KLA TENCOR CORP
Form 10-Q
January 29, 2019
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark one)

x QUARTERLY REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended December 31, 2018

or

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

For the transition period from to

Commission File Number 000-09992

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 No.)

One Technology Drive, Milpitas, California	95035
(Address of Principal Executive Offices)	(Zip Code)

(408) 875-3000
(Registrant’s telephone number, including area code)

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 ¨

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 ¨

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 ¨
Non-accelerated filer ¨	(Do not check if a smaller reporting company)	Smaller reporting company ¨
		Emerging growth company ¨

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

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

As of January 18, 2019, there were 151,363,988 shares of the registrant’s Common Stock, $0.001 par value, outstanding.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS
KLA-TENCOR CORPORATION
Condensed Consolidated Balance Sheets
(Unaudited)

(In thousands)	December 31, 2018	June 30, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 1,793,982	$ 1,404,382
Marketable securities	900,112	1,475,936
Accounts receivable, net	658,080	651,678
Inventories	1,005,990	931,845
Other current assets	127,350	85,159
Total current assets	4,485,514	4,549,000
Land, property and equipment, net	306,351	286,306
Goodwill	360,480	354,698
Deferred income taxes	225,124	193,200
Purchased intangible assets, net	23,818	19,333
Other non-current assets	204,000	216,819
Total assets	$ 5,605,287	$ 5,619,356
LIABILITIES AND STOCKHOLDERS’ EQUITY		
Current liabilities:		
Accounts payable	$ 152,491	$ 169,354
Deferred system revenue	196,242	—
Deferred service revenue	168,936	69,255
Deferred system profit	—	279,581
Current portion of long-term debt	249,996	—
Other current liabilities	714,873	699,893
Total current liabilities	1,482,538	1,218,083
Non-current liabilities:		
Long-term debt	1,988,382	2,237,402
Deferred service revenue	90,466	71,997
Other non-current liabilities	446,279	471,363
Total liabilities	4,007,665	3,998,845
Commitments and contingencies (Note 13 and Note 14)		
Stockholders’ equity:		
Common stock and capital in excess of par value	619,265	617,999
Retained earnings	1,048,804	1,056,445
Accumulated other comprehensive income (loss)	(70,447)	(53,933)
Total stockholders’ equity	1,597,622	1,620,511
Total liabilities and stockholders’ equity	$ 5,605,287	$ 5,619,356

See accompanying notes to condensed consolidated financial statements (unaudited).

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KLA-TENCOR CORPORATION
Condensed Consolidated Statements of Operations
(Unaudited)

(In thousands, except per share amounts)	Three months ended December 31, 2018	2017	Six months ended December 31, 2018	2017
Revenues:				
Product	$852,201	$761,587	$1,681,428	$1,522,374
Service	267,697	214,235	531,730	423,029
Total revenues	1,119,898	975,822	2,213,158	1,945,403
Costs and expenses:				
Costs of revenues	408,260	347,002	789,647	700,119
Research and development	165,903	156,700	319,433	303,387
Selling, general and administrative	112,462	105,265	226,900	212,697
Interest expense	26,538	27,372	52,900	57,948
Other expense (income), net	(9,228)	(7,824)	(19,253)	(12,207)
Income before income taxes	415,963	347,307	843,531	683,459
Provision for income taxes	46,863	481,626	78,487	536,842
Net income (loss)	$369,100	$(134,319)	$765,044	$146,617
Net income (loss) per share				
Basic	$2.43	$(0.86)	$4.98	$0.94
Diluted	$2.42	$(0.86)	$4.96	$0.93
Weighted-average number of shares:				
Basic	152,148	156,587	153,684	156,707
Diluted	152,648	156,587	154,389	157,688

See accompanying notes to condensed consolidated financial statements (unaudited).

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KLA-TENCOR CORPORATION
Condensed Consolidated Statements of Comprehensive Income
(Unaudited)

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Net income (loss)	$369,100	$(134,319)	$765,044	$146,617
Other comprehensive income (loss):				
Currency translation adjustments:				
Change in currency translation adjustments	(991)	4,821	(4,073)	6,379
Change in income tax benefit or expense	—	(1,836)	—	(2,339)
Net change related to currency translation adjustments	(991)	2,985	(4,073)	4,040
Cash flow hedges:				
Change in net unrealized gains or losses	(18,982)	697	(5,188)	1,141
Reclassification adjustments for net gains or losses included in net income	(1,736)	(963)	(2,773)	(3,081)
Change in income tax benefit or expense	4,475	78	1,180	676
Net change related to cash flow hedges	(16,243)	(188)	(6,781)	(1,264)
Net change related to unrecognized losses and transition obligations in connection with defined benefit plans	413	(59)	555	(93)
Available-for-sale securities:				
Change in net unrealized gains or losses	2,649	(5,863)	4,759	(5,196)
Reclassification adjustments for net gains or losses included in net income	469	69	950	63
Change in income tax benefit or expense	(577)	1,315	(1,079)	1,251
Net change related to available-for-sale securities	2,541	(4,479)	4,630	(3,882)
Other comprehensive income (loss)	(14,280)	(1,741)	(5,669)	(1,199)
Total comprehensive income (loss)	$354,820	$(136,060)	$759,375	$145,418

See accompanying notes to condensed consolidated financial statements (unaudited).

