,475,936	1,863,689	1,382,806
Total cash, cash equivalents and marketable securities	$2,880,318	$3,016,740	$2,491,294
Percentage of total assets	51 %	55 %	50 %

	Year ended June 30,		
(In thousands)	2018	2017	2016
Cash flows:			
Net cash provided by operating activities	$1,229,120	$1,079,665	$759,696
Net cash provided by (used in) investing activities	291,618	(560,886)	144,687
Net cash used in financing activities	(1,270,103)	(472,805)	(636,702)
Effect of exchange rate changes on cash and cash equivalents	696	(1,411)	2,782
Net increase in cash and cash equivalents	$251,331	$44,563	$270,463

Cash and Cash Equivalents and Marketable Securities:

As of June 30, 2018, our cash, cash equivalents and marketable securities totaled $2.88 billion, which is a decrease of $136.4 million from June 30, 2017. The decrease is mainly due to the payment of $946.3 million for Senior Notes, term loans, and the borrowed amount under the Revolving Credit Facility, payment of dividends and dividend equivalents of $402.1 million, and stock repurchases of $203.2 million, partially offset by our cash generated from operations, proceeds from the Revolving Credit Facility, net of issuance costs, of $248.7 million, and net proceeds from marketable securities of $375.4 million. As of June 30, 2018, $1.93 billion of our $2.88 billion of cash, cash equivalents, and marketable securities were held by our foreign subsidiaries and branch offices. We have accrued U.S. federal taxes under the Tax Cut and Jobs Act and can repatriate these funds without incurring any additional U.S. federal tax other than if the U.S. dollar value of the funds increase. We currently intend to indefinitely reinvest $1.71 billion of the cash, cash equivalents and marketable securities held by our foreign subsidiaries. If, however, a portion of these funds were to be repatriated to the United States, we would be required to accrue and pay state and foreign taxes of approximately 1%-22% of the funds repatriated, in addition to the transition tax liability already computed on such balances. The amount of taxes due will depend on the amount and manner of the repatriation, as well as the location from which the funds are repatriated. We have accrued state and foreign tax on the remaining cash of $219.3 million of the$1.93 billion held by our foreign subsidiaries and branch offices. As such, these funds can be returned to the U.S. without accruing any additional U.S. tax expense.

Cash Dividends and Special Cash Dividend:

The total amount of regular quarterly cash dividends paid during the fiscal years ended June 30, 2018, 2017 and 2016 was $395.6 million, $335.4 million and $324.5 million, respectively. The increase in the amount of regular quarterly cash dividends paid during the fiscal year ended June 30, 2018 reflected the increase in the level of our regular quarterly cash dividend from $0.54 to $0.59 per share, and from $0.59 to $0.75 per share that were instituted during the three months ended September 30, 2017, and June 30, 2018, respectively. The amount of accrued dividends payable for regular quarterly cash dividends on unvested restricted stock units with dividend equivalent rights was $6.7 million and $4.8 million as of June 30, 2018 and 2017, respectively. These amounts will be paid upon vesting of the underlying unvested restricted stock units as described in Note 8, “Equity and Long-term Incentive Compensation Plans.”

On August 2, 2018, we announced that our Board of Directors had declared a quarterly cash dividend of $0.75 per share. Refer to Note 19, “Subsequent Events” to the consolidated financial statements for additional information regarding the declaration of our quarterly cash dividend announced subsequent to June 30, 2018.

On November 19, 2014, we declared a special cash dividend of $16.50 per share on our outstanding common stock which was paid on December 9, 2014 to our stockholders of record as of the close of business on December 1, 2014. Additionally, in connection with the special cash dividend, our Board of Directors and our Compensation Committee

of our Board of Directors approved a proportionate and equitable adjustment to outstanding equity awards (restricted stock units and stock options) under the 2004 Equity Incentive Plan (the "2004 Plan"), as required by the 2004 Plan, subject to the vesting requirements of the underlying awards. As the adjustment was required by the 2004 Plan, the adjustment to the outstanding awards did not result in

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any incremental compensation expense due to modification of such awards, under the authoritative guidance. The declaration and payment of the special cash dividend was part of our leveraged recapitalization transaction under which the special cash dividend was financed through a combination of existing cash and proceeds from the debt financing disclosed in Note 7, "Debt" that was completed during the three months ended December 31, 2014. As of the declaration date, the total amount of the special cash dividend accrued by us was approximately $2.76 billion, substantially all of which was paid out during the three months ended December 31, 2014, except for the aggregate special cash dividend of $43.0 million that was accrued for the unvested restricted stock units. As of June 30, 2018 and 2017, we had $2.8 million and $9.0 million, respectively, of accrued dividends payable for the special cash dividend with respect to outstanding unvested restricted stock units, which will be paid when such underlying unvested restricted stock units vest. We paid a special cash dividend with respect to vested restricted stock units during the fiscal years ended June 30, 2018, 2017 and 2016 of $6.4 million, $8.6 million and $21.8 million, respectively. Other than the special cash dividend declared during the three months ended December 31, 2014, we historically have not declared any special cash dividend.

Stock Repurchases:

The shares repurchased under our stock repurchase program have reduced our basic and diluted weighted-average shares outstanding for the fiscal years ended June 30, 2018 and 2017. The stock repurchase program is intended, in part, to offset shares issued in connection with the purchases under our ESPP program and the vesting of employee restricted stock units.

Fiscal Year 2018 Compared to Fiscal Year 2017

Cash Flows from Operating Activities:

We have historically financed our liquidity requirements through cash generated from operations. Net cash provided by operating activities during the fiscal year ended June 30, 2018 increased by $149.5 million compared to the fiscal year ended June 30, 2017, from $1.08 billion to $1.23 billion primarily as a result of the following key factors:

- An increase in collections of approximately $533.0 million during the fiscal year ended June 30, 2018 compared to the fiscal year June 30, 2017, mainly driven by higher shipments;
- An increase in interest income of approximately $14.0 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017, as U.S. dollar interest rates increased; partially offset by
- An increase in accounts payable payments of approximately $316.0 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017;
- An increase in income tax payments of $19.1 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017; and
- An increase in payroll and employee expenses of approximately $57.0 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017.

Cash Flows from Investing Activities:

Net cash provided by investing activities during the fiscal year ended June 30, 2018 was $291.6 million compared to net cash used by investing activities of $560.9 million during the fiscal year ended June 30, 2017. The change primarily resulted from net purchases of marketable securities of $492.8 million during the fiscal year ended June 30, 2017 compared to net liquidation of marketable securities of $375.4 million during the fiscal year ended June 30, 2018.

Cash Flows from Financing Activities:

Net cash used in financing activities during the fiscal year ended June 30, 2018 increased compared to the fiscal year ended June 30, 2017, from $472.8 million to $1.27 billion. Net cash used in financing activities were mainly impacted by:

- An increase in the repayment of debt of $816.3 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017;
- An increase in common stock repurchases of $178.2 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017
- An increase in dividend and dividend equivalent payments of $58.1 million during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017, due to an increase in our quarterly dividend from $0.54 to $0.75 per

share instituted during the fiscal year ended June 30, 2018, partially offset by
An increase in proceeds from the Revolving Credit Facility, net of issuance costs of $248.7 million during the fiscal year ended June 30, 2017.

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Fiscal Year 2017 Compared to Fiscal Year 2016

Cash Flows from Operating Activities:

Net cash provided by operating activities during the fiscal year ended June 30, 2017 increased compared to the fiscal year ended June 30, 2016, from $759.7 million to $1.08 billion primarily as a result of the following key factors:

- An increase in collections of approximately $567.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year June 30, 2016, mainly driven by higher shipments;
- The positive impact of our early adoption of the new accounting standard update for share-based payment awards to employees on a prospective basis during the fiscal year ended June 30, 2017, which no longer requires the excess tax benefit from share-based compensation to be shown as a reduction within cash flows from operating activities of $11.9 million compared to the fiscal ended June 30, 2016;
- An increase in interest income of approximately $9.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016, as U.S. dollar interest rates increased; partially offset by
- An increase in accounts payable payments of approximately $71.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016;
- An increase in income tax payments of $129.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016, reflecting higher operating profits;
- An increase in payroll and employee expenses of approximately $85.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016, primarily due to a change in the timing of certain variable compensation payments; and
- Less unfavorable impacts from currency fluctuations of approximately $19.0 million during the fiscal year ended June 30, 2017 compared to the fiscal year ended June 30, 2016.

Cash Flows from Investing Activities:

Net cash used by investing activities during the fiscal year ended June 30, 2017 was $560.9 million compared to net cash provided by investing activities of $144.7 million during the fiscal year ended June 30, 2016. The change primarily resulted from net purchases of marketable securities of $493.2 million and cash used for a business acquisition of $28.6 million during the fiscal year ended June 30, 2018.

Cash Flows from Financing Activities:

Net cash used in financing activities during the fiscal year ended June 30, 2017 decreased compared to the fiscal year ended June 30, 2016, from $636.7 million to $472.8 million, primarily as a result of a decrease in common stock repurchases of $156.7 million and the impact of our early adoption of the new accounting standard update for share-based payment awards to employees on a prospective basis during the year ended June 30, 2017. This new standard no longer requires the excess tax benefit from share-based compensation to be shown as a cash inflow from financing activities, resulting in a change of $11.9 million from the year ended June 30, 2016.

Senior Notes:

In November 2014, we issued $2.50 billion aggregate principal amount of senior, unsecured long-term notes (collectively referred to as “Senior Notes”). We issued the Senior Notes as part of the leveraged recapitalization plan under which the proceeds from the Senior Notes in conjunction with the proceeds from the term loans (described below) and cash on hand were used (x) to fund a special cash dividend of $16.50 per share, aggregating to approximately $2.76 billion, (y) to redeem $750.0 million of 2018 Senior Notes, including associated redemption premiums, accrued interest and other fees and expenses and (z) for other general corporate purposes, including repurchases of shares pursuant to our stock repurchase program. The interest rate specified for each series of the Senior Notes will be subject to adjustments from time to time if Moody’s Investor Service, Inc. (“Moody’s”) or Standard & Poor’s Ratings Services (“S&P”) or, under certain circumstances, a substitute rating agency selected by us as a replacement for Moody’s or S&P, as the case may be (a “Substitute Rating Agency”), downgrades (or subsequently upgrades) its rating assigned to the respective series of Senior Notes such that the adjusted rating is below investment grade. If the adjusted rating of any series of Senior Notes from Moody’s (or, if applicable, any Substitute Rating Agency) is decreased to Ba1, Ba2, Ba3 or B1 or below, the stated interest rate on such series of Senior Notes as noted above will increase by 25 bps, 50 bps, 75 bps or 100 bps, respectively (“bps” refers to Basis Points and 1% is equal to 100 bps). If the rating of any series of Senior Notes from S&P (or, if applicable, any Substitute Rating Agency) with

respect to such series of Senior Notes is decreased to BB+, BB, BB- or B+ or below, the stated interest rate on such series of Senior Notes as noted above will increase by 25 bps, 50 bps, 75 bps or 100 bps, respectively. The interest rates on any series of Senior Notes will permanently cease to be subject to any adjustment (notwithstanding any subsequent decrease in the ratings by any of Moody's,

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S&P and, if applicable, any Substitute Rating Agency) if such series of Senior Notes becomes rated "Baa1" (or its equivalent) or higher by Moody's (or, if applicable, any Substitute Rating Agency) and "BBB+" (or its equivalent) or higher by S&P (or, if applicable, any Substitute Rating Agency), or one of those ratings if rated by only one of Moody's, S&P and, if applicable, any Substitute Rating Agency, in each case with a stable or positive outlook. In October 2014, we entered into a series of forward contracts to lock the 10-year treasury rate ("benchmark rate") on a portion of the Senior Notes with a notional amount of $1.00 billion in aggregate. For additional details, refer to Note 16, "Derivative Instruments and Hedging Activities" to the consolidated financial statements.

The original discount on the Senior Notes amounted to $4.0 million and is being amortized over the life of the debt. Interest is payable semi-annually on May 1 and November 1 of each year. The debt indenture (the "Indenture") includes covenants that limit our ability to grant liens on its facilities and enter into sale and leaseback transactions, subject to certain allowances under which certain sale and leaseback transactions are not restricted. As of June 30, 2018, we were in compliance with all of the covenants under the Indenture associated with the Senior Notes.

Credit Facility (Term Loans and Unfunded Revolving Credit Facility) and Revolving Credit Facility:

In November 2014, we entered into $750.0 million of five-year senior unsecured prepayable term loans and a $500.0 million unfunded revolving credit facility (collectively, the "Credit Facility").

In November 2017, we entered into a Credit Agreement (the "Credit Agreement") providing for a $750.0 million five-year unsecured revolving credit facility (the "Revolving Credit Facility"), which replaced our prior Credit Facility. Subject to the terms of the Credit Agreement, the Revolving Credit Facility may be increased in an amount up to $250.0 million in the aggregate. We made borrowings of $250.0 million from the Revolving Credit Facility on the closing date, which were paid in full during the second half of the fiscal year ended June 30, 2018.

We may borrow, repay and reborrow funds under the Revolving Credit Facility until its maturity on November 30, 2022 (the "Maturity Date"), at which time such Revolving Credit Facility will terminate, and all outstanding loans under such facility, together with all accrued and unpaid interest, must be repaid. We may prepay the Revolving Credit Facility at any time without a prepayment penalty.

Borrowings under the Revolving Credit Facility will bear interest, at our option, at either: (i) the Alternative Base Rate ("ABR") plus a spread, which ranges from 0 bps to 75 bps, or (ii) the London Interbank Offered Rate ("LIBOR") plus a spread, which ranges from 100 bps to 175 bps. The spreads under ABR and LIBOR are subject to adjustment in conjunction with credit rating downgrades or upgrades. We are also obligated to pay an annual commitment fee on the daily undrawn balance of the Revolving Credit Facility, which ranges from 10 bps to 25 bps, subject to an adjustment in conjunction with changes to our credit rating. As of June 30, 2018, we elected to pay an annual commitment fee of 15 bps on the daily undrawn balance of the Revolving Credit Facility.

The Revolving Credit Facility requires us to maintain an interest expense coverage ratio as described in the Credit Agreement, on a quarterly basis, covering the trailing four consecutive fiscal quarters of no less than 3.50 to 1.00. In addition, we are required to maintain the maximum leverage ratio as described in the Credit Agreement, on a quarterly basis of 3.00 to 1.00, covering the trailing four consecutive fiscal quarters for each fiscal quarter, which can be increased to 4.00 to 1.00 for a period of time in connection with a material acquisition or a series of material acquisitions.

We were in compliance with the financial covenants under the Credit Agreement as of June 30, 2018 (the interest expense coverage ratio was 14.93 to 1.00 and the leverage ratio was 1.32 to 1.00). Considering our current liquidity position, short-term financial forecasts and ability to prepay the Revolving Credit Facility, if necessary, we expect to continue to be in compliance with our financial covenants at the end of our first quarter of the fiscal year ending June 30, 2019.

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Contractual Obligations

The following is a schedule summarizing our significant obligations to make future payments under contractual obligations as of June 30, 2018:

	Fiscal year ending June 30,							
(In thousands)	Total	2019	2020	2021	2022	2023	2024 and thereafter	Others
Debt obligations[1]	$2,250,000	$—	$250,000	$—	$500,000	$—	$1,500,000	$—
Interest payment associated with all debt obligations[2]	700,573	102,453	98,238	94,016	83,703	72,538	249,625	—
Purchase commitments[3]	530,783	525,729	4,509	490	55	—	—	—
Income taxes payable[4]	63,931	—	—	—	—	—	—	63,931
Operating leases	26,361	8,410	6,417	4,489	2,448	1,837	2,760	—
Cash long-term incentive program[5]	162,907	60,790	49,085	38,899	14,133	—	—	—
Pension obligations[6]	26,205	1,484	1,668	1,481	2,194	1,945	17,433	—
Executive Deferred Savings Plan[7]	199,505	—	—	—	—	—	—	199,505
Transition tax payable[8]	347,548	29,169	27,685	27,685	27,685	27,685	207,639	—
Other[9]	9,571	6,467	2,167	659	278	—	—	—
Total contractual cash obligations	$4,317,384	$734,502	$439,769	$167,719	$630,496	$104,005	$1,977,457	$263,436

(1) Represents $2.25 billion aggregate principal amount of Senior Notes due from fiscal year 2020 to fiscal year 2035. The interest payments associated with the Senior Notes obligations included in the table above are based on the principal amount multiplied by the applicable coupon rate for each series of Senior Notes. Our future interest payments are subject to change if our then effective credit rating is below investment grade as discussed above.

(2) The interest payment under the Revolving Credit Facility for the undrawn balance is payable at 15 bps as a commitment fee based on the daily undrawn balance and we utilized the existing rate for the projected interest payments included in the table above. Our future interest payments for the Revolving Credit Facility is subject to change due to any upgrades or downgrades to our then effective credit rating.

(3) Represents an estimate of significant commitments to purchase inventory from our suppliers as well as an estimate of significant purchase commitments associated with other goods and services in the ordinary course of business. Our liability under these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. This forecasted time-horizon can vary among different suppliers. Actual expenditures will vary based upon the volume of the transactions and length of contractual service provided. In addition, the amounts paid under these arrangements may be less in the event the arrangements are renegotiated or canceled. Certain agreements provide for potential cancellation penalties.

(4) Represents the estimated income tax payable obligation related to uncertain tax positions as well as related accrued interest. We are unable to make a reasonably reliable estimate of the timing of payments in individual years due to uncertainties in the timing of tax audit outcomes.

(5) Represents the amount committed under our cash long-term incentive program. The expected payment after estimated forfeitures is approximately $132.2 million.

(6) Represents an estimate of expected benefit payments up to fiscal year 2028 that was actuarially determined and excludes the minimum cash required to contribute to the plan. As of June 30, 2018, our defined benefit pension plans do not have material required minimum cash contribution obligations.

(7) Represents the amount committed under our non-qualified executive deferred compensation plan. We are unable to make a reasonably reliable estimate of the timing of payments in individual years due to the uncertainties in the

timing around participant’s separation and any potential changes that participants may decide to make to the previous distribution elections.

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(8) Represents our reasonable estimate of a provisional tax amount for the transition tax liability associated with our deemed repatriation of accumulated foreign earnings as a result from the enactment of the Tax Cuts and Jobs-Act into law on December 22, 2017.

(9) Represents amounts committed for accrued dividends payable, substantially all of which are for the special cash dividend for the unvested restricted stock units as of the dividend record date as well as quarterly cash dividends for unvested restricted stock units granted with dividend equivalent rights. For additional details, refer to Note 8, "Equity and Long-term Incentive Compensation Plans," to the Consolidated Financial Statements.

We have adopted a cash-based long-term incentive ("Cash LTI") program for many of our employees as part of our employee compensation program. Cash LTI awards issued to employees under the Cash Long-Term Incentive Plan ("Cash LTI Plan") generally vest in three or four equal installments, with one-third or one-fourth of the aggregate amount of the Cash LTI award vesting on each yearly anniversary of the grant date over a three or four-year period. In order to receive payments under the Cash LTI Plan, participants must remain employed by us as of the applicable award vesting date.

We have agreements with financial institutions to sell certain of our trade receivables and promissory notes from customers without recourse. In addition, we periodically sell certain letters of credit ("LCs"), without recourse, received from customers in payment for goods and services.

The following table shows total receivables sold under factoring agreements and proceeds from sales of LCs for the indicated periods:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Receivables sold under factoring agreements	$217,462	$152,509	$205,790
Proceeds from sales of LCs	$5,511	$48,780	$21,904

Factoring and LC fees for the sale of certain trade receivables were recorded in other expense (income), net and were not material for the periods presented.

We maintain guarantee arrangements available through various financial institutions for up to $22.4 million, of which $15.6 million had been issued as of June 30, 2018, primarily to fund guarantees to customs authorities for value-added tax ("VAT") and other operating requirements of our subsidiaries in Europe and Asia.

We provide standard warranty coverage on our systems for 40 hours per week for 12 months, providing labor and parts necessary to repair the systems during the warranty period. We account for the estimated warranty cost as a charge to costs of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. The actual product performance and/or field expense profiles may differ, and in those cases we adjust our warranty accruals accordingly. The difference between the estimated and actual warranty costs tends to be larger for new product introductions as there is limited historical product performance to estimate warranty expense; our warranty charge estimates for more mature products with longer product performance histories tend to be more stable. Non-standard warranty coverage generally includes services incremental to the standard 40-hours per week coverage for 12 months. See Note 13, "Commitments and Contingencies" to the Consolidated Financial Statements for additional details.