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KLA-TENCOR CORPORATION
Condensed Consolidated Statements of Cash Flows
(Unaudited)

(In thousands)	Six months ended December 31, 2018	2017
Cash flows from operating activities:		
Net income	$765,044	$146,617
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	31,893	31,412
Loss (gains) on unrealized foreign exchange and other	4,790	(883)
Stock-based compensation expense	31,833	27,770
Changes in assets and liabilities, net of assets acquired and liabilities assumed in business acquisitions:		
Accounts receivable	(19,790)	(169,498)
Inventories	(70,847)	(44,434)
Other assets	18,125	82,290
Accounts payable	(17,205)	2,192
Deferred system revenue	(99,533)	—
Deferred service revenue	(1,114)	—
Deferred system profit	—	69,179
Other liabilities	20,381	358,355
Net cash provided by operating activities	663,577	503,000
Cash flows from investing activities:		
Acquisition of non-marketable securities	—	(3,377)
Business acquisitions, net of cash acquired	(11,787)	(5,490)
Capital expenditures	(48,696)	(29,125)
Purchases of available-for-sale securities	(2,686)	(326,012)
Proceeds from sale of available-for-sale securities	198,608	106,601
Proceeds from maturity of available-for-sale securities	382,809	391,760
Purchases of trading securities	(32,100)	(30,790)
Proceeds from sale of trading securities	37,334	35,382
Net cash provided by investing activities	523,482	138,949
Cash flows from financing activities:		
Proceeds from revolving credit facility, net of debt issuance costs	—	248,693
Repayment of debt	—	(696,250)
Issuance of common stock	20,556	20,579
Tax withholding payments related to vested and released restricted stock units	(30,194)	(26,195)
Common stock repurchases	(550,187)	(80,354)
Payment of dividends to stockholders	(237,319)	(192,902)
Net cash used in financing activities	(797,144)	(726,429)
Effect of exchange rate changes on cash and cash equivalents	(315)	4,823
Net increase (decrease) in cash and cash equivalents	389,600	(79,657)
Cash and cash equivalents at beginning of period	1,404,382	1,153,051
Cash and cash equivalents at end of period	$1,793,982	$1,073,394
Supplemental cash flow disclosures:		
Income taxes paid	$112,816	$147,483
Interest paid	$51,673	$58,698
Non-cash activities:		

Business acquisition holdback amounts - investing activities	$440	$—
Contingent consideration payable - financing activities	$2,529	$—
Accrued purchases of land, property and equipment - investing activities	$7,705	$5,548
Unsettled common stock repurchase - financing activities	$—	$1,289
Dividends payable - financing activities	$5,404	$7,590

See accompanying notes to condensed consolidated financial statements (unaudited).

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KLA-TENCOR CORPORATION
Notes to Condensed Consolidated Financial Statements
(Unaudited)

NOTE 1 – BASIS OF PRESENTATION
Basis of Presentation. For purposes of this report, "KLA," "KLA-Tencor," the "Company," "we," "our," "us," or similar refere
mean KLA-Tencor Corporation, and its majority-owned subsidiaries unless the context requires otherwise. The condensed consolidated financial statements have been prepared by us pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted pursuant to such rules and regulations.
In the opinion of management, the unaudited interim financial statements reflect all adjustments (consisting only of normal, recurring adjustments) necessary for a fair statement of the financial position, results of operations, comprehensive income, and cash flows for the periods indicated. These financial statements and notes, however, should be read in conjunction with Item 8, "Financial Statements and Supplementary Data" included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018, filed with the SEC on August 6, 2018.
The condensed consolidated financial statements include the accounts of KLA and its majority-owned subsidiaries. All significant intercompany balances and transactions have been eliminated.
The results of operations for the three and six months ended December 31, 2018 are not necessarily indicative of the results that may be expected for any other interim period or for the full fiscal year ending June 30, 2019.
Certain reclassifications have been made to the prior year's Condensed Consolidated Financial Statements to conform to the current year presentation. The reclassifications did not have material effects on the prior year's Condensed Consolidated Balance Sheets, Statements of Operations, Comprehensive Income and Cash Flows.
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. KLA continues to have advanced discussions with the State Administration for Market Regulation of the People's Republic of China (SAMR) regarding clearance of the proposed merger with a goal of obtaining clearance as soon as practicable in 2019.
Management Estimates. The preparation of the condensed 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 and liabilities (and related disclosure of contingent assets and liabilities) at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.
Comparability. Effective on the first day of fiscal 2019, we adopted Accounting Standards Update 2014-09, Revenue from Contracts with Customers ("ASC 606"). Prior periods were not retrospectively restated, and accordingly, the consolidated balance sheet as of June 30, 2018, and the condensed consolidated statements of operations for the three and six months ended December 31, 2017 were prepared using accounting standards that were different than those in effect for the three and six months ended December 31, 2018.
Recent Accounting Pronouncements.
Recently Adopted
In May 2014, the Financial Accounting Standards Board ("FASB") issued ASC 606, which supersedes the guidance in ASC 605, Revenue Recognition ("ASC 605"). Under ASC 606, revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, ASC 606 requires enhanced disclosures, including disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. We adopted

the ASC 606 as of July 1, 2018 in our first quarter of our fiscal year ending June 30, 2019, using the modified retrospective transition approach. For additional detail, refer to Note 2 “Revenue.”