Working Capital:

Working capital was $3.33 billion as of June 30, 2018, which is an increase of $232.0 million compared to our working capital as of June 30, 2017. As of June 30, 2018, our principal sources of liquidity consisted of $2.88 billion of cash, cash equivalents and marketable securities. Our liquidity may be affected by many factors, some of which are based on the normal ongoing operations of the business, spending for business acquisitions including the pending acquisition of Orbotech, and other factors such as uncertainty in the global and regional economies and the semiconductor equipment industries. Although cash requirements will fluctuate based on the timing and extent of these factors, we believe that cash generated from operations, together with the liquidity provided by existing cash and cash equivalents balances and our $750.0 million Revolving Credit Facility, will be sufficient to satisfy our liquidity requirements associated with working capital needs, capital expenditures, cash dividends, stock repurchases and other contractual obligations, including repayment of outstanding debt, for at least the next 12 months.

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Our credit ratings as of June 30, 2018 are summarized below:

Rating Agency	Rating
Fitch	BBB+
Moody's	Baa2
Standard & Poor's	BBB

Factors that can affect our credit ratings include changes in our operating performance, the economic environment, conditions in the semiconductor and semiconductor equipment industries, business acquisitions, our financial position and changes in our business strategy.

Off-Balance Sheet Arrangements

Under our foreign currency risk management strategy, we utilize derivative instruments to protect our earnings and cash flows from unanticipated fluctuations in earnings and cash flows caused by volatility in currency exchange rates. This financial exposure is monitored and managed as an integral part of our overall risk management program, which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on our operating results. We continue our policy of hedging our current and forecasted foreign currency exposures with hedging instruments having tenors of up to 18 months (see Note 16, "Derivative Instruments and Hedging Activities" to the Consolidated Financial Statements for additional details). Our outstanding foreign currency hedge contracts, with maximum remaining maturities of approximately ten months as of June 30, 2018 and 2017, were as follows:

	As of June 30,	
(In thousands)	2018	2017
Cash flow hedge contracts- foreign currency		
Purchase	$8,116	$19,305
Sell	$115,032	$128,672
Other foreign currency hedge contracts		
Purchase	$130,442	$165,563
Sell	$154,442	$118,504

In October 2014, we entered into a series of forward contracts ("Rate Lock Agreements") to lock the benchmark rate on a portion of the Senior Notes. The Rate Lock Agreements had a notional amount of $1.00 billion in aggregate which matured in the second quarter of the fiscal year ended June 30, 2015. The Rate Lock Agreements were terminated on the date of pricing of the $1.25 billion of 4.650% Senior Notes due in 2024 and we recorded the fair value of $7.5 million as a gain within accumulated other comprehensive income (loss) as of December 31, 2014.We recognized $0.8 million for each of the fiscal years ended June 30, 2018, 2017 and 2016, for the amortization of the gain recognized in accumulated other comprehensive income (loss), which amount reduced the interest expense. As of June 30, 2018, the unamortized portion of the fair value of the forward contracts for the rate lock agreements was $4.8 million.

During the three months ended June 30, 2018, we entered into a series of forward contracts (the "2018 Rate Lock Agreements") to lock the benchmark interest rate prior to expected debt issuances. The objective of the 2018 Rate Lock Agreements was to hedge the risk associated with the variability in interest rates due to the changes in the benchmark rate leading up to the closing of the intended financing, on the notional amount being hedged. The 2018 Rate Lock Agreement had a notional amount of $500.0 million in aggregate with contract maturity dates in the first half of the fiscal year ending June 30, 2019. Each forward contract will be closed on the earlier of the completion date of pricing of the portion of the intended debt being hedged or the expiration date. We designated each of the 2018 Rate Lock Agreements as a qualifying hedging instrument to be accounted for as a cash flow hedge, under which the effective portion of the gain or loss on the derivative is reported as a component of accumulated other comprehensive income (loss) ("OCI"), and subsequently amortized into earnings as a component of interest expenses over the term of the underlying debt. The ineffective portion, if any, will be recognized in earnings immediately. The fair market value of the 2018 Rate Lock Agreements outstanding as of the fiscal year ended June 30, 2018 was $4.9 million.

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Indemnification Obligations. Subject to certain limitations, we are obligated to indemnify our current and former directors, officers and employees with respect to certain litigation matters and investigations that arise in connection with their service to us. These obligations arise under the terms of our certificate of incorporation, our bylaws, applicable contracts, and Delaware and California law. The obligation to indemnify generally means that we are required to pay or reimburse the individuals' reasonable legal expenses and possibly damages and other liabilities incurred in connection with these matters. For example, we have paid or reimbursed legal expenses incurred in connection with the investigation of our historical stock option practices and the related litigation and government inquiries by a number of our current and former directors, officers and employees. Although the maximum potential amount of future payments we could be required to make under the indemnification obligations generally described in this paragraph is theoretically unlimited, we believe the fair value of this liability, to the extent estimable, is appropriately considered within the reserve we have established for currently pending legal proceedings.

We are a party to a variety of agreements pursuant to which we may be obligated to indemnify the other party with respect to certain matters. Typically, these obligations arise in connection with contracts and license agreements or the sale of assets, under which we customarily agree to hold the other party harmless against losses arising from, or provide customers with other remedies to protect against, bodily injury or damage to personal property caused by our products, non-compliance with our product performance specifications, infringement by our products of third-party intellectual property rights and a breach of warranties, representations and covenants related to matters such as title to assets sold, validity of certain intellectual property rights, non-infringement of third-party rights, and certain income tax-related matters. In each of these circumstances, payment by us is typically subject to the other party making a claim to and cooperating with us pursuant to the procedures specified in the particular contract. This usually allows us to challenge the other party's claims or, in case of breach of intellectual property representations or covenants, to control the defense or settlement of any third-party claims brought against the other party. Further, our obligations under these agreements may be limited in terms of amounts, activity (typically at our option to replace or correct the products or terminate the agreement with a refund to the other party), and duration. In some instances, we may have recourse against third parties and/or insurance covering certain payments made by us.

In addition, we may in limited circumstances enter into agreements that contain customer-specific commitments on pricing, tool reliability, spare parts stocking levels, service response time and other commitments. Furthermore, we may give these customers limited audit or inspection rights to enable them to confirm that we are complying with these commitments. If a customer elects to exercise its audit or inspection rights, we may be required to expend significant resources to support the audit or inspection, as well as to defend or settle any dispute with a customer that could potentially arise out of such audit or inspection. To date, we have made no significant accruals in our consolidated financial statements for this contingency. While we have not in the past incurred significant expenses for resolving disputes regarding these types of commitments, we cannot make any assurance that we will not incur any such liabilities in the future.

It is not possible to predict the maximum potential amount of future payments under these or similar agreements due to the conditional nature of our obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by us under these agreements have not had a material effect on our business, financial condition, results of operations or cash flows.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in interest rates, foreign currency exchange rates and marketable equity security prices. To mitigate these risks, we utilize derivative financial instruments, such as foreign currency hedges. All of the potential changes noted below are based on sensitivity analyses performed on our financial position as of June 30, 2018. Actual results may differ materially.

As of June 30, 2018, we had an investment portfolio of fixed income securities of $1.50 billion. These securities, as with all fixed income instruments, are subject to interest rate risk and will decline in value if market interest rates increase. If market interest rates were to increase immediately and uniformly by 100 bps from levels as of June 30, 2018, the fair value of the portfolio would have declined by $13.6 million.

In November 2014, we issued $2.50 billion aggregate principal amount of fixed rate senior, unsecured long-term notes (collectively referred to as "Senior Notes"). The fair market value of long-term fixed interest rate notes is subject to interest rate risk. Generally, the fair market value of fixed interest rate notes will increase as interest rates fall and decrease as interest rates rise. As of June 30, 2018, the fair value and the book value of our Senior Notes were $2.33 billion and $2.25 billion, respectively, due in various fiscal years ranging from 2020 to 2035. Additionally, the interest expense for the Senior Notes is subject to interest rate adjustments following a downgrade of our credit ratings below investment grade by the credit rating agencies. Following a rating change below investment grade, the stated interest rate for each series of Senior Notes may increase between 25 bps to 100 bps based on the adjusted credit rating. Refer to Note 7, "Debt" to the Consolidated Financial Statements in Part II, Item 8 and Management's Discussion and Analysis of Financial Condition and Results of Operations, "Liquidity and Capital Resources," in Part II, Item 7 for additional details. Factors that can affect our credit ratings include changes in our operating performance, the economic environment, conditions in the semiconductor and semiconductor equipment industries, our financial position, and changes in our business strategy. As of June 30, 2018, if our credit rating was downgraded below investment grade by Moody's and S&P, the maximum potential increase to our annual interest expense on the Senior Notes, considering a 200 bps increase to the stated interest rate for each series of our Senior Notes, is estimated to be approximately $45.0 million.

In November 2017, we entered into a Credit Agreement (the "Credit Agreement") for a $750.0 million five-year unsecured revolving credit facility (the "Revolving Credit Facility"), which replaced our prior Credit Agreement. Subject to the terms of the Credit Agreement, the Revolving Credit Facility may be increased in an amount up to $250.0 million in the aggregate. We made borrowings of $250.0 million from the Revolving Credit Facility on the closing date, which were paid in full during the second half of the fiscal year ended June 30, 2018. As of June 30, 2018, we do not have any outstanding floating rate debts that are subject to an increase in interest rates. We are obligated to pay an annual commitment fee of 15 bps on the daily undrawn balance of the Revolving Credit Facility which is subject to an adjustment in conjunction with our credit rating downgrades or upgrades. The annual commitment fee ranges from 10 bps to 25 bps on the daily undrawn balance of the Revolving Credit Facility, depending upon the then effective credit rating. As of June 30, 2018, if our credit ratings were downgraded to be below investment grade, the maximum potential increase to our annual commitment fee for the Revolving Credit Facility, using the highest range of the ranges discussed above, is estimated to be approximately $1.0 million.

See Note 4, "Marketable Securities" to the Consolidated Financial Statements in Part II, Item 8; Management's Discussion and Analysis of Financial Condition and Results of Operations, "Liquidity and Capital Resources," in Part II, Item 7; and Risk Factors in Part I, Item 1A of this Annual Report on Form 10-K for a description of recent market events that may affect the value of the investments in our portfolio that we held as of June 30, 2018.

As of June 30, 2018, we had net forward and option contracts to sell $130.9 million in foreign currency in order to hedge certain currency exposures (see Note 16, "Derivative Instruments and Hedging Activities" to the Consolidated Financial Statements for additional details). If we had entered into these contracts on June 30, 2018, the U.S. dollar equivalent would have been $1.4 million. A 10% adverse move in all currency exchange rates affecting the contracts would decrease the fair value of the contracts by $30.2 million. However, if this occurred, the fair value of the underlying exposures hedged by the contracts would increase by a similar amount. Accordingly, we believe that, as a result of the hedging of certain of our foreign currency exposure, changes in most relevant foreign currency exchange

rates should have no material impact on our income or cash flows.

As of June 30, 2018, we had forward contracts to sell $500.0 million in treasury securities in order to hedge certain interest rate exposures (see Note 14, “Derivative Instruments and Hedging Activities,” to the consolidated financial statements for additional details). A 10% adverse move in interest rates affecting the contracts would decrease the fair value of the contracts by $24.1 million. However, if this occurred, the fair value of the underlying exposures hedged by the contracts would increase by a similar amount. Accordingly, we believe that, as a result of the hedging of certain of our interest rate exposure, changes in most relevant interest rates should have no material impact on our income or cash flows.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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KLA-TENCOR CORPORATION
Consolidated Balance Sheets

(In thousands, except par value)	As of June 30, 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$1,404,382	$1,153,051
Marketable securities	1,475,936	1,863,689
Accounts receivable, net	651,678	571,117
Inventories	931,845	732,988
Other current assets	85,159	71,221
Total current assets	4,549,000	4,392,066
Land, property and equipment, net	286,306	283,975
Goodwill	354,698	349,526
Deferred income taxes	193,200	291,967
Purchased intangibles, net	19,333	18,963
Other non-current assets	216,819	195,676
Total assets	$5,619,356	$5,532,173
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$169,354	$147,380
Deferred system profit	279,581	180,861
Unearned revenue	69,255	65,507
Current portion of long-term debt	—	249,983
Other current liabilities	699,893	649,431
Total current liabilities	1,218,083	1,293,162
Non-current liabilities:		
Long-term debt	2,237,402	2,680,474
Unearned revenue	71,997	59,713
Other non-current liabilities	471,363	172,407
Total liabilities	3,998,845	4,205,756
Commitments and contingencies (Notes 13 and 14)		
Stockholders' equity:		
Preferred stock, $0.001 par value, 1,000 shares authorized, none outstanding	—	—
Common stock, $0.001 par value, 500,000 shares authorized, 262,718 and 261,654 shares issued, 156,048 and 156,840 shares outstanding, as of June 30, 2018 and June 30, 2017, respectively	156	157
Capital in excess of par value	617,843	529,126
Retained earnings	1,056,445	848,457
Accumulated other comprehensive income (loss)	(53,933)	(51,323)
Total stockholders' equity	1,620,511	1,326,417
Total liabilities and stockholders' equity	$5,619,356	$5,532,173

See accompanying notes to consolidated financial statements.

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KLA-TENCOR CORPORATION
Consolidated Statements of Operations

(In thousands, except per share amounts)	Year ended June 30, 2018	2017	2016
Revenues:			
Product	$3,160,671	$2,703,934	$2,250,260
Service	876,030	776,080	734,233
Total revenues	4,036,701	3,480,014	2,984,493
Costs and expenses:			
Costs of revenues	1,447,369	1,287,547	1,163,391
Research and development	608,712	526,870	481,258
Selling, general and administrative	443,426	389,336	379,399
Interest expense	114,376	122,476	122,887
Other expense (income), net	(33,113)	(19,461)	(20,634)
Income before income taxes	1,455,931	1,173,246	858,192
Provision for income taxes	653,666	247,170	153,770
Net income	$802,265	$926,076	$704,422
Net income per share:			
Basic	$5.13	$5.92	$4.52
Diluted	$5.10	$5.88	$4.49
Cash dividends declared per share	$2.52	$2.14	$2.08
Weighted-average number of shares:			
Basic	156,346	156,468	155,869
Diluted	157,378	157,481	156,779

See accompanying notes to consolidated financial statements.

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KLA-TENCOR CORPORATION
Consolidated Statements of Comprehensive Income

	Year ended June 30,		
(In thousands)	2018	2017	2016
Net income	$802,265	$926,076	$704,422
Other comprehensive income (loss):			
Currency translation adjustments:			
Change in currency translation adjustments	1,358	2,332	(3,898)
Change in income tax benefit or expense	(678)	(562)	1,399
Net change related to currency translation adjustments	680	1,770	(2,499)
Cash flow hedges:			
Change in net unrealized gains or losses	(1,934)	10,138	(9,622)
Reclassification adjustments for net gains or losses included in net income	(3,846)	(3,222)	3,722
Change in income tax benefit or expense	2,491	(2,470)	2,122
Net change related to cash flow hedges	(3,289)	4,446	(3,778)
Net change related to unrecognized losses and transition obligations in connection with defined benefit plans	7,162	(1,534)	(4,552)
Available-for-sale securities:			
Change in net unrealized gains or losses	(9,697)	(8,568)	3,549
Reclassification adjustments for net gains or losses included in net income	209	(191)	(312)
Change in income tax benefit or expense	2,325	1,439	(520)
Net change related to available-for-sale securities	(7,163)	(7,320)	2,717
Other comprehensive income (loss)	(2,610)	(2,638)	(8,112)
Total comprehensive income	$799,655	$923,438	$696,310

See accompanying notes to consolidated financial statements.

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KLA-TENCOR CORPORATION
Consolidated Statements of Stockholders' Equity

(In thousands, except per share amounts)	Common Stock and Capital in Excess of Par Value Shares	Amount	Retained Earnings (Accumulated Deficit)	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balances as of June 30, 2015	157,851	$474,374	$(12,362)	$ (40,573)	$421,439
Net income	—	—	704,422	—	704,422
Other comprehensive loss	—	—	—	(8,112)	(8,112)
Net issuance under employee stock plans	1,589	14,354	—	—	14,354
Repurchase of common stock	(3,445)	(10,049)	(165,694)	—	(175,743)
Cash dividends ($2.08 per share) and dividend equivalents declared	—	(82,295)	(241,541)	—	(323,836)
Stock-based compensation expense	—	45,050	—	—	45,050
Tax benefit for equity awards	—	11,540	—	—	11,540
Balances as of June 30, 2016	155,995	452,974	284,825	(48,685)	689,114
Net income	—	—	926,076	—	926,076
Other comprehensive loss	—	—	—	(2,638)	(2,638)
Net issuance under employee stock plans	1,088	26,132	—	—	26,132
Repurchase of common stock	(243)	(766)	(24,236)	—	(25,002)
Cash dividends ($2.14 per share) and dividend equivalents declared	—	—	(338,208)	—	(338,208)
Stock-based compensation expense	—	50,943	—	—	50,943
Balances as of June 30, 2017	156,840	529,283	848,457	(51,323)	1,326,417
Net income	—	—	802,265	—	802,265
Other comprehensive loss	—	—	—	(2,610)	(2,610)
Net issuance under employee stock plans	1,168	32,687	—	—	32,687
Repurchase of common stock	(1,960)	(6,755)	(196,414)	—	(203,169)
Cash dividends ($2.52 per share) and dividend equivalents declared	—	—	(397,863)	—	(397,863)
Stock-based compensation expense	—	62,784	—	—	62,784
Balances as of June 30, 2018	156,048	$617,999	$1,056,445	$ (53,933)	$1,620,511

See accompanying notes to consolidated financial statements.

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KLA-TENCOR CORPORATION
Consolidated Statements of Cash Flows

	Year Ended June 30,		
(In thousands)	2018	2017	2016
Cash flows from operating activities:			
Net income	$802,265	$926,076	$704,422
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	62,684	57,836	66,932
Asset impairment charges	1,000	358	1,396
Stock-based compensation expense	62,784	50,943	45,050
Deferred income taxes	98,760	4,007	19,804
Excess tax benefit from equity awards	—	—	(11,936)
Net (gain) loss on sales of marketable securities and other investments	195	(1,207)	(5,887)
Changes in assets and liabilities, net of business acquisition:			
Accounts receivable, net	(76,497)	39,898	(8,292)
Inventories	(182,883)	(46,433)	(67,579)
Other assets	(37,632)	(26,596)	14,613
Accounts payable	21,778	40,100	3,109
Deferred system profit	98,720	6,310	25,860
Other liabilities	377,946	28,373	(27,796)
Net cash provided by operating activities	1,229,120	1,079,665	759,696
Cash flows from investing activities:			
Acquisition of non-marketable securities	(3,377)	(3,430)	—
Business acquisition, net of cash acquired	(17,403)	(28,560)	—
Capital expenditures, net	(66,961)	(38,594)	(31,741)
Proceeds from sale of assets	14	2,947	7,076
Purchases of available-for-sale securities	(466,330)	(1,626,983)	(1,175,720)
Proceeds from sale of available-for-sale securities	233,259	434,873	737,817
Proceeds from maturity of available-for-sale securities	608,446	699,293	602,446
Purchases of trading securities	(77,922)	(97,525)	(68,378)
Proceeds from sale of trading securities	81,892	97,093	73,187
Net cash provided by (used in) investing activities	291,618	(560,886)	144,687
Cash flows from financing activities:			
Proceeds from issuance of debt, net of issuance costs	248,693	—	—
Repayment of debt	(946,250)	(130,000)	(135,000)
Issuance of common stock	61,444	45,359	38,298
Tax withholding payments related to vested and released restricted stock units	(28,756)	(19,169)	(23,942)
Common stock repurchases	(203,169)	(25,002)	(181,711)
Payment of dividends to stockholders	(402,065)	(343,993)	(346,283)
Excess tax benefit from equity awards	—	—	11,936
Net cash used in financing activities	(1,270,103)	(472,805)	(636,702)
Effect of exchange rate changes on cash and cash equivalents	696	(1,411)	2,782
Net increase in cash and cash equivalents	251,331	44,563	270,463
Cash and cash equivalents at beginning of period	1,153,051	1,108,488	838,025
Cash and cash equivalents at end of period	$1,404,382	$1,153,051	$1,108,488
Supplemental cash flow disclosures:			
Income taxes paid, net	$253,128	$234,053	$105,187
Interest paid	$114,238	$119,998	$120,433

Non-cash activities:			
Purchase of land, property and equipment - investing activities	$7,418	$3,299	$2,035
Business acquisition holdback amounts - investing activities	$—	$5,318	$—
Dividends payable - financing activities	$9,571	$13,772	$19,556

See accompanying notes to consolidated financial statements.