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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. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a prospective basis and the adoption had no material impact on our condensed consolidated financial statements.

In August 2016, the FASB issued an accounting standard update intended to clarify how certain cash receipts and cash payment are presented and classified in the statement of cash flows. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a retrospective basis and the adoption had no material impact on our condensed 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. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a modified retrospective basis and the adoption had no material impact on our condensed consolidated financial statements.

In January 2017, the FASB issued an accounting standard 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. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a prospective basis and the adoption had no material impact on our condensed consolidated financial statements.

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 our fair value. We early adopted this update in the first quarter of our fiscal year ending June 30, 2019 on a prospective basis and the adoption had no material impact on our condensed consolidated financial statements.

In March 2017, the FASB issued an accounting standard update that changes the statements of operation classification of net periodic benefit cost related to defined benefit pension and/or other post-retirement 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. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a retrospective basis and the adoption had no material impact on our condensed consolidated financial statements.

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. We adopted this update beginning in the first quarter of our fiscal year ending June 30, 2019 on a prospective basis and the adoption had no material impact on our condensed consolidated financial statements.

In August 2017, the FASB issued an accounting standard update to hedge accounting to better align our 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. We early adopted this update in the second quarter of our fiscal year ending June 30, 2019 under the modified retrospective approach. The cumulative effect adjustment for the elimination of the ineffectiveness was not material to our condensed consolidated financial statements. The presentation and disclosure have been amended on a prospective basis, as required by this update.

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 (“AOCI”) to retained earnings. We early adopted this update in the first quarter of our fiscal year ending June 30, 2019 and applied this update in the period of adoption. As a result of the adoption, we made a reclassification from AOCI to beginning retained earnings of approximately $10.7 million related to the stranded tax effects.

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Updates Not Yet Effective

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 our 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 us 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 us beginning in the first quarter of our fiscal year ending June 30, 2020. Early adoption is permitted. We are currently evaluating the impact of this accounting standard update on our condensed consolidated financial statements.

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 us beginning in the first quarter of our fiscal year ending June 30, 2021, with early adoption permitted starting in the first quarter of fiscal year ending June 30, 2020. We are currently evaluating the impact of this accounting standard update on our condensed consolidated financial statements.

In August 2018, the FASB issued an accounting standard update which modifies the existing accounting standards for fair value measurement disclosure. This update eliminates the amount of and reasons for transfers between level 1 and level 2 of the fair value hierarchy, and the policy for timing of transfers between levels. This standard update is effective for us beginning in the first quarter of our fiscal year ending June 30, 2021, and early adoption is permitted. We are currently evaluating the impact of this accounting standard update on our condensed consolidated financial statements.

In August 2018, the FASB issued an accounting standard update to amend the disclosure requirements related to defined benefit pension and other post-retirement plans. Some of the changes include adding a disclosure requirement for significant gains and losses related to changes in the benefit obligation for the period, and removing the amounts in accumulated other comprehensive income expected to be recognized as components of net periodic benefit cost over the next fiscal year. This standard update is effective for us for the fiscal year ending June 30, 2021, and early adoption is permitted. We are currently evaluating the impact of this accounting standard update on our condensed consolidated financial statements.

In August 2018, the FASB issued an accounting standard update to align the requirements for capitalizing implementation costs incurred in a cloud computing arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The guidance clarifies which costs should be capitalized including the cost to acquire the license and the related implementation costs. This standard update is effective for us beginning in the first quarter of our fiscal year ending June 30, 2021, with an option to be adopted either prospectively or retrospectively. Early adoption is permitted. We are currently evaluating the impact of this accounting standard update on our condensed consolidated financial statements.

Significant Accounting Policies. We updated our accounting policies for Revenue Recognition, Business Combinations, Global Intangible Low-Taxed Income (“GILTI”), and Derivative Financial Instruments. There has been no other material changes to our significant accounting policies in Note 1 “Description of Business and Summary of Significant Accounting Policies,” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

Revenue Recognition. We primarily derive revenue from the sale of process control and yield management solutions for the semiconductor and related nanoelectronics industries, maintenance and support of all these products, installation and training services and the sale of spare parts. Our solutions provide a comprehensive portfolio of inspection, metrology and data analytics products, which are accompanied by a flexible portfolio of services to enable our customers to maintain the performance and productivity of the solutions purchased. Our solutions are generally not sold with a right of return, nor have we experienced significant returns from or refunds to our customers.