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KLA-TENCOR CORPORATION
Notes to Consolidated Financial Statements
NOTE 1— DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES
Description of Business and Principles of Consolidation. KLA-Tencor Corporation ("KLA-Tencor" or the "Company") is a supplier of process control and yield management solutions for the semiconductor and related nanoelectronics industries. KLA-Tencor's broad portfolio of inspection and metrology products, and related service, software and other offerings primarily supports integrated circuit, which is referred to as an "IC" or "chip," manufacturers throughout the entire semiconductor fabrication process, from research and development to final volume production. KLA-Tencor provides equipment, software and support that enable IC manufacturers to identify, resolve and manage significant advanced technology manufacturing process challenges and obtain higher finished product yields at lower overall cost. In addition to serving the semiconductor industry, KLA-Tencor also provides a range of technology solutions to a number of other high technology industries, including the advanced packaging, light emitting diode ("LED"), power devices, compound semiconductor, and data storage industries, as well as general materials research. Headquartered in Milpitas, California, KLA-Tencor has subsidiaries both in the United States and in key markets throughout the world. The Consolidated Financial Statements include the accounts of KLA-Tencor and its majority-owned subsidiaries. All significant intercompany balances and transactions have been eliminated.
Proposed Merger with Orbotech, Ltd. On March 18, 2018, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with Orbotech, Ltd. ("Orbotech") pursuant to which KLA-Tencor would acquire Orbotech for $38.86 in cash and 0.25 of a share of KLA-Tencor common stock in exchange for each ordinary share of Orbotech, which at the time of announcement valued Orbotech at $3.2 billion in enterprise value. The merger contemplated by the Merger Agreement (the "Orbotech Merger") is subject to receipt of required regulatory approvals and satisfaction of the other customary closing conditions.
Management Estimates. The preparation of the Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions in applying the Company's accounting policies that affect the reported amounts of assets and liabilities (and related disclosure of contingent assets and liabilities) at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.
Cash Equivalents and Marketable Securities. All highly liquid debt instruments with original or remaining maturities of less than three months at the date of purchase are considered to be cash equivalents. Marketable securities are generally classified as available-for-sale for use in current operations, if required, and are reported at fair value, with unrealized gains and losses, net of tax, presented as a separate component of stockholders' equity under the caption "Accumulated other comprehensive income (loss)." All realized gains and losses and unrealized losses resulting from declines in fair value that are other than temporary are recorded in earnings in the period of occurrence. The specific identification method is used to determine the realized gains and losses on investments. For all investments in debt and equity securities, the Company assesses whether the impairment is other than temporary. If the fair value of a debt security is less than its amortized cost basis, an impairment is considered other than temporary if (i) the Company has the intent to sell the security or it is more likely than not that the Company will be required to sell the security before recovery of its entire amortized cost basis, or (ii) the Company does not expect to recover the entire amortized cost of the security. If an impairment is considered other than temporary based on condition (i), the entire difference between the amortized cost and the fair value of the security is recognized in earnings. If an impairment is considered other than temporary based on condition (ii), the amount representing credit losses, defined as the difference between the present value of the cash flows expected to be collected and the amortized cost basis of the debt security, will be recognized in earnings, and the amount relating to all other factors will be recognized in other comprehensive income (loss). The Company evaluates both qualitative and quantitative factors such as duration and severity of the unrealized losses, credit ratings, default and loss rates of the underlying collateral, structure and credit enhancements to determine if a credit loss may exist.
Non-Marketable Equity Securities. KLA-Tencor acquires certain non-marketable equity investments for the promotion of business and strategic objectives. Non-marketable equity securities do not give the Company the ability

to exercise significant influence over the investees and are accounted for under the cost method. Non-marketable equity securities are included in “Other non-current assets” on the balance sheet. Non-marketable equity securities are subject to a periodic impairment review; however, there are no open-market valuations, and the impairment analysis requires significant judgment. This analysis includes assessment of the investee’s financial condition, the business outlook for its products and technology, its projected results and cash flow, the likelihood of obtaining subsequent rounds of financing and the impact of any relevant contractual equity preferences held by the Company or others.

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Variable Interest Entities. KLA-Tencor uses a qualitative approach in assessing the consolidation requirement for variable interest entities. The approach focuses on identifying which enterprise has the power to direct the activities that most significantly impact the variable interest entity's economic performance and which enterprise has the obligation to absorb losses or the right to receive benefits from the variable interest entity. In the event that the Company is the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity will be included in the Company's Consolidated Financial Statements. The Company has concluded that none of the Company's equity investments require consolidation as per the Company's most recent qualitative assessment.

Inventories. Inventories are stated at the lower of cost (on a first-in, first-out basis) or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less costs of completion, disposal and transportation. Demonstration units are stated at their manufacturing cost and written down to their net realizable value. The Company reviews and sets standard costs semi-annually at current manufacturing costs in order to approximate actual costs. The Company's manufacturing overhead standards for product costs are calculated assuming full absorption of forecasted spending over projected volumes, adjusted for excess capacity. Abnormal inventory costs such as costs of idle facilities, excess freight and handling costs, and spoilage are recognized as current period charges. The Company writes down product inventory based on forecasted demand and technological obsolescence and service spare parts inventory based on forecasted usage. These factors are impacted by market and economic conditions, technology changes, new product introductions and changes in strategic direction and require estimates that may include uncertain elements. Actual demand may differ from forecasted demand, and such differences may have a material effect on recorded inventory values.

Allowance for Doubtful Accounts. A majority of the Company's accounts receivable are derived from sales to large multinational semiconductor manufacturers throughout the world. In order to monitor potential credit losses, the Company performs ongoing credit evaluations of its customers' financial condition. An allowance for doubtful accounts is maintained for probable credit losses based upon the Company's assessment of the expected collectibility of the accounts receivable. The allowance for doubtful accounts is reviewed on a quarterly basis to assess the adequacy of the allowance.

Property and Equipment. Property and equipment are recorded at cost, net of accumulated depreciation. Depreciation of property and equipment is based on the straight-line method over the estimated useful lives of the assets. The following table sets forth the estimated useful life for various asset categories:

Asset Category	Range of Useful Lives
Buildings	30 to 35 years
Leasehold improvements	Shorter of 15 years or lease term
Machinery and equipment	2 to 5 years
Office furniture and fixtures	7 years

Construction-in-process assets are not depreciated until the assets are placed in service. Depreciation expense for the fiscal years ended June 30, 2018, 2017 and 2016 was $53.3 million, $49.1 million and $52.6 million, respectively.

Goodwill and Purchased Intangible Assets. KLA-Tencor assesses goodwill for impairment annually as well as whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Long-lived purchased intangible assets are tested for impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. See Note 6, "Goodwill and Purchased Intangible Assets" for additional details.

Impairment of Long-Lived Assets. KLA-Tencor evaluates the carrying value of its long-lived assets whenever events or changes in circumstances indicate that the carrying value of the asset may be impaired. An impairment loss is recognized when estimated future cash flows expected to result from the use of the asset, including disposition, are less than the carrying value of the asset. Such an impairment charge would be measured as the excess of the carrying value of the asset over its fair value.

Concentration of Credit Risk. Financial instruments that potentially subject KLA-Tencor to significant concentrations of credit risk consist primarily of cash equivalents, short-term marketable securities, trade accounts receivable and derivative financial instruments used in hedging activities. The Company invests in a variety of financial instruments,

such as, but not limited to, certificates of deposit, corporate debt and municipal securities, United States Treasury and Government agency securities, and equity securities and, by policy, limits the amount of credit exposure with any one financial institution or commercial issuer. The Company has not experienced any material credit losses on its investments.

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A majority of the Company's accounts receivable are derived from sales to large multinational semiconductor manufacturers located throughout the world, with a majority located in Asia. In recent years, the Company's customer base has become increasingly concentrated due to corporate consolidations, acquisitions and business closures, and to the extent that these customers experience liquidity issues in the future, the Company may be required to incur additional bad debt expense with respect to trade receivables. The Company performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral to secure accounts receivable. The Company maintains an allowance for potential credit losses based upon expected collectibility risk of all accounts receivable. In addition, the Company may utilize letters of credit or non-recourse factoring to mitigate credit risk when considered appropriate.

The Company is exposed to credit loss in the event of non-performance by counterparties on the foreign exchange contracts that the Company uses in hedging activities and in certain factoring transactions. These counterparties are large international financial institutions, and to date no such counterparty has failed to meet its financial obligations to the Company under such contracts.

The following customers each accounted for more than 10% of total revenues for the indicated periods:

Year ended June 30,		
2018	2017	2016
Samsung Electronics Co., Ltd.	Samsung Electronics Co., Ltd.	Micron Technology, Inc.
	Taiwan Semiconductor Manufacturing Company Limited	Taiwan Semiconductor Manufacturing Company Limited

The following customers each accounted for more than 10% of net accounts receivable as of the dates indicated below:

As of June 30,	
2018	2017
Samsung Electronics Co., Ltd.	Samsung Electronics Co., Ltd.
Taiwan Semiconductor Manufacturing Company Limited	Taiwan Semiconductor Manufacturing Company Limited
SK Hynix, Inc.	

Foreign Currency. The functional currencies of KLA-Tencor's foreign subsidiaries are the local currencies, except as described below. Accordingly, all assets and liabilities of these foreign operations are translated to U.S. dollars at current period end exchange rates, and revenues and expenses are translated to U.S. dollars using average exchange rates in effect during the period. The gains and losses from foreign currency translation of these subsidiaries' financial statements are recorded directly into a separate component of stockholders' equity under the caption "Accumulated other comprehensive income (loss)."

The Company's manufacturing subsidiaries in Singapore, Israel and Germany use the U.S. dollar as their functional currency. Accordingly, monetary assets and liabilities in non-functional currency of these subsidiaries are remeasured using exchange rates in effect at the end of the period. Revenues and costs in local currency are remeasured using average exchange rates for the period, except for costs related to those balance sheet items that are remeasured using historical exchange rates. The resulting remeasurement gains and losses are included in the Consolidated Statements of Operations as incurred.

Derivative Financial Instruments. KLA-Tencor uses financial instruments, such as forward exchange contracts and currency options, to hedge a portion of, but not all, existing and forecasted foreign currency denominated transactions. The purpose of the Company's foreign currency program is to manage the effect of exchange rate fluctuations on certain foreign currency denominated revenues, costs and eventual cash flows. The effect of exchange rate changes on forward exchange contracts is expected to offset the effect of exchange rate changes on the underlying hedged items. The Company also uses interest rate lock agreements to hedge the risk associated with the variability of cash flows due to changes in the benchmark interest rate of the intended debt financing. The Company believes these financial instruments do not subject the Company to speculative risk that would otherwise result from changes in currency exchange rates or interest rates.

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All of the Company's derivative financial instruments are recorded at fair value based upon quoted market prices for comparable instruments adjusted for risk of counterparty non-performance. For derivative instruments designated and qualifying as cash flow hedges of forecasted foreign currency denominated transactions or debt financing expected to occur within twelve to eighteen months, the effective portion of the gain or loss on these hedges is reported as a component of "Accumulated other comprehensive income (loss)" in stockholders' equity, and is reclassified into earnings when the hedged transaction affects earnings. If the transaction being hedged fails to occur, or if a portion of any derivative is (or becomes) ineffective, the gain or loss on the associated financial instrument is recorded immediately in earnings. For derivative instruments used to hedge existing foreign currency denominated assets or liabilities, the gains or losses on these hedges are recorded immediately in earnings to offset the changes in the fair value of the assets or liabilities being hedged.

Warranty. The Company provides standard warranty coverage on its systems for 40 hours per week for 12 months, providing labor and parts necessary to repair and maintain the systems during the warranty period. The Company accounts for the estimated warranty cost as a charge to costs of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. Utilizing actual service records, the Company calculates the average service hours and parts expense per system and applies the actual labor and overhead rates to determine the estimated warranty charge. The Company updates these estimated charges on a regular basis. The actual product performance and/or field expense profiles may differ, and in those cases the Company adjusts its warranty accruals accordingly (see Note 13, "Commitments and Contingencies").

Revenue Recognition. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the selling price is fixed or determinable, and collectibility is reasonably assured. The Company derives revenue from three sources—sales of systems, spare parts and services. In general, the Company recognizes revenue for systems when the system has been installed, is operating according to predetermined specifications and is accepted by the customer. When the Company has demonstrated a history of successful installation and acceptance, the Company recognizes revenue upon delivery and customer acceptance. Under certain circumstances, however, the Company recognizes revenue prior to acceptance from the customer, as follows:

- When the customer fab has previously accepted the same tool, with the same specifications, and when the Company can objectively demonstrate that the tool meets all of the required acceptance criteria.
- When system sales to independent distributors have no installation requirement, contain no acceptance agreement, and 100% of the payment is due based upon shipment.
- When the installation of the system is deemed perfunctory.
- When the customer withholds acceptance due to issues unrelated to product performance, in which case revenue is recognized when the system is performing as intended and meets predetermined specifications.

In circumstances in which the Company recognizes revenue prior to installation, the portion of revenue associated with installation is deferred based on estimated fair value, and that revenue is recognized upon completion of the installation.

In many instances, products are sold in stand-alone arrangements. Services are sold separately through renewals of annual maintenance contracts. The Company has multiple element revenue arrangements in cases where certain elements of a sales arrangement are not delivered and accepted in one reporting period. To determine the relative fair value of each element in a revenue arrangement, the Company allocates arrangement consideration based on the selling price hierarchy. For substantially all of the arrangements with multiple deliverables pertaining to products and services, the Company uses vendor-specific objective evidence ("VSOE") or third-party evidence ("TPE") to allocate the selling price to each deliverable. The Company determines TPE based on historical prices charged for products and services when sold on a stand-alone basis. When the Company is unable to establish relative selling price using VSOE or TPE, the Company uses estimated selling price ("ESP") in its allocation of arrangement consideration. The objective of ESP is to determine the price at which the Company would transact a sale if the product or service were sold on a stand-alone basis. ESP could potentially be used for new or customized products. The Company regularly reviews relative selling prices and maintains internal controls over the establishment and updates of these estimates.

In a multiple element revenue arrangement, the Company defers revenue recognition associated with the relative fair value of each undelivered element until that element is delivered to the customer. To be considered a separate element,

the product or service in question must represent a separate unit of accounting, which means that such product or service must fulfill the following criteria: (a) the delivered item(s) has value to the customer on a stand-alone basis; and (b) if the arrangement includes a general right of return relative to the delivered item(s), delivery or performance of the undelivered
item(s) is considered probable and substantially in the control of the Company. If the arrangement does not meet all the above criteria, the entire amount of the sales contract is deferred until all elements are accepted by the customer.

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Trade-in rights are occasionally granted to customers to trade in tools in connection with subsequent purchases. The Company estimates the value of the trade-in right and reduces the revenue recognized on the initial sale. This amount is recognized at the earlier of the exercise of the trade-in right or the expiration of the trade-in right.

The Company enters into volume purchase agreements with some of its customers. The Company accrues the estimated credits earned by its customers for such incentives, and in situations when the credit levels vary depending upon sales volume, the Company updates its accrual based on the amount that the Company estimates will be purchased pursuant to the volume purchase agreements. Accruals for customer credits are recorded as an offset to revenue or deferred revenue.

Spare parts revenue is recognized when the parts have been shipped, risk of loss has passed to the customer and collection of the resulting receivable is reasonably assured.

Service and maintenance contract revenue is recognized ratably over the term of the maintenance contract. Revenue from services performed in the absence of a maintenance contract, including consulting and training revenue, is recognized when the related services are performed and collectibility is reasonably assured.

The Company sells stand-alone software that is subject to software revenue recognition guidance. The Company periodically reviews selling prices to determine whether VSOE exists, and in situations where the Company is unable to establish VSOE for undelivered elements such as post-contract service, revenue is recognized ratably over the term of the service contract.

The Company also defers the fair value of non-standard warranty bundled with equipment sales as unearned revenue. Non-standard warranty includes services incremental to the standard 40-hour per week coverage for 12 months. Non-standard warranty is recognized ratably as revenue when the applicable warranty term period commences.

The deferred system profit balance equals the value of products that have been shipped and billed to customers which have not met the Company’s revenue recognition criteria, less applicable product and warranty costs. Deferred system profit does not include the profit associated with product shipments to certain customers in Japan, to whom title does not transfer until customer acceptance. Shipments to such customers in Japan are classified as inventory at cost until the time of acceptance.

Research and Development Costs. Research and development costs are expensed as incurred.

Shipping and Handling Costs. Shipping and handling costs are included as a component of cost of sales.

Accounting for Stock-Based Compensation Plans. The Company accounts for stock-based awards granted to employees for services based on the fair value of those awards. The fair value of stock-based awards is measured at the grant date and is recognized as expense over the employee’s requisite service period. The fair value for restricted stock units granted without “dividend equivalent” rights is determined using the closing price of the Company’s common stock on the grant date, adjusted to exclude the present value of dividends which are not accrued on the restricted stock units. The fair value for restricted stock units granted with “dividend equivalent” rights is determined using the closing price of the Company’s common stock on the grant date. The award holder is not entitled to receive payments under dividend equivalent rights unless the associated restricted stock unit award vests (i.e., the award holder is entitled to receive credits, payable in cash or shares of the Company’s common stock, equal to the cash dividends that would have been received on the shares of common stock underlying the restricted stock units had the shares been issued and outstanding on the dividend record date, but such dividend equivalents are only paid subject to the recipient satisfying the vesting requirements of the underlying award). Additionally, the Company estimates forfeitures based on historical experience and revises those estimates in subsequent periods if actual forfeitures differ from the estimated amounts. The fair value is determined using a Black-Scholes valuation model for purchase rights under the Employee Stock Purchase Plan. The Black-Scholes option-pricing model requires the input of assumptions, including the option’s expected term and the expected price volatility of the underlying stock. The expected stock price volatility assumption is based on the market-based historical implied volatility from traded options of the Company’s common stock.

Accounting for Cash-Based Long-Term Incentive Compensation. Cash-based long-term incentive (“Cash LTI”) awards issued to employees under the Company’s Cash LTI program vests in three or four equal installments, with one-third or one-fourth of the aggregate amount of the Cash LTI award vesting on each yearly anniversary of the grant date over a three or four-year period. In order to receive payments under a Cash LTI award, participants must remain employed

by the Company as of the applicable award vesting date. Compensation expense related to the Cash LTI awards is recognized over the vesting term, which is adjusted for the impact of estimated forfeitures.

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Accounting for Non-qualified Deferred Compensation Plan. The Company has a non-qualified deferred compensation plan (known as “Executive Deferred Savings Plan”) under which certain executives and non-employee directors may defer a portion of their compensation. Participants are credited with returns based on their allocation of their account balances among measurement funds. The Company controls the investment of these funds, and the participants remain general creditors of the Company. The Company invests these funds in certain mutual funds and such investments are classified as trading securities in the Consolidated Balance Sheets. Distributions from the Executive Deferred Savings Plan commence following a participant’s retirement or termination of employment or on a specified date allowed per the Executive Deferred Savings Plan provisions, except in cases where such distributions are required to be delayed in order to avoid a prohibited distribution under Internal Revenue Code Section 409A. Participants can generally elect the distributions to be paid in lump sum or quarterly cash payments over a scheduled period for up to 15 years and are allowed to make subsequent changes to their existing elections as permissible under the Executive Deferred Savings Plan provisions. The liability associated with the Executive Deferred Savings Plan is included as a component of other current liabilities in the consolidated balance sheets. Changes in the Executive Deferred Savings Plan liability is recorded in selling, general and administrative expense in the Consolidated Statements of Operations. The expense (benefit) associated with changes in the liability included in selling, general and administrative expense was $19.9 million, $20.9 million and $(0.8) million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively. The Company also has a deferred compensation asset that corresponds to the liability under the Executive Deferred Savings Plan and it is included as a component of other non-current assets in the Consolidated Balance Sheets. Changes in the Executive Deferred Savings Plan assets are recorded as gains (losses), net in selling, general and administrative expense in the Consolidated Statements of Operations. The amount of net gains included in selling, general and administrative expense were $19.5 million, $20.8 million and $0.1 million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

Income Taxes. The Company accounts for income taxes in accordance with the authoritative guidance, which requires income tax effects for changes in tax laws are recognized in the period in which the law is enacted.

Transition tax liability is recognized in the period when the change in the U.S. tax law was enacted and the income tax effects are recorded as a component of provision for income taxes from continuing operations. The calculation of the transition tax liability includes assumptions and reasonable estimates of the income tax effects and are based on provisional tax amounts. Several inputs were considered in the calculation, such as the calculation of the post-1986 foreign earnings and profit (“E&P”), income tax pools for all foreign subsidiaries, and the amount of those earnings held in cash and other specified assets. The Company applied the current interpretations from the U.S. federal and state governments and regulatory organization in its calculation of the transition tax liability and the Company's reasonable estimate of the transition tax liability could change if further interpretations are provided for in the future. The Company expects to fully complete its provisional transition tax liability calculation within the reasonable measurement period allowed by the authoritative guidance.

Deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. The guidance also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that certain deferred tax asset will not be realized. The Company has determined that a valuation allowance is necessary against certain deferred tax assets, but it anticipates that its future taxable income will be sufficient to recover the remainder of its deferred tax assets. However, should there be a change in the Company’s ability to recover its deferred tax assets that are not subject to a valuation allowance, the Company could be required to record an additional valuation allowance against such deferred tax assets. This would result in an increase to the Company’s tax provision in the period in which the Company determines that the recovery is not probable.

The Company applies a two-step approach, based on authoritative guidance, to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained in audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement. The Company reevaluates these 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 these factors could result in the recognition of a tax benefit or an additional charge to the tax provision.

Net Income Per Share. Basic net income per share is calculated by dividing net income available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income per share is calculated by using the weighted-average number of common shares outstanding during the period increased to include the number of additional shares of common stock that would have been outstanding if the dilutive potential shares of common stock had been issued. The dilutive effect of restricted stock units and options is reflected in diluted net income per share by application of the treasury stock method. The dilutive securities are excluded from the computation of diluted net loss per share when a net loss is recorded for the period as their effect would be anti-dilutive.

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Contingencies and Litigation. The Company is subject to the possibility of losses from various contingencies. Considerable judgment is necessary to estimate the probability and amount of any loss from such contingencies. An accrual is made when it is probable that a liability has been incurred or an asset has been impaired and the amount of loss can be reasonably estimated. The Company accrues a liability and recognizes as expense the estimated costs expected to be incurred over the next twelve months to defend or settle asserted and unasserted claims existing as of the balance sheet date. See Note 13, “Commitments and Contingencies” and Note 14, “Litigation and Other Legal Matters” for additional details.

Reclassifications. Certain reclassifications have been made to prior year financial statements to conform to the current year presentation. The reclassifications did not have material effects on the Consolidated Balance Sheets, Consolidated Statements of Operations, Comprehensive Income, Stockholder’s Equity and Cash Flows.

Recent Accounting Pronouncements

Recently Adopted

In July 2015, the Financial Accounting Standards Board (“FASB”) issued an accounting standard update for the subsequent measurement of inventory. The amended guidance requires entities to measure inventory at the lower of cost or net realizable value. Net realizable value is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. The requirement would replace the current lower of cost or market evaluation and the accounting guidance is unchanged for inventory measured using last-in, first-out (“LIFO”) or the retail inventory method. The Company adopted this update beginning in the first quarter of its fiscal year ending June 30, 2018 on a prospective basis and there was no impact of adoption on its consolidated financial statements.

Updates Not Yet Effective

In May 2014, the FASB issued an accounting standard update regarding revenue from customer contracts to transfer goods and services or non-financial assets unless the contracts are covered by other standards (for example, insurance or lease contracts). Under the new guidance, an entity should recognize revenue in connection with the transfer of promised goods or services to customers in an amount that reflects the consideration that the entity expects to be entitled to receive in exchange for those goods or services. In addition, the new standard requires that reporting companies disclose the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The new standard may be applied retrospectively to each prior period presented (“full retrospective transition method”) or retrospectively with the cumulative effect recognized as of the date of adoption (“modified retrospective transition method”). The FASB has also issued several amendments to the standard since its initial issuance. The Company intends to adopt the new standard in the first quarter of its fiscal year ending June 30, 2019 and elected a modified retrospective transition method to be applied to completed and incomplete contracts as of the adoption date.

To address the significant implementation requirements of the accounting standard update, the Company has established a revenue project steering committee and cross-functional implementation team for the implementation of the standard, including a review of all significant revenue arrangements to identify any differences in the timing, measurement, presentation of revenue recognition including new disclosure requirements.

The Company has completed its preliminary assessment of the potential impact that the implementation of this new standard will have on its consolidated financial statements and believes the most significant impact may include the following:

- The Company will account for the standard 12-month warranty for a majority of its products that is not separately paid for by the customers as a performance obligation since the Company provides for necessary repairs as well as preventive maintenance services for such products. The estimated fair value of the service will be deferred and recognized ratably as revenue over the warranty period.
- The Company will generally recognize revenue for its products at a point of time based on judgment of whether or not the Company has satisfied its performance obligation by transferring control of the product to the customer. In evaluating whether or not control has been transferred to the customer, the Company will consider whether or not certain indicators have been met. Not all of the indicators need to be met for the Company to conclude that control has transferred to the customer. The Company will be required to use significant judgment to evaluate whether or not the

factors indicate that the customer has obtained control of the product and the following factors will be considered in evaluating whether or not control has transferred to the customer: the Company has a present right to payment; the customer has legal title; the customer has physical possession; the customer has significant risk and rewards of ownership; and the customer has accepted the product, or whether customer acceptance is considered a formality based on history of acceptance of similar products.

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The Company will continue to assess the impact of the new standard, including potential changes to the accounting policies, business processes, systems and internal controls over financial reporting and its preliminary assessment of the impact is subject to change.

In January 2016, the FASB issued an accounting standard update that changes the accounting for financial instruments primarily related to equity investments (other than those accounted for under the equity method of accounting or those that result in consolidation of the investee), financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. The accounting standard update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2019, and early adoption is permitted. The Company does not expect the update to have a material impact on its financial position, results of operations or cash flows.

In February 2016, the FASB issued an accounting standard update which amends the existing accounting standards for leases. Consistent with current guidance, the recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee primarily will depend on its classification. Under the new guidance, a lessee will be required to recognize assets and liabilities for all leases with lease terms of more than 12 months using a modified retrospective transition method. In July 2018, the FASB issued an amendment to the standard which provide the Company an option to apply the practical expedient allowed in the standard retrospectively with the cumulative effect recognized as of the date of adoption. The update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2020. Early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements and associated disclosures.

In June 2016, the FASB issued an accounting standard update that changes the accounting for recognizing impairments of financial assets. Under the update, credit losses for certain types of financial instruments will be estimated based on expected losses. The update also modifies the impairment models for available-for-sale debt securities and for purchased financial assets with credit deterioration since their origination. The update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2021, with early adoption permitted starting in the first quarter of fiscal year ending June 30, 2020. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In October 2016, the FASB issued an accounting standard update to recognize the income tax consequences of intra-entity transfers of assets other than inventory when they occur. This eliminates the exception to postpone recognition until the asset has been sold to an outside party. This standard is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2019, and early adoption is permitted. It is required to be applied on a modified retrospective basis through a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption. The Company does not expect the update to have a material impact on its financial position, results of operations or cash flows.

In January 2017, the FASB issued an accounting standard update to simplify the subsequent measurement of goodwill by removing the second step of the two-step impairment test, which requires an entity to determine the fair value of assets and liabilities similar to what is required in a purchase price allocation. Under the update, goodwill impairment will be calculated as the amount by which a reporting unit's carrying value exceeds its fair value. This standard is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2021 and requires a prospective approach to adoption. Early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In January 2017, the FASB issued an accounting standard update on clarifying the definition of a business, with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The standard is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2019. The impact of this update on the Company's financial position, results of operations, or cash flows depends on the facts and circumstances of future acquisition or disposal activities.

In March 2017, the FASB issued an accounting standard update that changes the statements of operations classification of net periodic benefit cost related to defined benefit pension and/or other postretirement benefit plans. Under the update, employers will present the service cost component of net periodic benefit cost in the same statements of operations line item(s) as other employee compensation costs arising from services rendered during the period. Only the service cost component will be eligible for capitalization in assets. Employers will present the other

components of the net periodic benefit costs separately from the line item(s) that includes the service cost and outside of any subtotal of operating income, if one is presented. The standard is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2019 and early adoption is permitted. It is required to be applied retrospectively, except for the provision regarding capitalization in assets which is required to be applied prospectively. The Company does not expect the update to have a material impact on its financial position, results of operations or cash flows.

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In May 2017, the FASB issued an accounting standard update regarding stock compensation that provides guidance about which changes to the terms and conditions of a share-based payment award require an entity to apply modification accounting in order to reduce diversity in practice and reduce complexity. The update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2019 and should be applied prospectively with early adoption permitted as of the beginning of an interim or annual reporting period. The Company does not expect the update to have a material impact on its financial position, results of operations or cash flows.

In August 2017, the FASB issued an accounting standard update to hedge accounting to better align the Company's risk management activities by refining financial and non-financial hedging strategy eligibilities. This update also amends the presentation and disclosure requirements to increase transparency to better understand an entity's risk exposures and how hedging strategies are used to manage those exposures. This standard update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2020, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

In February 2018, the FASB issued an accounting standard update that provides an option to reclassify disproportional tax effects and other income tax effects ("stranded tax effects") caused by the Tax Cuts and Jobs Act ("the Act") from accumulated other comprehensive income to retained earnings. This standard update is effective for the Company beginning in the first quarter of its fiscal year ending June 30, 2020, and early adoption is permitted. The Company is currently evaluating the impact of this accounting standard update on its consolidated financial statements.

NOTE 2 — FAIR VALUE MEASUREMENTS

The Company's financial assets and liabilities are measured and recorded at fair value, except for its debt and certain equity investments in privately-held companies. These equity investments are generally accounted for under the cost method of accounting and are periodically assessed for other-than-temporary impairment when an event or circumstance indicates that an other-than-temporary decline in value may have occurred. The Company's non-financial assets, such as goodwill, intangible assets, and land, property and equipment, are recorded at cost and are assessed for impairment when an event or circumstance indicates that an other-than-temporary decline in value may have occurred.

Fair Value of Financial Instruments. The Company has evaluated the estimated fair value of financial instruments using available market information and valuations as provided by third-party sources. The use of different market assumptions and/or estimation methodologies could have a significant effect on the estimated fair value amounts. The fair value of the Company's cash equivalents, accounts receivable, accounts payable and other current assets and liabilities approximate their carrying amounts due to the relatively short maturity of these items.

Fair Value Hierarchy. The authoritative guidance for fair value measurements establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

Level 1	Valuations based on quoted prices in active markets for identical assets or liabilities that the entity has the ability to access.
Level 2	Valuations based on quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable data for substantially the full term of the assets or liabilities.
Level 3	Valuations based on inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

The Company's financial instruments were classified within Level 1 or Level 2 of the fair value hierarchy as of June 30, 2018, because they were valued using quoted market prices, broker/dealer quotes or alternative pricing sources with observable levels of price transparency. As of June 30, 2018, the types of instruments valued based on

quoted market prices in active markets included money market funds, certain U.S. Treasury securities and U.S. Government agency securities. Such instruments are generally classified within Level 1 of the fair value hierarchy.

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As of June 30, 2018, the types of instruments valued based on other observable inputs included corporate debt securities, sovereign securities, certain U.S. Treasury securities and U.S. Government agency securities. The market inputs used to value these instruments generally consist of market yields, reported trades and broker/dealer quotes. Such instruments are generally classified within Level 2 of the fair value hierarchy.

The principal market in which the Company executes its foreign currency contracts is the institutional market in an over-the-counter environment with a relatively high level of price transparency. The market participants generally are large financial institutions. The Company's foreign currency contracts' valuation inputs are based on quoted prices and quoted pricing intervals from public data sources and do not involve management judgment. These contracts are typically classified within Level 2 of the fair value hierarchy.

Financial assets (excluding cash held in operating accounts and time deposits) and liabilities measured at fair value on a recurring basis as of the date indicated below were presented on the Company's Consolidated Balance Sheet as follows:

As of June 30, 2018 (In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Assets			
Cash equivalents:			
U.S. Treasury securities	$1,996	$ —	$ 1,996
Corporate debt securities	4,995	—	4,995
Money market funds and other	863,115	863,115	—
U.S. Government agency securities	7,675	—	7,675
Marketable securities:			
Corporate debt securities	735,408	—	735,408
Sovereign securities	17,142	—	17,142
U.S. Government agency securities	316,022	299,501	16,521
U.S. Treasury securities	405,654	364,574	41,080
Total cash equivalents and marketable securities[(1)]	2,352,007	1,527,190	824,817
Other current assets:			
Derivative assets	5,385	—	5,385
Other non-current assets:			
Executive Deferred Savings Plan	197,213	143,580	53,633
Total financial assets[(1)]	$2,554,605	$ 1,670,770	$ 883,835
Liabilities			
Other current liabilities:			
Derivative liabilities	$(6,828)	$ —	$ (6,828)
Total financial liabilities	$(6,828)	$ —	$ (6,828)

(1) Excludes cash of $473.8 million held in operating accounts and time deposits of $54.5 million as of June 30, 2018.

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Financial assets (excluding cash held in operating accounts and time deposits) and liabilities measured at fair value on a recurring basis as of the date indicated below were presented on the Company's Consolidated Balance Sheet as follows:

As of June 30, 2017 (In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Assets			
Cash equivalents:			
Corporate debt securities	$76,472	$ —	$ 76,472
Money market funds and other	616,039	616,039	—
U.S. Government agency securities	117,417	—	117,417
Sovereign securities	10,050	—	10,050
Marketable securities:			
Corporate debt securities	1,042,723	—	1,042,723
Sovereign securities	42,515	—	42,515
U.S. Government agency securities	391,409	368,121	23,288
U.S. Treasury securities	373,299	373,299	—
Total cash equivalents and marketable securities[(1)]	2,669,924	1,357,459	1,312,465
Other current assets:			
Derivative assets	5,931	—	5,931
Other non-current assets:			
Executive Deferred Savings Plan	182,150	136,145	46,005
Total financial assets[(1)]	$2,858,005	$ 1,493,604	$ 1,364,401
Liabilities			
Other current liabilities:			
Derivative liabilities	$(1,275)	$ —	$ (1,275)
Total financial liabilities	$(1,275)	$ —	$ (1,275)

(1) Excludes cash of $307.4 million held in operating accounts and time deposits of $39.4 million as of June 30, 2017.

There were no transfers between Level 1 and Level 2 fair value measurements during the fiscal year ended June 30, 2018 or 2017. The Company did not have any assets or liabilities measured at fair value on a recurring basis within Level 3 fair value measurements as of June 30, 2018 or 2017.

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NOTE 3 — FINANCIAL STATEMENT COMPONENTS

Consolidated Balance Sheets

	As of June 30,	
(In thousands)	2018	2017
Accounts receivable, net:		
Accounts receivable, gross	$663,317	$592,753
Allowance for doubtful accounts	(11,639)	(21,636)
	$651,678	$571,117
Inventories:		
Customer service parts	$253,639	$245,172
Raw materials	331,065	240,389
Work-in-process	280,208	193,026
Finished goods	66,933	54,401
	$931,845	$732,988
Other current assets:		
Prepaid expenses	$47,088	$36,146
Prepaid income tax and other taxes	23,452	22,071
Other current assets	14,619	13,004
	$85,159	$71,221
Land, property and equipment, net:		
Land	$40,599	$40,617
Buildings and leasehold improvements	335,647	319,306
Machinery and equipment	577,077	551,277
Office furniture and fixtures	22,171	21,328
Construction-in-process	9,180	4,597
	984,674	937,125
Less: accumulated depreciation and amortization	(698,368)	(653,150)
	$286,306	$283,975
Other non-current assets:		
Executive Deferred Savings Plan	$197,213	$182,150
Other non-current assets	19,606	13,526
	$216,819	$195,676
Other current liabilities:		
Executive Deferred Savings Plan	$199,505	$183,603
Compensation and benefits	177,587	172,707
Other accrued expenses	123,869	116,039
Customer credits and advances	116,440	95,188
Warranty	42,258	45,458
Income taxes payable	23,287	17,040
Interest payable	16,947	19,396
	$699,893	$649,431
Other non-current liabilities:		
Pension liabilities	$66,786	$72,801
Income taxes payable	371,665	68,439
Other non-current liabilities	32,912	31,167
	$471,363	$172,407

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Accumulated Other Comprehensive Income (Loss)

The components of accumulated other comprehensive income (loss) ("OCI") as of the dates indicated below were as follows:

(In thousands)	Currency Translation Adjustments	Unrealized Gains (Losses) on Available-for-Sale Securities	Unrealized Gains (Losses) on Cash Flow Hedges	Unrealized Gains (Losses) on Defined Benefit Plans	Total
Balance as of June 30, 2018	$ (29,974)	$ (11,032)	$ 1,932	$(14,859)	$(53,933)
Balance as of June 30, 2017	$ (30,654)	$ (3,869)	$ 5,221	$(22,021)	$(51,323)

The effects on net income of amounts reclassified from accumulated OCI to the Consolidated Statements of Operations for the indicated periods were as follows (in thousands):

Accumulated OCI Components	Location in the Consolidated Statements of Operations	Year ended June 30, 2018	2017
Unrealized gains (losses) on cash flow hedges from foreign exchange and interest rate contracts	Revenues	$955	$2,846
	Costs of revenues	2,137	(378)
	Interest expense	754	754
	Net gains reclassified from accumulated OCI	$3,846	$3,222
Unrealized gains (losses) on available-for-sale securities	Other expense (income), net	$(209)	$191

The amounts reclassified out of accumulated OCI related to the Company's defined benefit pension plans, which were recognized as a component of net periodic cost for the fiscal years ended June 30, 2018 and 2017 were $1.8 million and $1.9 million, respectively. For additional details, refer to Note 11, "Employee Benefit Plans."

Consolidated Statements of Operations

	Year ended June 30,		
(In thousands)	2018	2017	2016
Other expense (income), net:			
Interest income	$(36,869)	$(23,270)	$(14,507)
Foreign exchange losses, net	708	641	1,235
Net realized losses (gains) on sale of investments	209	(191)	(311)
Other	2,839	3,359	(7,051)
	$(33,113)	$(19,461)	$(20,634)

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NOTE 4 — MARKETABLE SECURITIES

The amortized cost and fair value of marketable securities as of the dates indicated below were as follows:

As of June 30, 2018 (In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Corporate debt securities	$747,763	$ 148	$(7,508)	$740,403
Money market funds and other	863,115	—	—	863,115
Sovereign securities	17,293	—	(151)	17,142
U.S. Government agency securities	326,508	16	(2,827)	323,697
U.S. Treasury securities	411,329	3	(3,682)	407,650
Subtotal	2,366,008	167	(14,168)	2,352,007
Add: Time deposits[1]	54,537	—	—	54,537
Less: Cash equivalents	930,608	—	—	930,608
Marketable securities	$1,489,937	$ 167	$(14,168)	$1,475,936

As of June 30, 2017 (In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Corporate debt securities	$1,120,548	$ 598	$(1,951)	$1,119,195
Money market funds and other	616,039	—	—	616,039
Sovereign securities	52,621	—	(56)	52,565
U.S. Government agency securities	510,553	62	(1,789)	508,826
U.S. Treasury securities	374,676	52	(1,429)	373,299
Subtotal	2,674,437	712	(5,225)	2,669,924
Add: Time deposits[1]	39,389	—	—	39,389
Less: Cash equivalents	845,639	—	(15)	845,624
Marketable securities	$1,868,187	$ 712	$(5,210)	$1,863,689

(1) Time deposits excluded from fair value measurements.