We account for a contract with a customer when there is approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectibility of consideration is probable.
Our revenues are measured based on consideration stipulated in the arrangement with each customer, net of any sales incentives and amounts collected on behalf of third parties, such as sales taxes. The revenues are recognized as separate performance obligations that are satisfied by transferring control of the product or service to the customer.

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Our arrangements with our customers include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. A product or service is considered distinct if it is separately identifiable from other deliverables in the arrangement and if a customer can benefit from it on its own or with other resources that are readily available to the customer.
The transaction consideration, including any sales incentives, is allocated between separate performance obligations of an arrangement based on the stand-alone selling prices (“SSP”) for each distinct product or service. Management considers a variety of factors to determine the SSP, such as, historical standalone sales of products and services, discounting strategies and other observable data.
From time to time, our contracts are modified to account for additional, or to change existing, performance obligations. Our contract modifications are generally accounted for prospectively.
Product revenue
We recognize revenue from product sales at a point in time when we have satisfied our performance obligation by transferring control of the product to the customer. We use judgment to evaluate whether the control has transferred by considering several indicators, including:

- whether we have 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 (for example, when the customer 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, and when the installation of the system is deemed perfunctory).

Not all of the indicators need to be met for us to conclude that control has transferred to the customer. In circumstances in which revenue is recognized prior to the product acceptance, the portion of revenue associated with our performance obligations to install product is deferred and recognized upon acceptance.
We enter into volume purchase agreements with some of our customers. We adjust the transaction consideration for estimated credits earned by our customers for such incentives. These credits are estimated based upon the forecasted and actual product sales for any given period, and agreed-upon incentive rate. The estimate is updated at each reporting period.
We offer perpetual and term licenses for defects and data analysis software. The primary difference between perpetual and term licenses is the duration over which the customer can benefit from the use of the software, while the functionality and the features of the software are the same. The software is generally bundled with post-contract customer support (“PCS”), which includes unspecified software updates that are made available throughout the entire term of the arrangement. Revenue from software licenses is recognized at a point in time, when the software is made available to the customer. Revenue from PCS is deferred at contract inception and recognized ratably over the service period, or as services are performed.
Services and spare parts revenue
The majority of product sales include a standard 12-month warranty that is not separately paid for by the customers. The customers may also purchase extended warranty for periods beyond the initial year as part of the initial product sale. We have concluded that the standard 12-month warranty as well as any extended warranty periods included in the initial product sales are separate performance obligations. The estimated fair value of warranty services is deferred and recognized ratably as revenue over the warranty period, as the customer simultaneously receives and consumes the benefits of warranty services provided by us.
Additionally, we offer product maintenance and support services, which the customer may purchase separately from the standard and extended warranty offered as part of the initial product sale. Revenue from separately negotiated maintenance and support service contracts is also recognized over time based on the terms of the applicable service period. Revenue from services performed in the absence of a maintenance contract, including training revenue, is

recognized when the related services are performed. We also sell spare parts, revenue from which is recognized when control over the spare parts is transferred to the customer.

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Installation services include connecting and validating configuration of the product. In addition, several testing protocols are completed to confirm the equipment is performing to customer specifications. Revenue from product installation are deferred and recognized at a point in time, once installation is complete.

Significant Judgments

Our contracts with our customers often include promises to transfer multiple products and services. Each product and service is generally capable of being distinct and represents a separate performance obligation. Determining the SSP for each distinct performance obligation and allocation of consideration from an arrangement to the individual performance obligations and the appropriate timing of revenue recognition are significant judgments with respect to these arrangements. We typically estimate the SSP of products and services based on observable transactions when the products and services are sold on a standalone basis and those prices fall within a reasonable range. We typically have more than one SSP for individual products and services due to the stratification of these products by customers and circumstances. In these instances, we use information such as the size of the customer, geographic region, as well as customization of the products in determining the SSP. In instances where the SSP is not directly observable, we determine the SSP using information that includes market conditions, entity-specific factors, including discounting strategies, information about the customer or class of customer that is reasonably available and other observable inputs. While changes in the allocation of SSP between performance obligations will not affect the amount of total revenue recognized for a particular contract, any material changes could impact the timing of revenue recognition, which could have a material effect on our financial position and result of operations.

Although the products are generally not sold with a right of return, we may provide other credits or sales incentives, which are accounted for either as variable consideration or material right, depending on the specific terms and conditions of the arrangement. These credits and incentives are estimated at contract inception and updated at the end of each reporting period if and when additional information becomes available.

As outlined above, we use judgments to evaluate whether or not the customer has obtained control of the product and considers the several indicators in evaluating whether or not control has transferred to the customer. Not all of the indicators need to be met for us to conclude that control has transferred to the customer.

Contract Assets/Liabilities

The timing of revenue recognition, billings and cash collections may result in accounts receivable, contract assets, and contract liabilities (deferred revenue) on our condensed consolidated balance sheet. A receivable is recorded in the period we deliver products or provide services when we have an unconditional right to payment. Contract assets primarily relate to the value of products and services transferred to the customer for which the right to payment is not just dependent on the passage of time. Contract assets are transferred to receivable when rights to payment become unconditional.