KLA-Tencor’s investment portfolio consists of both corporate and government securities that have a maximum maturity of three years. The longer the duration of these securities, the more susceptible they are to changes in market interest rates and bond yields. As yields increase, those securities with a lower yield-at-cost show a mark-to-market unrealized loss. Most of the Company's unrealized losses are due to changes in market interest rates, and bond yields. The Company believes that it has the ability to realize the full value of all of these investments upon maturity. The following table summarizes the fair value and gross unrealized losses of the Company’s investments that were in an unrealized loss position as of the date indicated below:

As of June 30, 2018 (In thousands)	Fair Value	Gross Unrealized Losses[1]
Corporate debt securities	$648,552	$(7,508)
U.S. Treasury securities	380,753	(3,682)
U.S. Government agency securities	293,836	(2,827)
Sovereign securities	17,143	(151)
Total	$1,340,284	$(14,168)

(1) As of June 30, 2018, the amount of total gross unrealized losses related to investments that had been in a continuous loss position for 12 months or more was $5.3 million.

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The contractual maturities of securities classified as available-for-sale, regardless of their classification on the Company's Consolidated Balance Sheet, as of the date indicated below were as follows:

As of June 30, 2018 (In thousands)	Amortized Cost	Fair Value
Due within one year	$750,665	$746,978
Due after one year through three years	739,272	728,958
	$1,489,937	$1,475,936

Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. Realized gains on available for sale securities for the fiscal years ended June 30, 2018, 2017 and 2016 were $0.2 million, $0.4 million and $0.9 million, respectively. Realized losses on available for sale securities were immaterial for all years presented.

NOTE 5 - BUSINESS COMBINATIONS

On June 9, 2017, the Company completed the acquisition of the outstanding shares of a privately-held company that designs and manufactures optical profilers and defect inspection systems for advanced semiconductor packaging, LED and data storage industries, for total purchase consideration of $36.8 million, inclusive of post-closing adjustments. The primary reason for the acquisition is to expand the Company's portfolio of products.

The following table represents the purchase price allocation and summarizes the aggregate estimated fair value of the net assets acquired, including post-closing adjustments:

(In thousands)	Purchase Price Allocation
Intangible assets	$ 17,660
Goodwill	14,379
Assets acquired (including cash and marketable securities of $3.2 million)	6,110
Liabilities assumed	(1,334)
Fair value of net assets acquired	$ 36,815

Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired. The $14.4 million of goodwill was assigned to the Global Service and Support ("GSS"), and the Others reporting units. None of the goodwill recognized is deductible for income tax purposes.

On April 2, 2018, the Company acquired a product line from Keysight Technologies, Inc., a related party, for total purchase consideration of $12.1 million, including intangible assets of $5.0 million and goodwill of $5.2 million, which was assigned to GSS. None of the goodwill recognized is deductible for income tax purposes. See Note 18 "Related Party Transactions" for additional details.

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NOTE 6 — GOODWILL AND PURCHASED INTANGIBLE ASSETS

Goodwill

Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in the current and prior business combinations. The Company has four reporting units: Wafer Inspection, Patterning, GSS, and Others. The following table presents goodwill balances and the movements by reporting unit during the fiscal years ended June 30, 2018 and 2017:

(In thousands)	Wafer Inspection	Patterning	GSS	Others	Total
Balance as of June 30, 2016	$281,026	$ 53,255	$—	$896	$335,177
Acquired goodwill	—	—	2,856	11,424	14,280
Foreign currency adjustment	69	—	—	—	69
Balance as of June 30, 2017	281,095	53,255	2,856	12,320	349,526
Acquired goodwill	—	—	5,163	—	5,163
Foreign currency and other adjustments	(90)	—	20	79	9
Balance as of June 30, 2018	$281,005	$ 53,255	$8,039	$12,399	$354,698

Goodwill is net of accumulated impairment losses of $277.6 million, which were recorded prior to the fiscal year ended June 30, 2014. The acquired goodwill during the fiscal year ended June 30, 2018 and 2017 resulted primarily from the acquisition of certain assets and liabilities of privately-held companies. See Note 5 “Business Combinations” for additional details.

The Company performed a qualitative assessment of the goodwill by reporting unit as of February 28, 2018, during the three months ended March 31, 2018 and concluded that it was more likely than not that the fair value of each of the reporting units exceeded its carrying amount. In assessing the qualitative factors, the Company considered the impact of key factors including change in industry and competitive environment, market capitalization, stock price, earnings multiples, budgeted-to-actual revenue performance from prior year, gross margin and cash flow from operating activities. As such, it was not necessary to perform the two-step quantitative goodwill impairment test at that time. In addition, there have been no significant events or circumstances affecting the valuation of goodwill subsequent to the qualitative assessment performed in the third quarter of the fiscal year ended June 30, 2018. The next annual assessment of goodwill by reporting unit is scheduled to be performed in the third quarter of the fiscal year ending June 30, 2019.

Purchased Intangible Assets

The components of purchased intangible assets as of the dates indicated below were as follows:

(In thousands)		As of June 30, 2018			As of June 30, 2017		
Category	Range of Useful Lives	Gross Carrying Amount	Accumulated Amortization and Impairment	Net Amount	Gross Carrying Amount	Accumulated Amortization and Impairment	Net Amount
Existing technology	4-7 years	$160,859	$ 144,202	$16,657	$157,259	$ 140,346	$16,913
Trade name/Trademark	7 years	20,993	20,060	933	20,993	19,902	1,091
Customer relationships	7-8 years	56,680	55,136	1,544	55,680	54,959	721
Backlog	<1 year	660	461	199	260	22	238
Total		$239,192	$ 219,859	$19,333	$234,192	$ 215,229	$18,963

Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable.

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For the fiscal years ended June 30, 2018, 2017 and 2016, amortization expense for purchased intangible assets was $4.6 million, $3.0 million and $7.6 million, respectively. The increase in the gross carrying value resulted primarily from the acquisition of certain assets and liabilities of privately-held companies. See Note 5 “Business Combinations” for additional details. Based on the intangible assets recorded as of June 30, 2018, and assuming no subsequent additions to, or impairment of, the underlying assets, the remaining estimated annual amortization expense is expected to be as follows:

Fiscal year ending June 30:	Amortization (In thousands)
2019	$ 3,400
2020	3,201
2021	3,201
2022	3,201
2023	3,151
Thereafter	3,179
Total	$ 19,333

NOTE 7 — DEBT

The following table summarizes the debt of the Company as of June 30, 2018 and June 30, 2017:

	As of June 30, 2018		As of June 30, 2017	
	Amount (in thousands)	Effective Interest Rate	Amount (in thousands)	Effective Interest Rate
Fixed-rate 2.375% Senior notes due on November 1, 2017	$—	— %	$250,000	2.396 %
Fixed-rate 3.375% Senior notes due on November 1, 2019	250,000	3.377 %	250,000	3.377 %
Fixed-rate 4.125% Senior notes due on November 1, 2021	500,000	4.128 %	500,000	4.128 %
Fixed-rate 4.650% Senior notes due on November 1, 2024[1]	1,250,000	4.682 %	1,250,000	4.682 %
Fixed-rate 5.650% Senior notes due on November 1, 2034	250,000	5.670 %	250,000	5.670 %
Term loans	—	— %	446,250	2.137 %
Total debt	2,250,000		2,946,250	
Unamortized discount	(2,523)		(2,901)	
Unamortized debt issuance costs	(10,075)		(12,892)	
Total debt	$2,237,402		$2,930,457	
Reported as:				
Current portion of long-term debt	$—		$249,983	
Long-term debt	2,237,402		2,680,474	
Total debt	$2,237,402		$2,930,457	

(1) The effective interest rate disclosed above for this series of Senior Notes excludes the impact of the treasury rate lock hedge discussed below. The effective interest rate including the impact of the treasury rate lock hedge was 4.626%.

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As of June 30, 2018, future principal payments for the long-term debt are summarized as follows.

Fiscal year ending June 30,	Amount (In thousands)
2019	$—
2020	250,000
2021	—
2022	500,000
2023	—
Thereafter	1,500,000
Total payments	$2,250,000

Senior Notes:

In November 2014, the Company issued $2.50 billion aggregate principal amount of senior, unsecured long-term notes (collectively referred to as "Senior Notes"). The Company issued the Senior Notes as part of the leveraged recapitalization plan under which the proceeds from the Senior Notes in conjunction with the proceeds from the term loans (described below) and cash on hand were used (x) to fund a special cash dividend of $16.50 per share, aggregating to approximately $2.76 billion, (y) to redeem $750.0 million of 2018 Senior Notes, including associated redemption premiums, accrued interest and other fees and expenses and (z) for other general corporate purposes, including repurchases of shares pursuant to the Company's stock repurchase program. The interest rate specified for each series of the Senior Notes will be subject to adjustments from time to time if Moody's Investor Service, Inc. ("Moody's") or Standard & Poor's Ratings Services ("S&P") or, under certain circumstances, a substitute rating agency selected by us as a replacement for Moody's or S&P, as the case may be (a "Substitute Rating Agency"), downgrades (or subsequently upgrades) its rating assigned to the respective series of Senior Notes such that the adjusted rating is below investment grade. If the adjusted rating of any series of Senior Notes from Moody's (or, if applicable, any Substitute Rating Agency) is decreased to Ba1, Ba2, Ba3 or B1 or below, the stated interest rate on such series of Senior Notes as noted above will increase by 25 bps, 50 bps, 75 bps or 100 bps, respectively ("bps" refers to Basis Points and 1% is equal to 100 bps). If the rating of any series of Senior Notes from S&P (or, if applicable, any Substitute Rating Agency) with respect to such series of Senior Notes is decreased to BB+, BB, BB- or B+ or below, the stated interest rate on such series of Senior Notes as noted above will increase by 25 bps, 50 bps, 75 bps or 100 bps, respectively. The interest rates on any series of Senior Notes will permanently cease to be subject to any adjustment (notwithstanding any subsequent decrease in the ratings by any of Moody's, S&P and, if applicable, any Substitute Rating Agency) if such series of Senior Notes becomes rated "Baa1" (or its equivalent) or higher by Moody's (or, if applicable, any Substitute Rating Agency) and "BBB+" (or its equivalent) or higher by S&P (or, if applicable, any Substitute Rating Agency), or one of those ratings if rated by only one of Moody's, S&P and, if applicable, any Substitute Rating Agency, in each case with a stable or positive outlook. In October 2014, the Company entered into a series of forward contracts to lock the 10-year treasury rate ("benchmark rate") on a portion of the Senior Notes with a notional amount of $1.00 billion in aggregate. For additional details, refer to Note 16, "Derivative Instruments and Hedging Activities."

The original discount on the Senior Notes amounted to $4.0 million and is being amortized over the life of the debt. Interest is payable semi-annually on May 1 and November 1 of each year. The debt indenture (the "Indenture") includes covenants that limit the Company's ability to grant liens on its facilities and enter into sale and leaseback transactions, subject to certain allowances under which certain sale and leaseback transactions are not restricted.

In certain circumstances involving a change of control followed by a downgrade of the rating of a series of Senior Notes by at least two of Moody's, S&P and Fitch Inc., unless the Company has exercised its right to redeem the Senior Notes of such series, the Company will be required to make an offer to repurchase all or, at the holder's option, any part, of each holder's Senior Notes of that series pursuant to the offer described below (the "Change of Control Offer"). In the Change of Control Offer, the Company will be required to offer payment in cash equal to 101% of the aggregate principal amount of Senior Notes repurchased plus accrued and unpaid interest, if any, on the Senior Notes repurchased, up to, but not including, the date of repurchase.

Based on the trading prices of the Senior Notes on the applicable dates, the fair value of the Senior Notes as of June 30, 2018 and June 30, 2017 was approximately $2.33 billion and $2.67 billion, respectively. While the Senior Notes are recorded at cost, the fair value of the long-term debt was determined based on quoted prices in markets that are not active; accordingly, the long-term debt is categorized as Level 2 for purposes of the fair value measurement hierarchy.

As of June 30, 2018, the Company was in compliance with all of its covenants under the Indenture associated with the Senior Notes.

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Credit Facility (Term Loans and Unfunded Revolving Credit Facility) and Revolving Credit Facility:

In November 2014, the Company entered into $750.0 million of five-year senior unsecured prepayable term loans and a $500.0 million unfunded revolving credit facility (collectively, the "Credit Facility").

In November 2017, the Company entered into a Credit Agreement (the "Credit Agreement") providing for a $750.0 million five-year unsecured revolving credit facility (the "Revolving Credit Facility"), which replaced its prior Credit Facility. Subject to the terms of the Credit Agreement, the Revolving Credit Facility may be increased in an amount up to $250.0 million in the aggregate. The Company made borrowings of $250.0 million from the Revolving Credit Facility on the closing date, which were paid in full during the second half of the fiscal year ended June 30, 2018.

The Company may borrow, repay and reborrow funds under the Revolving Credit Facility until its maturity on November 30, 2022 (the "Maturity Date"), at which time such Revolving Credit Facility will terminate, and all outstanding loans under such facility, together with all accrued and unpaid interest, must be repaid. The Company may prepay the Revolving Credit Facility at any time without a prepayment penalty.

Borrowings under the Revolving Credit Facility will bear interest, at the Company's option, at either: (i) the Alternative Base Rate ("ABR") plus a spread, which ranges from 0 bps to 75 bps, or (ii) the London Interbank Offered Rate ("LIBOR") plus a spread, which ranges from 100 bps to175 bps. The spreads under ABR and LIBOR are subject to adjustment in conjunction with credit rating downgrades or upgrades. The Company is also obligated to pay an annual commitment fee on the daily undrawn balance of the Revolving Credit Facility, which ranges from 10 bps to 25 bps, subject to an adjustment in conjunction with changes to the Company's credit rating. As of June 30, 2018, the Company elected to pay an annual commitment fee of 15 bps on the daily undrawn balance of the Revolving Credit Facility.

The Revolving Credit Facility requires the Company to maintain an interest expense coverage ratio as described in the Credit Agreement, on a quarterly basis, covering the trailing four consecutive fiscal quarters of no less than 3.50 to 1.00. In addition, the Company is required to maintain the maximum leverage ratio as described in the Credit Agreement on a quarterly basis of 3.00 to 1.00, covering the trailing four consecutive fiscal quarters for each fiscal quarter, which can be increased to 4.00 to 1.00 for a period of time in connection with a material acquisition or a series of material acquisitions.

The Company was in compliance with all covenants under the Credit Agreement as of June 30, 2018.

NOTE 8 — EQUITY AND LONG-TERM INCENTIVE COMPENSATION PLANS

Equity Incentive Program

As of June 30, 2018, the Company had two plans under which the Company was able to issue equity incentive awards, such as restricted stock units and stock options, to its employees, consultants and members of its Board of Directors: the 2004 Equity Incentive Plan (the "2004 Plan") and the 1998 Director Plan (the "Outside Director Plan").

2004 Plan:

The 2004 Plan provides for the grant of options to purchase shares of the Company's common stock, stock appreciation rights, restricted stock units, performance shares, performance units and deferred stock units to the Company's employees, consultants and members of its Board of Directors. As of June 30, 2018, 2.0 million shares were available for issuance under the 2004 Plan.

Any 2004 Plan awards of restricted stock units, performance shares, performance units or deferred stock units with a per share or unit purchase price lower than 100% of fair market value on the grant date are counted against the total number of shares issuable under the 2004 Plan as follows, based on the grant date of the applicable award: (a) for any such awards granted before November 6, 2013, the awards counted against the 2004 Plan share reserve as 1.8 shares for every one share subject thereto; and (b) for any such awards granted on or after November 6, 2013, the awards count against the 2004 Plan share reserve as 2.0 shares for every one share subject thereto.

In addition, the plan administrator has the ability to grant "dividend equivalent" rights in connection with awards of restricted stock units, performance shares, performance units and deferred stock units before they are fully vested. The plan administrator, at its discretion, may grant a right to receive dividends on the aforementioned awards which may be settled in cash or Company stock at the discretion of the plan administrator subject to meeting the vesting requirement of the underlying awards.

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Outside Director Plan

The Outside Director Plan only permits the issuance of stock options to the non-employee members of the Board of Directors. As of June 30, 2018, 1.7 million shares were available for grant under the Outside Director Plan.

Equity Incentive Plans - General Information

The following table summarizes the combined activity under the Company's equity incentive plans for the indicated periods:

(In thousands)	Available For Grant
Balances as of June 30, 2015	7,810
Restricted stock units granted[1][3]	(1,541)
Restricted stock units canceled[1]	509
Balances as of June 30, 2016	6,778
Restricted stock units granted[1][3]	(2,169)
Restricted stock units canceled[1]	101
Balances as of June 30, 2017	4,710
Restricted stock units granted[1][3]	(1,132)
Restricted stock units granted adjustment[2]	33
Restricted stock units canceled[1]	69
Balances as of June 30, 2018	3,680

(1) The number of restricted stock units reflects the application of the award multiplier as described above (1.8x or 2.0x depending on the grant date of the applicable award).

(2) Represents the portion of restricted stock units granted with performance-based vesting criteria and reported at the actual number of shares issued upon achievement of the performance vesting criteria during the fiscal year ended June 30, 2018.

(3) Includes restricted stock units granted to senior management with performance-based vesting criteria (in addition to service-based vesting criteria for any of such restricted stock units that are deemed to have been earned). As of June 30, 2018, it had not yet been determined the extent to which (if at all) the performance-based vesting criteria had been satisfied. Therefore, this line item includes all performance-based restricted stock units granted during the fiscal year, reported at the maximum possible number of shares that may ultimately be issuable if all applicable performance-based criteria are achieved at their maximum levels and all applicable service-based criteria are fully satisfied (0.3 million shares, 84 thousand shares and 0.7 million shares for the fiscal years ended June 30, 2018, 2017 and 2016, respectively, after application of the 1.8x or 2.0x multiplier described above).

The fair value of stock-based awards is measured at the grant date and is recognized as an expense over the employee's requisite service period. For restricted stock units granted without "dividend equivalent" rights, fair value is calculated using the closing price of the Company's common stock on the grant date, adjusted to exclude the present value of dividends which are not accrued on those restricted stock units. The fair value for restricted stock units granted with "dividend equivalent" rights is determined using the closing price of the Company's common stock on the grant date. As of June 30, 2018, the Company accrued $9.6 million of dividends payable, which included both a special cash dividend and regular quarterly cash dividends for the unvested restricted stock units outstanding as of the dividend record date. The fair value for purchase rights under the Company's Employee Stock Purchase Plan is determined using a Black-Scholes valuation model.

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The following table shows pre-tax stock-based compensation expense for the indicated periods:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Stock-based compensation expense by:			
Costs of revenues	$8,062	$5,338	$4,689
Research and development	11,249	8,089	8,618
Selling, general and administrative	43,473	37,516	31,743
Total stock-based compensation expense	$62,784	$50,943	$45,050

The following table shows stock-based compensation capitalized as inventory as of the dates indicated below:

(In thousands)	As of June 30,	
	2018	2017
Inventory	$4,580	$2,820

Restricted Stock Units

The following table shows the applicable number of restricted stock units and weighted-average grant date fair value for restricted stock units granted, vested and released, withheld for taxes, and forfeited during the fiscal year ended June 30, 2018 and restricted stock units outstanding as of June 30, 2018 and 2017:

Restricted Stock Units	Shares (In thousands) [1]	Weighted-Average Grant Date Fair Value
Outstanding restricted stock units as of June 30, 2017[2]	2,241	$ 68.24
Granted[2]	567	$ 95.95
Granted adjustments[3]	(17)	$ 74.26
Vested and released	(435)	$ 66.87
Withheld for taxes	(307)	$ 66.87
Forfeited	(35)	$ 67.33
Outstanding restricted stock units as of June 30, 2018[2]	2,014	$ 76.50

(1) Share numbers reflect actual shares subject to awarded restricted stock units. As described above, under the terms of the 2004 Plan, the number of shares subject to each award reflected in this number is multiplied by either 1.8x or 2.0x (depending on the grant date of the award) to calculate the impact of the award on the share reserve under the 2004 Plan.

(2) Includes restricted stock units granted to senior management with performance-based vesting criteria (in addition to service-based vesting criteria for any of such restricted stock units that are deemed to have been earned). As of June 30, 2018, it had not yet been determined the extent to which (if at all) the performance-based vesting criteria had been satisfied. Therefore, this line item includes all performance-based restricted stock units, reported at the maximum possible number of shares (i.e., 0.2 million shares for the fiscal year ended June 30, 2018, 42 thousand shares for fiscal year ended June 30, 2017 and 0.3 million shares for the fiscal year ended June 30, 2016) that may ultimately be issuable if all applicable performance-based criteria are achieved at their maximum and all applicable service-based criteria are fully satisfied.

(3) Represents the portion of restricted stock units granted with performance based vesting criteria and reported at the actual number of shares issued upon achievement of the performance vesting criteria during the fiscal year ended June 30, 2018.

The restricted stock units granted by the Company generally vest (a) with respect to awards with only service-based vesting criteria, in three or four equal installments and (b) with respect to awards with both performance-based and service-based vesting criteria, in two equal installments on the third and fourth anniversaries of the grant date, in each case subject to the recipient remaining employed by the Company as of the applicable vesting date. The restricted stock units granted to the independent members of the board of directors vest annually.

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The following table shows the weighted-average grant date fair value per unit for the restricted stock units granted and the restricted stock units vested and tax benefits realized by the Company in connection with vested and released restricted stock units for the indicated periods:

(In thousands, except for weighted-average grant date fair value)	Year ended June 30,		
	2018	2017	2016
Weighted-average grant date fair value per unit	$95.95	$78.83	$51.12
Grant date fair value of vested restricted stock units	$49,606	$33,820	$51,992
Tax benefits realized by the Company in connection with vested and released restricted stock units	$16,615	$15,829	$27,412

As of June 30, 2018, the unrecognized stock-based compensation expense balance related to restricted stock units was $104.3 million, excluding the impact of estimated forfeitures, and will be recognized over a weighted-average remaining contractual term and an estimated weighted-average amortization period of 1.3 years. The intrinsic value of outstanding restricted stock units as of June 30, 2018 was $206.5 million.

Cash-Based Long-Term Incentive Compensation

The Company has adopted a cash-based long-term incentive ("Cash LTI") program for many of its employees as part of the Company's employee compensation program. During the fiscal years ended June 30, 2018 and 2017, the Company approved Cash LTI awards of $64.9 million and $96.7 million, respectively, under the Company's Cash Long-Term Incentive Plan ("Cash LTI Plan"). The Company changed the timing of its annual grants for its employees resulting in the Cash LTI awards being lower during the fiscal year ended June 30, 2018 compared to the fiscal year ended June 30, 2017. Cash LTI awards issued to employees under the Cash LTI Plan will vest in three or four equal installments, with one-third or one-fourth of the aggregate amount of the Cash LTI award vesting on each anniversary of the grant date over a three or four-year period. In order to receive payments under a Cash LTI award, participants must remain employed by the Company as of the applicable award vesting date. Executives and non-employee Board members are not participating in this program. During the fiscal years ended June 30, 2018, 2017 and 2016, the Company recognized $52.4 million, $48.8 million and $44.6 million, respectively, in compensation expense under the Cash LTI Plan. As of June 30, 2018, the unrecognized compensation balance (excluding the impact of estimated forfeitures) related to the Cash LTI Plan was $132.1 million.

Employee Stock Purchase Plan

KLA-Tencor's Employee Stock Purchase Plan ("ESPP") provides, effective January 2, 2018, that eligible employees may contribute up to 15% of their eligible earnings toward the semi-annual purchase of KLA-Tencor's common stock. Prior to January 2, 2018, eligible employees could contribute up to 10% of their eligible earnings. The ESPP is qualified under Section 423 of the Internal Revenue Code. The employee's purchase price is derived from a formula based on the closing price of the common stock on the first day of the offering period versus the closing price on the date of purchase (or, if not a trading day, on the immediately preceding trading day).

The offering period (or length of the look-back period) under the ESPP has a duration of six months, and the purchase price with respect to each offering period beginning on or after such date is, until otherwise amended, equal to 85% of the lesser of (i) the fair market value of the Company's common stock at the commencement of the applicable six-month offering period or (ii) the fair market value of the Company's common stock on the purchase date. The Company estimates the fair value of purchase rights under the ESPP using a Black-Scholes valuation model.

The fair value of each purchase right under the ESPP was estimated on the date of grant using the Black-Scholes option valuation model and the straight-line attribution approach with the following weighted-average assumptions:

	Year ended June 30,		
	2018	2017	2016
Stock purchase plan:			
Expected stock price volatility	28.7%	23.4%	25.4%
Risk-free interest rate	1.1 %	0.5 %	0.2 %
Dividend yield	2.5 %	2.8 %	3.3 %
Expected life (in years)	0.50	0.50	0.50

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The following table shows total cash received from employees for the issuance of shares under the ESPP, the number of shares purchased by employees through the ESPP, the tax benefits realized by the Company in connection with the disqualifying dispositions of shares purchased under the ESPP and the weighted-average fair value per share for the indicated periods:

(In thousands, except for weighted-average fair value per share)	Year ended June 30,		
	2018	2017	2016
Total cash received from employees for the issuance of shares under the ESPP	$61,452	$45,358	$38,295
Number of shares purchased by employees through the ESPP	733	705	735
Tax benefits realized by the Company in connection with the disqualifying dispositions of shares purchased under the ESPP	$1,664	$1,999	$2,194
Weighted-average fair value per share based on Black-Scholes model	$21.95	$15.16	$12.48

The ESPP shares are replenished annually on the first day of each fiscal year by virtue of an evergreen provision. The provision allows for share replenishment equal to the lesser of 2.0 million shares or the number of shares which KLA-Tencor estimates will be required to be issued under the ESPP during the forthcoming fiscal year. As of June 30, 2018, a total of 2.0 million shares were reserved and available for issuance under the ESPP.

Quarterly cash dividends

On May 3, 2018, the Company's Board of Directors declared a regular quarterly cash dividend of $0.75 per share on the outstanding shares of the Company's common stock, which was paid on June 1, 2018 to the stockholders of record as of the close of business on May 15, 2018. The total amount of regular quarterly cash dividends paid by the Company during the fiscal years ended June 30, 2018 and 2017 was $395.6 million and $335.4 million, respectively. The amount of accrued dividends payable for regular quarterly cash dividends on unvested restricted stock units with dividend equivalent rights was $6.7 million and $4.8 million as of June 30, 2018 and 2017, respectively. These amounts will be paid upon vesting of the underlying restricted stock units. Refer to Note 19, "Subsequent Events" to the consolidated financial statements for additional information regarding the declaration of our quarterly cash dividend announced subsequent to June 30, 2018.

Special cash dividend

On November 19, 2014, the Company's Board of Directors declared a special cash dividend of $16.50 per share on our outstanding common stock, which was paid on December 9, 2014 to the stockholders of record as of the close of business on December 1, 2014. The declaration and payment of the special cash dividend was part of the Company's leveraged recapitalization transaction under which the special cash dividend was financed through a combination of existing cash and proceeds from the debt financing disclosed in Note 7, "Debt" that was completed during the three months ended December 31, 2014. As of the declaration date, the total amount of the special cash dividend accrued by the Company was approximately $2.76 billion, substantially all of which was paid out during the three months ended December 31, 2014, except for the aggregate special cash dividend of $43.0 million that was accrued for the unvested restricted stock units. As of June 30, 2018 and 2017, the Company had a total of $2.8 million and $9.0 million, respectively, of accrued dividends payable for the special cash dividend with respect to outstanding unvested restricted stock units, which will be paid when such underlying unvested restricted stock units vest. The Company paid a special cash dividend with respect to vested restricted stock units during the fiscal years ended June 30, 2018 and 2017 of $6.4 million and $8.6 million respectively. Other than the special cash dividend declared during the three months ended December 31, 2014, the Company historically has not declared any special cash dividend.

NOTE 9 — STOCK REPURCHASE PROGRAM

The Company's Board of Directors has authorized a program for the Company to repurchase shares of the Company's common stock. The intent of this program is to offset the dilution from KLA-Tencor's equity incentive plans and employee stock purchase plan, as well as to return excess cash to the Company's stockholders. Subject to market conditions, applicable legal requirements and other factors, the repurchases were made in the open market in compliance with applicable securities laws, including the Securities Exchange Act of 1934 and the rules promulgated thereunder such as Rule 10b-18 and Rule 10b5-1. On March 16, 2018, the Company's Board of Directors canceled the existing repurchase program and authorized a new repurchase program which permits the Company to repurchase up to $1.00 billion of its common stock, or up to $2.00 billion if the Orbotech Merger closes. This new stock repurchase

program has no expiration date and may be suspended at any time. As of June 30, 2018, an aggregate of approximately $961.9 million was available for repurchase under the Company's repurchase program.

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Share repurchases for the indicated periods (based on the trade date of the applicable repurchase) were as follows:

(In thousands)	Year ended June 30,		
	2018	2017	2016
Number of shares of common stock repurchased	1,960	243	3,445
Total cost of repurchases	$203,169	$25,002	$175,743

NOTE 10 — NET INCOME PER SHARE

Basic net income per share is calculated by dividing net income available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income per share is calculated by using the weighted-average number of common shares outstanding during the period, increased to include the number of additional shares of common stock that would have been outstanding if the shares of common stock underlying the Company's outstanding dilutive restricted stock units and stock options had been issued. The dilutive effect of outstanding restricted stock units and options is reflected in diluted net income per share by application of the treasury stock method.

The following table sets forth the computation of basic and diluted net income per share:

(In thousands, except per share amounts)	Year ended June 30,		
	2018	2017	2016
Numerator:			
Net income	$802,265	$926,076	$704,422
Denominator:			
Weighted-average shares-basic, excluding unvested restricted stock units	156,346	156,468	155,869
Effect of dilutive restricted stock units and options [1]	1,032	1,013	910
Weighted-average shares-diluted	157,378	157,481	156,779
Basic net income per share	$5.13	$5.92	$4.52
Diluted net income per share	$5.10	$5.88	$4.49
Anti-dilutive securities excluded from the computation of diluted net income per share	—	46	9

(1) The Company has not had any outstanding stock options since August 2016.

NOTE 11 — EMPLOYEE BENEFIT PLANS

KLA-Tencor has a profit sharing program for eligible employees, which distributes, on a quarterly basis, a percentage of the Company's pre-tax profits. In addition, the Company has an employee savings plan that qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Since April 1, 2011, the employer match amount was 50% of the first $8,000 of an eligible employee's contribution (i.e., a maximum of $4,000) during each fiscal year.

The total expenses under the profit sharing and 401(k) programs aggregated $16.0 million in the fiscal year ended June 30, 2018, and $15.3 million in each of the fiscal years ended June 30, 2017 and 2016. The Company has no defined benefit plans in the United States. In addition to the profit sharing plan and the United States 401(k), several of the Company's foreign subsidiaries have retirement plans for their full-time employees, several of which are defined benefit plans. Consistent with the requirements of local law, the Company deposits funds for certain of these plans with insurance companies, with third-party trustees or into government-managed accounts and/or accrues for the unfunded portion of the obligation. The assumptions used in calculating the obligation for the foreign plans depend on the local economic environment.

The Company applies authoritative guidance that requires an employer to recognize the funded status of each of its defined pension and post-retirement benefit plans as a net asset or liability on its balance sheets. Additionally, the authoritative guidance requires an employer to measure the funded status of each of its plans as of the date of its year-end statement of financial position. The benefit obligations and related assets under the Company's plans have been measured as of June 30, 2018 and 2017.

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Summary data relating to the Company's foreign defined benefit pension plans, including key weighted-average assumptions used, is provided in the following tables:

	Year ended June 30,	
(In thousands)	2018	2017
Change in projected benefit obligation:		
Projected benefit obligation as of the beginning of the fiscal year	$97,265	$89,923
Service cost	4,127	4,015
Interest cost	1,302	1,117
Contributions by plan participants	78	76
Actuarial (gain) loss	(8,228)	2,991
Benefit payments	(1,190)	(1,363)
Transfer in	2,806	—
Foreign currency exchange rate changes and others, net	522	506
Projected benefit obligation as of the end of the fiscal year	$96,682	$97,265

	Year ended June 30,	
(In thousands)	2018	2017
Change in fair value of plan assets:		
Fair value of plan assets as of the beginning of the fiscal year	$21,780	$18,894
Actual return on plan assets	850	241
Employer contributions	3,662	3,330
Benefit and expense payments	(1,190)	(1,363)
Transfer in	2,806	—
Foreign currency exchange rate changes and others, net	24	678
Fair value of plan assets as of the end of the fiscal year	$27,932	$21,780

	As of June 30,	
(In thousands)	2018	2017
Underfunded status	$68,750	$75,485

	As of June 30,	
(In thousands)	2018	2017
Plans with accumulated benefit obligations in excess of plan assets:		
Accumulated benefit obligation	$60,047	$56,967
Projected benefit obligation	$96,682	$97,265
Plan assets at fair value	$27,932	$21,780

	Year ended June 30,		
	2018	2017	2016
Weighted-average assumptions[(1)]:			
Discount rate	0.5%-2.3%	0.8%-1.9%	0.5%-2.0%
Expected rate of return on assets	1.3%-2.9%	1.5%-2.9%	1.8%-2.5%
Rate of compensation increases	3.0%-4.5%	3.0%-5.8%	3.0%-5.8%

(1) Represents the weighted-average assumptions used to determine the benefit obligation.

The assumptions for expected rate of return on assets were developed by considering the historical returns and expectations of future returns relevant to the country in which each plan is in effect and the investments applicable to the corresponding plan. The discount rate for each plan was derived by reference to appropriate benchmark yields on

high quality corporate bonds, allowing for the approximate duration of both plan obligations and the relevant benchmark index.

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The following table presents losses recognized in accumulated other comprehensive income (loss) before tax related to the Company's foreign defined benefit pension plans:

	Year ended June 30,	
(In thousands)	2018	2017
Unrecognized transition obligation	$ 251	$ 190
Unrecognized prior service cost	28	51
Unrealized net loss	23,208	33,477
Amount of losses recognized	$ 23,487	$ 33,718

Losses in accumulated other comprehensive income (loss) related to the Company's foreign defined benefit pension plans expected to be recognized as components of net periodic benefit cost over the fiscal year ending June 30, 2019 are as follows:

(In thousands)	Year ending June 30, 2018
Unrecognized transition obligation	$ —
Unrecognized prior service cost	21
Unrealized net loss	820
Amount of losses expected to be recognized	$ 841

The components of the Company's net periodic cost relating to its foreign subsidiaries' defined pension plans are as follows:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Components of net periodic pension cost:			
Service cost	$4,127	$4,015	$3,349
Interest cost	1,302	1,117	1,322
Return on plan assets	(428)	(393)	(406)
Amortization of transitional obligation	—	251	249
Amortization of prior service cost	26	46	46
Amortization of net loss	1,731	1,617	1,132
Net periodic pension cost	$6,758	$6,653	$5,692

Fair Value of Plan Assets

Fair value is 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. The three levels of inputs used to measure fair value of plan assets are described in Note 2, "Fair Value Measurements."

The foreign plans' investments are managed by third-party trustees consistent with the regulations or market practice of the country where the assets are invested. The Company is not actively involved in the investment strategy, nor does it have control over the target allocation of these investments. These investments made up 100% of total foreign plan assets in the fiscal years ended June 30, 2018 and 2017.

The expected aggregate employer contribution for the foreign plans during the fiscal year ending June 30, 2019 is $2.6 million.

The total benefits to be paid from the foreign pension plans are not expected to exceed $3.5 million in any year through the fiscal year ending June 30, 2028.

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Foreign plan assets measured at fair value on a recurring basis consisted of the following investment categories as of June 30, 2018 and 2017, respectively:

As of June 30, 2018 (In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Cash and cash equivalents	$15,737	$ 15,737	$ —
Bonds, equity securities and other investments	12,195	—	12,195
Total assets measured at fair value	$27,932	$ 15,737	$ 12,195

As of June 30, 2017 (In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Cash and cash equivalents	$13,784	$ 13,784	$ —
Bonds, equity securities and other investments	7,996	—	7,996
Total assets measured at fair value	$21,780	$ 13,784	$ 7,996

Concentration of Risk

The Company manages a variety of risks, including market, credit and liquidity risks, across its plan assets through its investment managers. The Company defines a concentration of risk as an undiversified exposure to one of the above-mentioned risks that increases the exposure of the loss of plan assets unnecessarily. The Company monitors exposure to such risks in the foreign plans by monitoring the magnitude of the risk in each plan and diversifying the Company's exposure to such risks across a variety of instruments, markets and counterparties. As of June 30, 2018, the Company did not have concentrations of plan asset investment risk in any single entity, manager, counterparty, sector, industry or country.

NOTE 12 — INCOME TAXES

The components of income before income taxes are as follows:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Domestic income before income taxes	$716,015	$615,906	$417,803
Foreign income before income taxes	739,916	557,340	440,389
Total income before income taxes	$1,455,931	$1,173,246	$858,192

The provision for income taxes is comprised of the following:

(In thousands)	Year ended June 30, 2018	2017	2016
Current:			
Federal	$504,758	$200,831	$94,088
State	6,422	4,660	6,123
Foreign	41,414	38,208	37,680
	552,594	243,699	137,891
Deferred:			
Federal	98,702	444	15,645
State	1,526	2,852	3,583
Foreign	844	175	(3,349)
	101,072	3,471	15,879
Provision for income taxes	$653,666	$247,170	$153,770

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The significant components of deferred income tax assets and liabilities are as follows:

(In thousands)	As of June 30, 2018	2017
Deferred tax assets:		
Tax credits and net operating losses	$171,701	$134,052
Employee benefits accrual	64,707	106,637
Stock-based compensation	8,902	15,252
Inventory reserves	62,232	95,200
Non-deductible reserves	29,841	43,140
Depreciation and amortization	701	3,415
Unearned revenue	11,104	15,757
Unrealized loss on investments	956	—
Other	25,602	26,538
Gross deferred tax assets	375,746	439,991
Valuation allowance	(163,570)	(120,708)
Net deferred tax assets	$212,176	$319,283
Deferred tax liabilities:		
Unremitted earnings of foreign subsidiaries not indefinitely reinvested	$(7,146)	$(13,213)
Deferred profit	(13,027)	(13,657)
Unrealized gain on investments	—	(2,707)
Total deferred tax liabilities	(20,173)	(29,577)
Total net deferred tax assets	$192,003	$289,706

The Company's effective tax rate during the fiscal year ended June 30, 2018 was impacted by the Tax Cuts and Jobs Act ("the Act"), which was enacted into law on December 22, 2017. Income tax effects resulting from changes in tax laws are accounted for by the Company in accordance with the authoritative guidance, which requires that these tax effects be recognized in the period in which the law is enacted and the effects are recorded as a component of provision for income taxes from continuing operations. The Company has not fully completed its accounting for the tax effects of the enactment of the Act.

The Act includes significant changes to the U.S. corporate income tax system which reduces the U.S. federal corporate tax rate from 35.0% to 21.0% as of January 1, 2018; shifts to a modified territorial tax regime which requires companies to pay a transition tax on earnings of certain foreign subsidiaries that were previously tax deferred; and creates new taxes on certain foreign-sourced earnings. The decrease in the U.S. federal corporate tax rate from 35.0% to 21.0% results in a blended statutory tax rate of 28.1% for the fiscal year ending June 30, 2018. The new taxes for certain foreign-sourced earnings under the Act are effective for the Company after the fiscal year ending June 30, 2018

As of June 30, 2018, the Company had not fully completed its accounting for the tax effects of the enactment of the Act. The Company's provision for income taxes for the fiscal year ended June 30, 2018 is based in part on a reasonable estimate of the effects on its transition tax and existing deferred tax balances. For the amounts which the Company was able to reasonably estimate, the Company recognized a provisional tax amount of $441.7 million for the fiscal year ended June 30, 2018. The provisional tax amount is included as a component of provision for income taxes from continuing operations. The components of the provisional tax amounts are as follows:

- The Company recorded a provisional tax amount of $339.6 million for the transition tax liability. The Company will elect to remit the U.S. transition tax liability in installments over an eight-year period. The Company has not yet completed the calculation of the total post-1986 foreign E&P and the income tax pools for all foreign subsidiaries. Further, the transition tax is based in part on the amount of those earnings held in cash and other specified assets. This amount may change when the Company finalizes the calculation of post-1986 foreign E&P previously deferred from U.S. federal taxation and finalizes the amounts held in cash or other specified assets. In addition, further

interpretations from U.S. federal and state governments and regulatory organizations may change the provisional tax liability or the accounting treatment of the provisional tax liability.