A contract liability is recognized when we receive payment or have an unconditional right to payment in advance of the satisfaction of performance. The contract liabilities represent (1) deferred product revenue related to the value of products that have been shipped and billed to customers and for which the control has not been transferred to the customers, and (2) deferred service revenue, which is recorded when we receive consideration, or such consideration is unconditionally due, from a customer prior to transferring services to the customer under the terms of a contract. Deferred service revenue typically results from warranty services, and maintenance and other service contracts.

Contract assets and liabilities related to rights and obligations in a contract are recorded net in the condensed consolidated balance sheets. Upon the adoption of ASC 606, deferred costs of revenue is included in other current assets while under the legacy guidance deferred costs of revenue was included in deferred system profit.

Business Combinations. We allocate the fair value of the purchase price of our acquisitions to the tangible assets acquired, liabilities assumed, and intangible assets acquired, including in-process research and development (“IPR&D”), based on their estimated fair values. The excess of the fair value of the purchase price over the fair values of these net tangible and intangible assets acquired is recorded as goodwill. Management's estimates of fair value are based upon assumptions believed to be reasonable, but our estimates and assumptions are inherently uncertain and subject to refinement. As a result, during the measurement period, which will not exceed one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the

conclusion of the measurement period or final determination of the fair value of the purchase price of our acquisitions, whichever comes first, any subsequent adjustments are recorded to our condensed consolidated statements of operations.

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The fair value of IPR&D is initially capitalized as an intangible asset with an indefinite life and assessed for impairment
thereafter. When an IPR&D project is completed, the IPR&D is reclassified as an amortizable purchased intangible asset and amortized over the asset's estimated useful life. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.

Derivative Financial Instruments. We use 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 our 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. We also use 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. We believe these financial instruments do not subject us to speculative risk that would otherwise result from changes in currency exchange rates or interest rates. All of our 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 gains or losses is reported in accumulated other comprehensive income (loss) ("OCI") and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Prior to adopting the new accounting guidance for hedge accounting, time value was excluded from the assessment of effectiveness for derivative instruments designated as cash flow hedges. Time value was amortized on a mark-to-market basis and recognized in earnings over the life of the derivative contract. For derivative contracts executed after adopting the new accounting guidance, the election to include time value for the assessment of effectiveness is made on all forward contracts designated as cash flow hedges. The change in fair value of the derivative are recorded in OCI until the hedged transaction is recognized in earnings. The assessment effectiveness of options contracts designated as cash flow hedges continue to exclude time value after adopting the new accounting guidance. The initial value of the component excluded from the assessment of effectiveness are recognized in earnings over the life of the derivative contracts. Any difference between change in the fair value of the excluded components and the amounts recognized in earnings are recorded in OCI. For derivative instruments that are not designated as a cash flow hedge, gains and losses are recognized in other expense (income), net. We use foreign currency forward contracts to hedge certain foreign currency denominated assets or liabilities. The gains and losses on these derivative instruments are largely offset by the changes in the fair value of the assets or liabilities being hedged.
Global Intangible Low-Taxed Income. The Tax Cuts and Jobs Act (the "Act") 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 were being evaluated to determine 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 as period costs in each year incurred. The Company has elected to account for GILTI as a component of current period tax expense starting from the first quarter of the fiscal year ending June 30, 2019.
NOTE 2 – REVENUE
New Revenue Accounting Standard
Method and Impact of Adoption
At the beginning of the fiscal year 2019, we adopted ASC 606 using the modified retrospective transition approach for all contracts completed and not completed as of the date of adoption. Under the modified retrospective transition approach, periods prior to the adoption date were not adjusted and continue to be reported in accordance with ASC 605. A cumulative effect of applying ASC 606 was recorded to the beginning retained earnings to reflect the impact of all existing arrangements under ASC 606.

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The cumulative effect of applying ASC 606 represents a net decrease of $21.0 million as of July 1, 2018, which primarily related to the following:

- A decrease of approximately $97.0 million in retained earnings related to the deferral of estimated fair value of the warranty services provided with our products for which revenue will be recognized in future periods under ASC 606. Further, upon adoption of ASC 606, we will recognize the standard warranty for a majority of products as a separate performance obligation, while in prior periods, we accounted for the estimated warranty cost as a charge to costs of sales when revenue was recognized. This was partially offset by an increase in retained earnings of approximately $37.0 million related to reversal of standard warranty expense, which was charged to cost of revenues in prior periods.
- An increase in retained earnings of approximately $26.0 million due to a change in the timing of transfer of control over products to the customers.

The following table summarizes the effects of adopting ASC 606 on our condensed consolidated balance sheet as of December 31, 2018:

December 31, 2018 (In thousands)	As reported under ASC 606	Prior to adoption of ASC 606	Effect of changes
ASSETS			
Accounts receivable, net	$658,080	$678,863	$(20,783)
Other current assets	127,350	71,214	56,136
Deferred income taxes	225,124	206,674	18,450
LIABILITIES			
Deferred system revenue	$196,242	$—	$196,242
Deferred service revenue	168,936	66,759	102,177
Deferred system profit	—	319,696	(319,696)
Other current liabilities	714,873	733,220	(18,347)
Deferred service revenue, non-current	90,466	83,338	7,128
STOCKHOLDERS' EQUITY			
Retained earnings	$1,048,804	$962,561	$86,243
Accumulated other comprehensive income (loss)	(70,447)	(70,502)	55

The following table summarizes the effects of adopting ASC 606 on our condensed consolidated statements of operations for the three months ended December 31, 2018:

Three months ended December 31, 2018 (In thousands, except per share amounts)	As reported under ASC 606	Prior to adoption of ASC 606	Effect of changes
Revenues:			
Product	$852,201	$875,415	$(23,214)
Service	267,697	230,683	37,014
Costs and expenses:			
Costs of revenues	408,260	392,916	15,344
Other expense (income), net	(9,228)	(9,187)	(41)
Provision for income taxes	46,863	48,401	(1,538)
Net income	$369,100	$369,065	$35
Net income per share			
Basic	$2.43	$2.43	$—
Diluted	$2.42	$2.42	$—

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The following table summarizes the effects of adopting ASC 606 on our condensed consolidated statements of operations for the six months ended December 31, 2018:

Six months ended December 31, 2018 (In thousands, except per share amounts)	As reported under ASC 606	Prior to adoption of ASC 606	Effect of changes
Revenues:			
Product	$1,681,428	$1,576,088	$105,340
Service	531,730	460,643	71,087
Costs and expenses:			
Costs of revenues	789,647	734,790	54,857
Other expense (income), net	(19,253)	(19,213)	(40)
Provision for income taxes	78,487	64,335	14,152
Net income	$765,044	$657,586	$107,458
Net income per share:			
Basic	$4.98	$4.29	$0.69
Diluted	$4.96	$4.27	$0.69

Under ASC 606, revenue is recognized earlier than it would have been recognized under legacy guidance primarily due to our assessment of timing of transfer of control. Additionally, we render standard warranty coverage on our products for 12 months, providing labor and parts necessary to repair and maintain the products during the warranty period. Prior to adoption of ASC 606, we accounted for the estimated warranty cost as a charge to costs of sales when revenue was recognized. Upon adoption of ASC 606, the standard warranty for the majority of products is recognized as a separate performance obligation in service revenue.

Contract Balances

(In thousands, except for percentage)	As of December 31, 2018	As of July 1, 2018	$ Change	% Change
Accounts receivable, net	$ 658,080	$635,878	$22,202	3.49 %
Contract assets	$ 23,316	$14,727	$8,589	58.32 %
Contract liabilities	$ 455,644	$556,691	$(101,047)	(18.15)%

Our payment terms and conditions vary by contract type, although terms generally include a requirement of payment of 70% to 90% of total contract consideration within 30 to 60 days of shipment, with the remainder payable within 30 days of acceptance.

The change in contract assets during the six months ended December 31, 2018 was mainly due to $23.2 million of revenue recognized in excess of the amounts billed to the customers, partially offset by $14.6 million of contract assets reclassified to net accounts receivable as our right to consideration for these contract assets became unconditional. Contract assets are included in Other current assets on our condensed consolidated balance sheet.

During the six months ended December 31, 2018, we recognized revenue of $371.4 million that was included in contract liabilities as of July 1, 2018. This was partially offset by the value of products and services billed to customers for which control of the products and service has not transferred to the customers. Contract liabilities are included in current and non-current liabilities on our condensed consolidated balance sheets.

Remaining Performance Obligations

As of December 31, 2018, we had $1.66 billion of remaining performance obligations, which represents our obligation to deliver products and services, and consists primarily of sales orders where written customer requests have been received. We expect to recognize approximately 5% to 15% of these performance obligations as revenue beyond the next twelve months, subject to risk of delays, pushouts, and cancellation by the customer, usually with limited or no penalties.

Refer to Note 17 “Segment Reporting and Geographic Information” for information related to revenue by geographic region as well as significant product and service offerings.

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Practical expedients

We apply the following practical expedients:

- We account for shipping and handling costs as activities to fulfill the promise to transfer the goods, instead of a promised service to our customer.
- We have elected to not adjust the promised amount of consideration for the effects of a significant financing component as we expect, at contract inception, that the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service will generally be one year or less.
- We have elected to expense costs to obtain a contract as incurred because the expected amortization period is one year or less.
- We have elected to reflect the aggregate effect of all modifications that occurred before July 1, 2018 in determining the transaction price, identifying the satisfied and unsatisfied performance obligations, and allocating the transaction price to the performance obligations.

NOTE 3 – FAIR VALUE MEASUREMENTS

Our financial assets and liabilities are measured and recorded at fair value, except for our debt and certain equity investments in privately-held companies. Prior to July 1, 2018, the equity investments were generally accounted for under the cost method of accounting and were periodically assessed for other-than-temporary impairment when an event or circumstance indicated that an other-than-temporary decline in value may have occurred. Effective July 1, 2018, equity investments without a readily available fair value are accounted for using the measurement alternative. The measurement alternative is calculated as cost minus impairment, if any, plus or minus changes resulting from observable price changes.