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- The Company recorded a provisional tax amount of $102.1 million to re-measure certain deferred tax assets and liabilities as a result of the enactment of the Act. The Company is still analyzing certain aspects of the Act and refining the estimate of the expected reversal of its deferred tax balances. This can potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts.

The Act also includes provisions for Global Intangible Low-Taxed Income ("GILTI") wherein taxes on foreign income are imposed in excess of a deemed return on tangible assets of foreign corporations. This income will effectively be taxed at a 10.5% tax rate in general. As a result, the Company's deferred tax assets and liabilities are being evaluated if the deferred tax assets and liabilities should be recognized for the basis differences expected to reverse as a result of GILTI provisions that are effective for the Company after the fiscal year ending June 30, 2018, or should the tax on GILTI provisions be recognized in the period the Act was signed into law. Because of the complexity of the new provisions, the Company is continuing to evaluate on how the provisions will be accounted for under the U.S. generally accepted accounting principles wherein companies are allowed to make an accounting policy election of either (i) account for GILTI as a component of tax expense in the period in which the Company is subject to the rules (the "period cost method"), or (ii) account for GILTI in the Company's measurement of deferred taxes (the "deferred method"). Currently, the Company has not elected a method and will only do so after its completion of the analysis of the GILTI provisions and its election method will depend, in part, on analyzing its global income to determine whether the Company expects to have future U.S. inclusions in its taxable income related to GILTI and, if so, the impact that is expected.

As of June 30, 2018, the Company had U.S. federal, state and foreign net operating loss ("NOL") carry-forwards of approximately $23.4 million, $43.1 million and $42.1 million, respectively. The U.S. federal NOL carry-forwards will expire at various dates beginning in 2023 through 2029. The utilization of NOLs created by acquired companies is subject to annual limitations under Section 382 of the Internal Revenue Code. However, it is not expected that such annual limitation will significantly impair the realization of these NOLs. The state NOLs will begin to expire in 2018. State credits of $191.1 million and foreign NOL carry-forwards will be carried over indefinitely.

The net deferred tax asset valuation allowance was $163.6 million and $120.7 million as of June 30, 2018 and June 30, 2017, respectively. The change was primarily due to an increase in the valuation allowance related to state credit carry-forwards generated in the fiscal year ended June 30, 2018. The valuation allowance is based on the Company's assessment that it is more likely than not that certain deferred tax assets will not be realized in the foreseeable future. Of the valuation allowance as of June 30, 2018, $145.4 million relates to state credit carry-forwards. The remainder of the valuation allowance relates primarily to state and foreign NOL carry-forwards.

As of June 30, 2018, the Company intends to indefinitely reinvest $2.15 billion of cumulative undistributed earnings held by certain non-U.S. subsidiaries. The U.S. federal tax liability on the undistributed earnings has been accrued in the transition tax under the Act. The potential deferred tax liability on state and foreign taxes associated with the undistributed earnings would be approximately $270.5 million.

KLA-Tencor benefits from tax holidays in Israel and Singapore where it manufactures certain of its products. These tax holidays are on approved investments and are scheduled to expire at varying times in the next one to ten years. The Company was in compliance with all the terms and conditions of the tax holidays as of June 30, 2018. The net impact of these tax holidays was to decrease the Company's tax expense by approximately $39.7 million, $32.6 million and $19.5 million in the fiscal years ended June 30, 2018, 2017 and 2016, respectively. The benefits of the tax holidays on diluted net income per share were $0.25, $0.21 and $0.12 for the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

One of the Company's Singapore holidays is scheduled to expire in August 2018. The Company's tax rate on income earned under this holiday would increase from 5% to 17%.

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The reconciliation of the United States federal statutory income tax rate to KLA-Tencor's effective income tax rate is as follows:

	Year ended June 30,		
	2018	2017	2016
Federal statutory rate	28.1 %	35.0 %	35.0 %
State income taxes, net of federal benefit	0.5 %	0.4 %	0.9 %
Effect of foreign operations taxed at various rates	(11.0)%	(12.2)%	(13.0)%
Tax Cuts and Jobs Act of 2017	30.3 %	— %	— %
Research and development tax credit	(1.4)%	(1.1)%	(1.9)%
Net change in tax reserves	(0.4)%	1.3 %	(2.2)%
Domestic manufacturing benefit	(1.1)%	(1.5)%	(1.5)%
Effect of stock-based compensation	(0.1)%	(0.2)%	0.3 %
Other	— %	(0.6)%	0.3 %
Effective income tax rate	44.9 %	21.1 %	17.9 %

A reconciliation of gross unrecognized tax benefits is as follows:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Unrecognized tax benefits at the beginning of the year	$68,439	$50,365	$69,018
Increases for tax positions taken in prior years	4,642	6,788	4,245
Decreases for tax positions taken in prior years	(6,045)	(246)	(1,209)
Increases for tax positions taken in current year	16,812	14,696	13,636
Decreases for settlements with taxing authorities	(9,666)	—	(8,762)
Decreases for lapsing of statutes of limitations	(10,188)	(3,164)	(26,563)
Unrecognized tax benefits at the end of the year	$63,994	$68,439	$50,365

The amount of unrecognized tax benefits that would impact the effective tax rate was $57.9 million, $68.4 million and $50.4 million as of June 30, 2018, 2017 and 2016 respectively. The amount of interest and penalties recognized during the years ended June 30, 2018, 2017, and 2016 was expense of $0.1 million, expense of $2.2 million, and income of $4.3 million as a result of a release of unrecognized tax benefits, respectively. KLA-Tencor's policy is to include interest and penalties related to unrecognized tax benefits within other expense (income), net. The amount of interest and penalties accrued as of June 30, 2018 and 2017 was approximately $6.0 million and $5.9 million, respectively.

The Company is subject to federal income tax examinations for all years beginning from the fiscal year ended June 30, 2015 and is under United States federal income tax examination for the fiscal year ended June 30, 2016. The Company is subject to state income tax examinations for all years beginning from the fiscal year ended June 30, 2014. The Company is also subject to examinations in other major foreign jurisdictions, including Singapore, for all years beginning from the fiscal year ended June 30, 2014.

It is possible that certain examinations may be concluded in the next twelve months. The Company believes that it may recognize up to $10.0 million of its existing unrecognized tax benefits within the next twelve months as a result of the lapse of statutes of limitations and the resolution of examinations with various tax authorities.

NOTE 13 — COMMITMENTS AND CONTINGENCIES

Factoring. KLA-Tencor has agreements (referred to as "factoring agreements") with financial institutions to sell certain of its trade receivables and promissory notes from customers without recourse. The Company does not believe it is at risk for any material losses as a result of these agreements. In addition, the Company periodically sells certain letters of credit ("LCs"), without recourse, received from customers in payment for goods and services.

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The following table shows total receivables sold under factoring agreements and proceeds from sales of LCs for the indicated periods:

	Year ended June 30,		
(In thousands)	2018	2017	2016
Receivables sold under factoring agreements	$217,462	$152,509	$205,790
Proceeds from sales of LCs	$5,511	$48,780	$21,904

Factoring and LC fees for the sale of certain trade receivables were recorded in other expense (income), net and were not material for the periods presented.

Facilities. KLA-Tencor leases certain of its facilities under arrangements that are accounted for as operating leases. Rent expense was $10.4 million, $9.6 million and $8.7 million for the fiscal years ended June 30, 2018, 2017 and 2016, respectively.

The following is a schedule of expected operating lease payments:

Fiscal year ending June 30,	Amount (In thousands)
2019	$ 8,410
2020	6,417
2021	4,489
2022	2,448
2023	1,837
2024 and thereafter	2,760
Total minimum lease payments	$ 26,361

Purchase Commitments. KLA-Tencor maintains commitments to purchase inventory from its suppliers as well as goods and services in the ordinary course of business. The Company’s liability under these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. This forecasted time-horizon can vary among different suppliers. The Company’s estimate of its significant purchase commitments is approximately $530.8 million as of June 30, 2018, which are primarily due within the next 12 months. Actual expenditures will vary based upon the volume of the transactions and length of contractual service provided. In addition, the amounts paid under these arrangements may be less in the event that the arrangements are renegotiated or canceled. Certain agreements provide for potential cancellation penalties.

Cash Long-Term Incentive Plan. As of June 30, 2018, the Company had committed $162.9 million for future payment obligations under its Cash LTI Plan. The calculation of compensation expense related to the Cash LTI Plan includes estimated forfeiture rate assumptions. Cash LTI awards issued to employees under the Cash LTI Plan vest in to three or four equal installments, with one-third or one-fourth of the aggregate amount of the Cash LTI award vesting on each yearly anniversary of the grant date over a three or four-year period. In order to receive payments under a Cash LTI award, participants must remain employed by the Company as of the applicable award vesting date.

Warranties, Guarantees and Contingencies. KLA-Tencor provides standard warranty coverage on its systems for 40 hours per week for 12 months, providing labor and parts necessary to repair and maintain the systems during the warranty period. The Company accounts for the estimated warranty cost as a charge to costs of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. Utilizing actual service records, the Company calculates the average service hours and parts expense per system and applies the actual labor and overhead rates to determine the estimated warranty charge. The Company updates these estimated charges on a regular basis. The actual product performance and/or field expense profiles may differ, and in those cases the Company adjusts its warranty accruals accordingly.

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The following table provides the changes in the product warranty accrual for the indicated periods:

	Year ended June 30,	
(In thousands)	2018	2017
Beginning balance	$45,458	$34,773
Accruals for warranties issued during the period	50,250	50,616
Changes in liability related to pre-existing warranties	(13,192)	(5,133)
Settlements made during the period	(40,258)	(34,798)
Ending balance	$42,258	$45,458

The Company maintains guarantee arrangements available through various financial institutions for up to $22.4 million, of which $15.6 million had been issued as of June 30, 2018, primarily to fund guarantees to customs authorities for value-added tax ("VAT") and other operating requirements of the Company's subsidiaries in Europe and Asia.

KLA-Tencor is a party to a variety of agreements pursuant to which it may be obligated to indemnify the other party with respect to certain matters. Typically, these obligations arise in connection with contracts and license agreements or the sale of assets, under which the Company customarily agrees to hold the other party harmless against losses arising from, or provides customers with other remedies to protect against, bodily injury or damage to personal property caused by the Company's products, non-compliance with the Company's product performance specifications, infringement by the Company's products of third-party intellectual property rights and a breach of warranties, representations and covenants related to matters such as title to assets sold, validity of certain intellectual property rights, non-infringement of third-party rights, and certain income tax-related matters. In each of these circumstances, payment by the Company is typically subject to the other party making a claim to and cooperating with the Company pursuant to the procedures specified in the particular contract.

This usually allows the Company to challenge the other party's claims or, in case of breach of intellectual property representations or covenants, to control the defense or settlement of any third-party claims brought against the other party. Further, the Company's obligations under these agreements may be limited in terms of amounts, activity (typically at the Company's option to replace or correct the products or terminate the agreement with a refund to the other party), and duration. In some instances, the Company may have recourse against third parties and/or insurance covering certain payments made by the Company.

Subject to certain limitations, the Company is obligated to indemnify its current and former directors, officers and employees with respect to certain litigation matters and investigations that arise in connection with their service to the Company. These obligations arise under the terms of the Company's certificate of incorporation, its bylaws, applicable contracts, and Delaware and California law. The obligation to indemnify generally means that the Company is required to pay or reimburse the individuals' reasonable legal expenses and possibly damages and other liabilities incurred in connection with these matters.

In addition, the Company may in limited circumstances enter into agreements that contain customer-specific commitments on pricing, tool reliability, spare parts stocking levels, response time and other commitments. Furthermore, the Company may give these customers limited audit or inspection rights to enable them to confirm that the Company is complying with these commitments. If a customer elects to exercise its audit or inspection rights, the Company may be required to expend significant resources to support the audit or inspection, as well as to defend or settle any dispute with a customer that could potentially arise out of such audit or inspection. To date, the Company has made no significant accruals in its consolidated financial statements for this contingency. While the Company has not in the past incurred significant expenses for resolving disputes regarding these types of commitments, the Company cannot make any assurance that it will not incur any such liabilities in the future.

It is not possible to predict the maximum potential amount of future payments under these or similar agreements due to the conditional nature of the Company's obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the Company under these agreements have not had a material effect on its business, financial condition, results of operations or cash flows.

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NOTE 14 — LITIGATION AND OTHER LEGAL MATTERS

The Company is named from time to time as a party to lawsuits and other types of legal proceedings and claims in the normal course of its business. Actions filed against the Company include commercial, intellectual property, customer, and labor and employment related claims, including complaints of alleged wrongful termination and potential class action lawsuits regarding alleged violations of federal and state wage and hour and other laws. In general, legal proceedings and claims, regardless of their merit, and associated internal investigations (especially those relating to intellectual property or confidential information disputes) are often expensive to prosecute, defend or conduct and may divert management's attention and other company resources. Moreover, the results of legal proceedings are difficult to predict, and the costs incurred in litigation can be substantial, regardless of outcome. The Company believes the amounts provided in its consolidated financial statements are adequate in light of the probable and estimated liabilities. However, because such matters are subject to many uncertainties, the ultimate outcomes are not predictable, and there can be no assurances that the actual amounts required to satisfy alleged liabilities from the matters described above will not exceed the amounts reflected in the Company's consolidated financial statements or will not have a material adverse effect on its results of operations, financial condition or cash flows.

NOTE 15 — RESTRUCTURING CHARGES

During the fourth quarter of fiscal year ended 2015, the Company implemented a plan to reduce its global employee workforce to streamline the organization and business processes in response to changing customer requirements in the industry. The goals of this reduction were to enable continued innovation, direct the Company's resources toward its best opportunities and lower its ongoing expense run rate. The Company completed its global workforce reduction during the fiscal year ended June 30, 2017.

There were no restructuring charges during the fiscal year ended June 30, 2018. Restructuring charges for the fiscal years ended June 30, 2017 and 2016 were immaterial and $8.9 million, respectively. For the fiscal year ended June 30, 2016, $3.6 million was recorded to costs of revenues, $1.6 million to research and development expense and $3.7 million to selling, general and administrative expense lines of the consolidated statements of operations.

NOTE 16 — DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

The authoritative guidance requires companies to recognize all derivative instruments and hedging activities, including foreign currency exchange contracts and interest rate lock agreements, as either assets or liabilities at fair value on the balance sheet. Changes in the fair value of derivatives that do not qualify for hedge treatment, as well as the ineffective portion of any hedges, are recognized in other expense (income), net in the consolidated statements of operations. In accordance with the guidance, the Company designates foreign currency exchange contracts and interest rate lock agreements as cash flow hedges of certain forecasted foreign currency denominated sales and purchase transactions, and the benchmark interest rate of the intended debt financing, respectively.

KLA-Tencor's foreign subsidiaries operate and sell KLA-Tencor's products in various global markets. As a result, KLA-Tencor is exposed to risks relating to changes in foreign currency exchange rates. KLA-Tencor utilizes foreign currency forward exchange contracts and option contracts to hedge against future movements in foreign exchange rates that affect certain existing and forecasted foreign currency denominated sales and purchase transactions, such as the Japanese yen, the euro, the New Taiwan dollar and the Israeli new shekel. The Company routinely hedges its exposures to certain foreign currencies with various financial institutions in an effort to minimize the impact of certain currency exchange rate fluctuations. These currency forward exchange contracts and options, designated as cash flow hedges, generally have maturities of less than 18 months. Cash flow hedges are evaluated for effectiveness monthly, based on changes in total fair value of the derivatives. If a financial counterparty to any of the Company's hedging arrangements experiences financial difficulties or is otherwise unable to honor the terms of the foreign currency hedge, the Company may experience material losses.

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gains or losses on the derivative is reported as a component of accumulated other comprehensive income (loss) ("OCI") and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Changes in the fair value of currency forward exchange and option contracts due to changes in time value are excluded from the assessment of effectiveness. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

For derivative instruments that are not designated as accounting hedges, gains and losses are recognized in other expense (income), net. The Company uses foreign currency and interest rate forward contracts to hedge certain foreign currency denominated assets or liabilities. The gains and losses on these derivatives are largely offset by the changes in the fair value of the assets or liabilities being hedged.

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In October 2014, the Company entered into a series of forward contracts ("Rate Lock Agreements") to lock the benchmark rate on a portion of the Senior Notes. The Rate Lock Agreements had a notional amount of $1.00 billion in aggregate which matured in the second quarter of the fiscal year ended June 30, 2015. The Rate Lock Agreements were terminated on the date of pricing of the $1.25 billion of 4.650% Senior Notes due in 2024 and the Company recorded the fair value of $7.5 million as a gain within accumulated other comprehensive income (loss) as of December 31, 2014. The Company recognized $0.8 million for each of the fiscal years ended June 30, 2018, 2017 and 2016, for the amortization of the gain recognized in accumulated other comprehensive income (loss), which amount reduced the interest expense. As of June 30, 2018, the unamortized portion of the fair value of the forward contracts for the rate lock agreements was $4.8 million.

During the three months ended June 30, 2018, the Company entered into a series of forward contracts (the "2018 Rate Lock Agreements") to lock the benchmark interest rate prior to expected debt issuances. The objective of the 2018 Rate Lock Agreements was to hedge the risk associated with the variability in interest rates due to the changes in the benchmark rate leading up to the closing of the intended financing, on the notional amount being hedged. The 2018 Rate Lock Agreement had a notional amount of $500.0 million in aggregate with contract maturity dates in the first half of the fiscal year ending June 30, 2019. Each forward contract will be closed on the earlier of the completion date of pricing of the portion of the intended debt being hedged or the expiration date. The Company designated each of the 2018 Rate Lock Agreements as a qualifying hedging instrument to be accounted for as a cash flow hedge, under which the effective portion of the gain or loss on the derivative is reported as a component of accumulated other comprehensive income (loss) ("OCI"), and subsequently amortized into earnings as a component of interest expenses over the term of the underlying debt. The ineffective portion, if any, will be recognized in earnings immediately. The fair market value of the 2018 Rate Lock Agreements outstanding as of the fiscal year ended June 30, 2018 was $4.9 million.