Our 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. We have 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 our 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.

As of December 31, 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. The types of instruments valued based on other observable inputs included corporate debt securities, sovereign securities and certain U.S. Treasury 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.

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The principal market in which we execute our 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. Our 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.
The fair value of contingent consideration payable, which resulted from the acquisitions of privately-held companies, was classified as Level 3 and estimated using significant inputs that were not observable in the market.
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 our Condensed Consolidated Balance Sheet as follows:

As of December 31, 2018 (In thousands)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Little or no market activity Inputs (Level 3)
Assets				
Cash equivalents:				
Money market funds and other	$877,527	$ 877,527	$—	$—
U.S. Treasury securities	668,058	—	668,058	—
Marketable securities:				
Corporate debt securities	500,594	—	500,594	—
Sovereign securities	10,919	—	10,919	—
U.S. Government agency securities	172,615	172,615	—	—
U.S. Treasury securities	211,588	211,588	—	—
Total cash equivalents and marketable securities[1]	2,441,301	1,261,730	1,179,571	—
Other current assets:				
Derivative assets	1,732	—	1,732	—
Other non-current assets:				
Executive Deferred Savings Plan	181,104	137,301	43,803	—
Total financial assets[1]	$2,624,137	$ 1,399,031	$1,225,106	$—
Liabilities				
Other current liabilities:				
Derivative liabilities	$(14,318)	$ —	$(14,318)	$—
Contingent consideration payable	(2,529)	—	—	(2,529)
Total financial liabilities	$(16,847)	$ —	$(14,318)	$(2,529)

(1) Excludes cash of $204.5 million held in operating accounts and time deposits of $48.3 million as of December 31, 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 our Condensed 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:			
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
U.S. Treasury securities	1,996	—	1,996
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. There were no transfers between Level 1 and Level 2 fair value measurements during the six months ended December 31, 2018. We 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.

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NOTE 4 – FINANCIAL STATEMENT COMPONENTS

Consolidated Balance Sheets

(In thousands)	As of December 31, 2018	As of June 30, 2018
Accounts receivable, net:		
Accounts receivable, gross	$669,650	$663,317
Allowance for doubtful accounts	(11,570)	(11,639)
	$658,080	$651,678
Inventories:		
Customer service parts	$275,045	$253,639
Raw materials	340,253	331,065
Work-in-process	305,864	280,208
Finished goods	84,828	66,933
	$1,005,990	$931,845
Other current assets:		
Contract assets	$23,316	$—
Deferred costs of revenue[1]	32,821	—
Prepaid expenses	48,411	47,088
Prepaid income and other taxes	12,181	23,452
Other current assets	10,621	14,619
	$127,350	$85,159
Land, property and equipment, net:		
Land	$40,593	$40,599
Buildings and leasehold improvements	340,722	335,647
Machinery and equipment	602,387	577,077
Office furniture and fixtures	22,569	22,171
Construction-in-process	16,360	9,180
	1,022,631	984,674
Less: accumulated depreciation	(716,280)	(698,368)
	$306,351	$286,306
Other non-current assets:		
Executive Deferred Savings Plan[2]	$181,103	$197,213
Other non-current assets	22,897	19,606
	$204,000	$216,819
Other current liabilities:		
Executive Deferred Savings Plan[2]	$181,976	$199,505
Compensation and benefits	230,079	177,587
Other accrued expenses	107,644	123,869
Customer credits and advances	144,408	116,440
Warranty	666	42,258
Income taxes payable	33,153	23,287
Interest payable	16,947	16,947
	$714,873	$699,893
Other non-current liabilities:		
Income taxes payable	$341,745	$371,665
Pension liabilities	67,139	66,786
Other non-current liabilities	37,395	32,912
	$446,279	$471,363

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(1) Deferred costs of revenue were previously included under deferred system profit prior to the adoption of ASC 606.

(2) We have a non-qualified deferred compensation plan (known as "Executive Deferred Savings Plan" or "EDSP") under which certain employees and non-employee directors may defer a portion of their compensation. The expense (benefit) associated with changes in the EDSP liability included in selling, general and administrative expense was $(19.8) million and $7.0 million during the three months ended December 31, 2018 and 2017, respectively and was $(12.3) million and $13.8 million during the six months ended December 31, 2018 and 2017, respectively. The amount of net gains (losses) associated with changes in the EDSP assets included in selling, general and administrative expense was $(19.4) million and $7.0 million during the three months ended December 31, 2018 and 2017, respectively and was $(12.0) million and $13.9 million the six months ended December 31, 2018 and 2017, respectively. For additional details, refer to Note 1, "Description of Business and Summary of Significant Accounting Policies," of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

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 December 31, 2018	$ (43,041)	$ (6,736)	$ (4,402)	$ (16,268)	$ (70,447)
Balance as of June 30, 2018	$ (29,974)	$ (11,032)	$ 1,932	$ (14,859)	$ (53,933)