Derivatives in Cash Flow Hedging Relationships: Foreign Exchange and Interest Rate Contracts

The locations and amounts of designated and non-designated derivative instruments' gains and losses reported in the consolidated financial statements for the indicated periods were as follows:

(In thousands)	Location in Financial Statements	Year ended June 30, 2018	2017
Derivatives Designated as Hedging Instruments			
Gains (losses) in accumulated OCI on derivatives (effective portion)	Accumulated OCI	$(1,934)	$10,138
Gains (losses) reclassified from accumulated OCI into income (effective portion):	Revenues	$955	$2,846
	Costs of revenues	2,137	(378)
	Interest expense	754	754
	Net gains (losses) reclassified from accumulated OCI into income (effective portion)	$3,846	$3,222
Net losses recognized in income on derivatives (ineffective portion and amount excluded from effectiveness testing)	Other expense (income), net	$(567)	$(929)
Derivatives Not Designated as Hedging Instruments			
Gains (losses) recognized in income	Other expense (income), net	$(2,311)	$7,318

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The U.S. dollar equivalent of all outstanding notional amounts of foreign currency hedge contracts, with maximum remaining maturities of approximately ten months as of June 30, 2018 and 2017, were as follows:

(In thousands)	As of June 30, 2018	As of June 30, 2017
Cash flow hedge contracts- foreign currency		
Purchase	$8,116	$19,305
Sell	$115,032	$128,672
Other foreign currency hedge contracts		
Purchase	$130,442	$165,563
Sell	$154,442	$118,504

The locations and fair value amounts of the Company's derivative instruments reported in its Consolidated Balance Sheets as of the dates indicated below were as follows:

	Asset Derivatives			Liability Derivatives		
	Balance Sheet Location	As of June 30, 2018	As of June 30, 2017	Balance Sheet Location	As of June 30, 2018	As of June 30, 2017
(In thousands)		Fair Value			Fair Value	
Derivatives designated as hedging instruments						
Rate lock contracts	Other current assets	$219	$—	Other current liabilities	$5,158	$—
Foreign exchange contracts	Other current assets	3,259	2,198	Other current liabilities	312	72
Total derivatives designated as hedging instruments		3,478	2,198		5,470	72
Derivatives not designated as hedging instruments						
Foreign exchange contracts	Other current assets	1,907	3,733	Other current liabilities	1,358	1,203
Total derivatives not designated as hedging instruments		1,907	3,733		1,358	1,203
Total derivatives		$5,385	$5,931		$6,828	$1,275

The following table provides the balances and changes in accumulated OCI, before taxes, related to derivative instruments for the indicated periods:

	Year ended June 30,	
(In thousands)	2018	2017
Beginning balance	$8,126	$1,210
Amount reclassified to income	(3,846)	(3,222)
Net change in unrealized gains or losses	(1,934)	10,138
Ending balance	$2,346	$8,126

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Offsetting of Derivative Assets and Liabilities

KLA-Tencor presents derivatives at gross fair values in the Consolidated Balance Sheets. The Company has entered into arrangements with each of its counterparties, which reduce credit risk by permitting net settlement of transactions with the same counterparty under certain conditions. As of June 30, 2018 and 2017, information related to the offsetting arrangements was as follows (in thousands):

As of June 30, 2018				Gross Amounts of Derivatives Not Offset in the Consolidated Balance Sheets		
Description	Gross Amounts of Derivatives	Gross Amounts of Derivatives Offset in the Consolidated Balance Sheets	Net Amount of Derivatives Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Net Amount
Derivatives - Assets	$5,385	$—	$ 5,385	$ (1,888)	$—	$3,497
Derivatives - Liabilities	$(6,828)	$—	$ (6,828)	$ 1,888	$—	$(4,940)

As of June 30, 2017				Gross Amounts of Derivatives Not Offset in the Consolidated Balance Sheets		
Description	Gross Amounts of Derivatives	Gross Amounts of Derivatives Offset in the Consolidated Balance Sheets	Net Amount of Derivatives Presented in the Consolidated Balance Sheets	Financial Instruments	Cash Collateral Received	Net Amount
Derivatives - Assets	$5,931	$—	$ 5,931	$ (1,275)	$—	$ 4,656
Derivatives - Liabilities	$(1,275)	$—	$ (1,275)	$ 1,275	$—	$ —

NOTE 17 — SEGMENT REPORTING AND GEOGRAPHIC INFORMATION

KLA-Tencor reports one reportable segment in accordance with the provisions of the authoritative guidance for segment reporting. Operating segments are defined as components of an enterprise about which separate financial information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. KLA-Tencor’s chief operating decision maker is its Chief Executive Officer. The Company is engaged primarily in designing, manufacturing and marketing process control and yield management solutions for the semiconductor and related nanoelectronics industries.

All operating segments have been aggregated due to their inter-dependencies, commonality of long-term economic characteristics, products and services, the production processes, class of customer and distribution processes. The Company’s service products are an extension of the system product portfolio and provide customers with spare parts and fab management services (including system preventive maintenance and optimization services) to improve yield, increase production uptime and throughput, and lower the cost of ownership. Since the Company operates in one reportable segment, all financial segment information required by the authoritative guidance can be found in the consolidated financial statements.

The Company’s significant operations outside the United States include manufacturing facilities in China, Germany, Israel and Singapore and sales, marketing and service offices in Japan, the rest of the Asia Pacific region and Europe. For geographical revenue reporting, revenues are attributed to the geographic location in which the customer is located. Long-lived assets consist of land, property and equipment, net and are attributed to the geographic region in which they are located.

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The following is a summary of revenues by geographic region, based on ship-to location, for the indicated periods (as a percentage of total revenues):

(Dollar amounts in thousands)	Year ended June 30, 2018		2017		2016	
Revenues:						
Korea	$1,178,601	29 %	$688,094	20 %	$367,905	12 %
China	643,033	16 %	412,098	12 %	430,074	14 %
Japan	638,358	16 %	351,202	10 %	444,216	15 %
Taiwan	636,363	16 %	1,104,307	32 %	894,557	30 %
North America	494,330	12 %	523,024	14 %	521,335	18 %
Europe & Israel	300,883	7 %	263,789	8 %	167,936	6 %
Rest of Asia	145,133	4 %	137,500	4 %	158,470	5 %
Total	$4,036,701	100%	$3,480,014	100%	$2,984,493	100%

The following is a summary of revenues by major products for the indicated periods (as a percentage of total revenues):

(Dollar amounts in thousands)	Year ended June 30, 2018		2017		2016	
Revenues:						
Wafer Inspection	$1,731,826	43 %	$1,601,190	46 %	$1,293,922	43 %
Patterning	1,116,022	28 %	917,178	26 %	772,045	26 %
Global Service and Support [1]	1,090,683	27 %	897,794	26 %	852,151	29 %
Other	98,170	2 %	63,852	2 %	66,375	2 %
Total	$4,036,701	100%	$3,480,014	100%	$2,984,493	100%

(1) The Global Service and Support revenues includes service revenues as presented in the consolidated statements of operations as well as certain product revenues, primarily revenues from the Company's K-T Pro business.

In the fiscal year ended June 30, 2018, one customers accounted for approximately 21% of total revenues. In the fiscal year ended June 30, 2017, two customers accounted for approximately 23% and 16% of total revenues. In the fiscal year ended June 30, 2016, two customers accounted for approximately 18% and 10% of total revenues.

Long-lived assets by geographic region as of the dates indicated below were as follows:

	As of June 30,	
(In thousands)	2018	2017
Long-lived assets:		
United States	$187,352	$191,096
Singapore	47,009	39,118
Israel	26,980	30,182
Europe	12,924	13,300
Rest of Asia	12,041	10,279
Total	$286,306	$283,975

NOTE 18 — RELATED PARTY TRANSACTIONS

During the fiscal years ended June 30, 2018, 2017 and 2016, the Company purchased from, or sold to, several entities, where one or more executive officers of the Company or members of the Company's Board of Directors, or their immediate family members were, during the periods presented, an executive officer or a board member of a subsidiary, including Citrix Systems, Inc., Integrated Device Technology, Inc., Juniper Networks, Inc., Keysight Technologies, Inc., MetLife Insurance K.K., NetApp, Inc., and Proofpoint, Inc.

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The following table provides the transactions with these parties for the indicated periods (for the portion of such period that they were considered related):

	Year ended June 30,		
(In thousands)	2018	2017	2016
Total revenues	$474	$16	$8
Total purchases[1]	$14,723	$1,048	$983

(1) On April 2, 2018, the Company acquired a product line from Keysight Technologies, Inc. ("Keysight") for total purchase consideration of $12.1 million, and entered into a transition services agreement pursuant to which Keysight provides certain manufacturing services to the Company for a period of six months from April 2, 2018. The Company recorded the manufacturing services fees under the transition services agreement within cost of revenues, which was immaterial for the fiscal year ended June 30, 2018.

The Company's receivable and payable balances from these parties were immaterial at June 30, 2018 and 2017.

NOTE 19 — SUBSEQUENT EVENTS

On August 2, 2018, the Company announced that its Board of Directors had declared a quarterly cash dividend of $0.75 per share to be paid on August 31, 2018 to stockholders of record as of the close of business on August 15, 2018.

NOTE 20 — QUARTERLY CONSOLIDATED RESULTS OF OPERATIONS (UNAUDITED)

The following is a summary of the Company's quarterly consolidated results of operations (unaudited) for the fiscal years ended June 30, 2018 and 2017.

(In thousands, except per share data)	First quarter ended September 30, 2017	Second quarter ended December 31, 2017	Third quarter ended March 31, 2018	Fourth quarter ended June 30, 2018
Total revenues	$ 969,581	$ 975,822	$ 1,021,294	$ 1,070,004
Gross margin	$ 616,132	$ 628,488	$ 652,606	$ 692,106
Net income (loss)[1]	$ 280,936	$ (134,319)	$ 306,881	$ 348,767
Net income (loss) per share:				
Basic[2]	$ 1.79	$ (0.86)	$ 1.96	$ 2.24
Diluted[2]	$ 1.78	$ (0.86)	$ 1.95	$ 2.22

(In thousands, except per share data)	First quarter ended September 30, 2016	Second quarter ended December 31, 2016	Third quarter ended March 31, 2017	Fourth quarter ended June 30, 2017
Total revenues	$ 750,673	$ 876,885	$ 913,809	$ 938,647
Gross margin	$ 472,837	$ 558,378	$ 570,535	$ 590,717
Net income	$ 178,101	$ 238,251	$ 253,562	$ 256,162
Net income per share:				
Basic[2]	$ 1.14	$ 1.52	$ 1.62	$ 1.64
Diluted[2]	$ 1.13	$ 1.52	$ 1.61	$ 1.62

(1) The Company had net loss of $134.3 million in the second quarter of the fiscal year ended June 30, 2018, primarily as a result of the income tax effects from the enacted tax reform legislation through the Tax Cuts and Jobs Act, which was signed into law on December 22, 2017.

(2) Basic and diluted net income (loss) per share are computed independently for each of the quarters presented based on the weighted-average basic and fully diluted shares outstanding for each quarter. Therefore, the sum of quarterly basic and diluted net income (loss) per share information may not equal annual basic and diluted net income (loss) per share.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of KLA-Tencor Corporation:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of KLA-Tencor Corporation and its subsidiaries as of June 30, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended June 30, 2018, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of June 30, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 30, 2018 and 2017, and the results of their operations and their cash flows for each of the three years in the period ended June 30, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, 2018, based on criteria established in Internal Control—Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

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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/ PricewaterhouseCoopers LLP
San Jose, California
August 6, 2018

We have served as the Company's auditor since 1977.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The Company conducted an evaluation of the effectiveness of the design and operation of its disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) ("Disclosure Controls") as of the end of the period covered by this Annual Report on Form 10-K (this "Report") required by Exchange Act Rules 13a-15(b) or 15d-15(b). The controls evaluation was conducted under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"). Based on this evaluation, the CEO and CFO have concluded that as of the end of the period covered by this Report the Company's Disclosure Controls were effective at a reasonable assurance level.

Attached as exhibits to this Report are certifications of the CEO and CFO, which are required in accordance with Rule 13a-14 of the Exchange Act. This Controls and Procedures section includes the information concerning the controls evaluation referred to in the certifications, and it should be read in conjunction with the certifications for a more complete understanding of the topics presented.

Definition of Disclosure Controls

Disclosure Controls are controls and procedures designed to reasonably assure that information required to be disclosed in the Company's reports filed under the Exchange Act, such as this Report, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure Controls are also designed to reasonably assure that such information is accumulated and communicated to the Company's management, including the CEO and CFO, as appropriate to allow timely decisions regarding required disclosure. The Company's Disclosure Controls include components of its internal control over financial reporting, which consists of control processes designed to provide reasonable assurance regarding the reliability of its financial reporting and the preparation of financial statements in accordance with generally accepted accounting principles in the United States. To the extent that components of the Company's internal control over financial reporting are included within its Disclosure Controls, they are included in the scope of the Company's annual controls evaluation.

Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Under the supervision and with the participation of the Company's management, including the CEO and CFO, the Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on criteria established in the framework in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, the Company's management concluded that the Company's internal control over financial reporting was effective as of June 30, 2018.

The effectiveness of the Company's internal control over financial reporting as of June 30, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K.

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Limitations on the Effectiveness of Controls

The Company's management, including the CEO and CFO, does not expect that the Company's Disclosure Controls or internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting that occurred during the fourth quarter of fiscal year 2018 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

For the information required by this Item, see “Information About the Directors and the Nominees,” “Information About Executive Officers,” “Security Ownership of Certain Beneficial Owners and Management—Section 16(a) Beneficial Ownership Reporting Compliance,” “Our Corporate Governance Practices—Standards of Business Conduct; Whistleblower Hotline and Website” and “Information About the Board of Directors and Its Committees—Audit Committee” in the Proxy Statement, which is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

For the information required by this Item, see “Executive Compensation and Other Matters,” “Director Compensation” and “Information About the Board of Directors and Its Committees—Compensation Committee—Risk Considerations in Our Compensation Programs” in the Proxy Statement, which is incorporated herein by reference.

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

For the information required by this Item, see “Security Ownership of Certain Beneficial Owners and Management” and “Equity Compensation Plan Information” in the Proxy Statement, which is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

For the information required by this Item, see “Certain Relationships and Related Transactions” and “Information About the Board of Directors and Its Committees —The Board of Directors” in the Proxy Statement, which is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

For the information required by this Item, see “Proposal Two: Ratification of Appointment of PricewaterhouseCoopers LLP as Our Independent Registered Public Accounting Firm for the Fiscal Year Ending June 30, 2019” in the Proxy Statement, which is incorporated herein by reference.

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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:

1. Financial Statements:

The following financial statements and schedules of the Registrant are contained in Item 8, “Financial Statements and Supplementary Data” of this Annual Report on Form 10-K:

Consolidated Balance Sheets as of June 30, 2018 and June 30, 2017	61
Consolidated Statements of Operations for each of the three years in the period ended June 30, 2018	62
Consolidated Statements of Comprehensive Income for each of the three years in the period ended June 30, 2018	63
Consolidated Statements of Stockholders' Equity for each of the three years in the period ended June 30, 2018	64
Consolidated Statements of Cash Flows for each of the three years in the period ended June 30, 2018	65
Notes to Consolidated Financial Statements	66
Report of Independent Registered Public Accounting Firm	104

2. Financial Statement Schedule:

The following financial statement schedule of the Registrant is filed as part of this Annual Report on Form 10-K and should be read in conjunction with the financial statements:

Schedule II—Valuation and Qualifying Accounts for the years ended June 30, 2018, 2017 and 2016 112

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

3. Exhibits

The information required by this Item is set forth in the Exhibit Index following Schedule II included in this Annual Report.

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SIGNATURES

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

KLA-Tencor Corporation

August 6, 2018 (Date) By: /S/ RICHARD P. WALLACE
Richard P. Wallace
President and Chief Executive Officer

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

Signature	Title	Date
/s/ RICHARD P. WALLACE Richard P. Wallace	President, Chief Executive Officer and Director (principal executive officer)	August 6, 2018
/s/ BREN D. HIGGINS Bren D. Higgins	Executive Vice President and Chief Financial Officer (principal financial officer)	August 6, 2018
/s/ VIRENDRA A. KIRLOSKAR Virendra A. Kirloskar	Senior Vice President and Chief Accounting Officer (principal accounting officer)	August 6, 2018
/s/ EDWARD W. BARNHOLT Edward W. Barnholt	Chairman of the Board and Director	August 6, 2018
/s/ ROBERT M. CALDERONI Robert M. Calderoni	Director	August 6, 2018
/s/ JOHN T. DICKSON John T. Dickson	Director	August 6, 2018
/s/ EMIKO HIGASHI Emiko Higashi	Director	August 6, 2018
/s/ KEVIN J. KENNEDY Kevin J. Kennedy	Director	August 6, 2018
/s/ GARY B. MOORE Gary B. Moore	Director	August 6, 2018
/s/ KIRAN M. PATEL Kiran M. Patel	Director	August 6, 2018
/s/ ROBERT A. RANGO Robert A. Rango	Director	August 6, 2018
/s/ DAVID C. WANG David C. Wang	Director	August 6, 2018
/s/ ANA G. PINCZUK Ana G. Pinczuk	Director	August 6, 2018

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SCHEDULE II
Valuation and Qualifying Accounts

(In thousands)	Balance at Beginning of Period	Charged to Expense	Deductions/ Adjustments	Balance at End of Period
Fiscal Year Ended June 30, 2016:				
Allowance for Doubtful Accounts	$21,663	$ —	$ 9	$21,672
Allowance for Deferred Tax Assets	$91,350	$ 1,763	$ 11,855	$104,968
Fiscal Year Ended June 30, 2017:				
Allowance for Doubtful Accounts	$21,672	$ —	$ (36)	$21,636
Allowance for Deferred Tax Assets	$104,968	$ —	$ 15,740	$120,708
Fiscal Year Ended June 30, 2018:				
Allowance for Doubtful Accounts	$21,636	$ —	$ (9,997)	$11,639
Allowance for Deferred Tax Assets	$120,708	$ 1,152	$ 41,710	$163,570

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KLA-TENCOR CORPORATION
EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit Number	Filing Date
2.1	Agreement and Plan of Merger, dated as of March 18, 2018, by and among KLA-Tencor Corporation, Orbotech Ltd. and Tiburon Merger Sub Technologies Ltd.	8-K	No. 000-09992	2.1	March 19, 2018
2.2	Amendment No. 1 to Agreement and Plan of Merger dated May 10, 2018 by and among the Company, Orbotech Ltd. and Tiburon Merger Sub Technologies Ltd.	8-K	No. 000-09992	2.1	May 11, 2018
3.1	Amended and Restated Certificate of Incorporation	10-Q	No. 000-09992	3.1	May 14, 1997
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation	10-Q	No. 000-09992	3.1	February 14, 2001
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation of the Company effective as of November 8, 2012	8-K	No. 000-09992	3.1	November 13, 2012
3.4	Amended and Restated Bylaws of the Company effective as of May 7, 2015	8-K	No. 000-09992	3.1	May 8, 2015
4.1	Indenture dated November 6, 2014 between KLA-Tencor Corporation and Wells Fargo Bank, National Association, as trustee	8-K	No. 000-09992	4.1	November 7, 2014
4.2	Form of Officer's Certificate setting forth the terms of the Notes (with form of Notes attached)	8-K	No. 000-09992	4.2	November 7, 2014
10.1	2004 Equity Incentive Plan (as amended and restated (as of August 7, 2014))*	8-K	No. 000-09992	10.45	August 12, 2014
10.2	Notice of Grant of Restricted Stock Units*	10-Q	No. 000-09992	10.18	May 4, 2006
10.3	Form of Restricted Stock Unit Award Notification (Performance-Vesting) (approved August 2014)*	8-K	No. 000-09992	10.49	August 12, 2014
10.4	Form of Restricted Stock Unit Award Notification (Service-Vesting) (approved August 2012)*	8-K	No. 000-09992	10.1	August 2, 2012
10.5	Form of Restricted Stock Unit Award Notification (Service-Vesting; 25% Annual Vesting) (approved August 2014)*	8-K	No. 000-09992	10.50	August 12, 2014
10.6	Form of Restricted Stock Unit Award Notification (Service-Vesting; 50% Vesting Year Two, 50% Vesting Year Four) (approved August 2014)*	8-K	No. 000-09992	10.51	August 12, 2014
10.7	Form of Restricted Stock Unit Agreement for U.S. Employees (with Dividend Equivalents) (approved August 2014)*	8-K	No. 000-09992	10.46	August 12, 2014
10.8	Form of Restricted Stock Unit Agreement for Non-U.S. Employees (with Dividend Equivalents) (approved August 2014)*	8-K	No. 000-09992	10.48	August 12, 2014
10.9	KLA-Tencor Corporation Performance Bonus Plan*	DEF 14A	No. 000-09992	App. B	September 26, 2013
10.10	Executive Deferred Savings Plan (as amended and restated effective November 7, 2012)*	10-Q	No. 000-09992	10.42	January 25, 2013

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Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File No.	Exhibit Number	Filing Date
10.11	Credit Agreement, dated as of November 30, 2017 among KLA-Tencor Corporation, the lenders from time to time and JPMorgan Chase Bank, N.A., as administrative agent	8-K	No. 000-09992	10.1	November 30, 2017
10.12	Amended and Restated Executive Severance Plan*	8-K	No. 000-09992	10.1	October 20, 2016
10.13	Amended and Restated 2010 Executive Severance Plan	10-Q	No. 000-09992	10.45	October 22, 2015
10.14	Calendar Year 2018 Executive Incentive Plan*+	10-Q	No. 000-09992	10.1	April 27, 2018
12.1	Computation of Ratio of Earnings to Fixed Charges				
21.1	List of Subsidiaries				
23.1	Consent of Independent Registered Public Accounting Firm				
31.1	Certification of Chief Executive Officer under Rule 13a-14(a) of the Securities Exchange Act of 1934				
31.2	Certification of Chief Financial Officer under Rule 13a-14(a) of the Securities Exchange Act of 1934				
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350				
101.INS	XBRL Instance 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				

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*Denotes a management contract, plan or arrangement.

+Confidential treatment has been requested as to a portion of this exhibit.

ITEM 16. FORM 10-K SUMMARY

None.