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

Accumulated OCI Components	Location in the Condensed Consolidated Statements of Operations	Three months ended December 31, 2018	2017	Six months ended December 31, 2018	2017
Unrealized gains (losses) on cash flow hedges from foreign exchange and interest rate contracts[(1)]	Revenues	$ 1,705	$ 397	$ 2,688	$ 1,365
	Costs of revenues	(158)	377	(292)	1,338
	Interest expense	189	189	377	378
	Net gains (losses) reclassified from accumulated OCI	$ 1,736	$ 963	$ 2,773	$ 3,081
Unrealized gains (losses) on available-for-sale securities	Other expense (income), net	$ (469)	$ (69)	$ (950)	$ (63)

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(1) Reflects the adoption of the new accounting guidance for hedge accounting in the second quarter of fiscal year 2019. For additional details, refer to Note 15, "Derivative Instruments and Hedging Activities."

The amounts reclassified out of accumulated OCI related to our defined benefit pension plans, which were recognized as a component of net periodic cost for the three and six months ended December 31, 2018 were $0.2 million and $0.4 million, respectively. The amounts reclassified out of accumulated OCI related to our defined benefit pension plans, which were recognized as a component of net periodic cost for the three and six months ended December 31, 2017 were $0.4 million and $0.8 million, respectively. For additional details, refer to Note 11, "Employee Benefit Plans" of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year

ended June 30, 2018.

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NOTE 5 – MARKETABLE SECURITIES

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

As of December 31, 2018 (In thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Corporate debt securities	$ 505,296	$ —	$ (4,702)	$ 500,594
Money market funds and other	877,527	—	—	877,527
Sovereign securities	11,008	—	(89)	10,919
U.S. Government agency securities	174,058	2	(1,445)	172,615
U.S. Treasury securities	881,704	36	(2,094)	879,646
Subtotal	2,449,593	38	(8,330)	2,441,301
Add: Time deposits[1]	48,265	—	—	48,265
Less: Cash equivalents	1,589,418	36	—	1,589,454
Marketable securities	$ 908,440	$ 2	$ (8,330)	$ 900,112

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

(1) Time deposits excluded from fair value measurements.

Our 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 our unrealized losses are due to changes in market interest rates and bond yields. We believe that we have 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 our investments that were in an unrealized loss position as of the date indicated below:

As of December 31, 2018 (In thousands)	Fair Value	Gross Unrealized Losses[1]
Corporate debt securities	$ 497,833	$ (4,702)
U.S. Treasury securities	211,588	(2,094)
U.S. Government agency securities	169,967	(1,445)
Sovereign securities	10,919	(89)
Total	$ 890,307	$ (8,330)

(1) As of December 31, 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 $7.9 million.

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

As of December 31, 2018 (In thousands)	Amortized Cost	Fair Value
Due within one year	$ 567,385	$ 563,316
Due after one year through three years	341,055	336,796
	$ 908,440	$ 900,112

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 and losses on available-for-sale securities for the three and six months ended December 31, 2018 and 2017 were immaterial.

NOTE 6 - BUSINESS COMBINATIONS

In September 2018, we acquired certain assets and assumed certain liabilities of a privately-held company for a total purchase consideration of $4.1 million, which includes a promise to pay an additional consideration of up to $1.5 million contingent on the achievement of certain milestones. As of December 31, 2018, the estimated fair value of the additional consideration was $0.9 million, which is classified as a current liability on the condensed consolidated balance sheet.

In July 2018, we acquired the outstanding shares of a privately-held company for a total purchase consideration of $11.3 million, including the fair value of the promise to pay an additional consideration of up to $4.5 million contingent on the achievement of certain revenue milestones. As of December 31, 2018, the estimated fair value of the additional consideration was $1.6 million, which is classified as a current liability on the condensed consolidated balance sheet.

We have included the financial results of the acquisitions completed during the first quarter of the fiscal year 2019 in our condensed consolidated financial statements from the date of acquisition. These results were not individually or in aggregate material to our condensed consolidated financial statements.

For the fiscal year ended June 30, 2018, we acquired a product line from Keysight Technologies, Inc., a related party, for a total purchase consideration of $12.1 million, of which $5.2 million was allocated to goodwill based on the fair value at the acquisition date. Goodwill recognized was deductible for income tax purposes. For additional details, refer to Note 5 “Business Combinations,” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

NOTE 7 – GOODWILL AND PURCHASED INTANGIBLE ASSETS

Goodwill

We have four reporting units: Wafer Inspection, Patterning, Global Service and Support (“GSS”), and Others. The following table presents goodwill carrying value and the movements by reporting unit during the six months ended December 31, 2018:

(In thousands)	Wafer Inspection	Patterning	GSS	Others	Total
Balance as of June 30, 2018	$ 281,005	$ 53,255	$ 8,039	$ 12,399	$ 354,698
Acquired goodwill	—	—	4,631	1,176	5,807
Foreign currency and other adjustments	(25)	—	—	—	(25)
Balance as of December 31, 2018	$ 280,980	$ 53,255	$ 12,670	$ 13,575	$ 360,480

The change in goodwill during the six months ended December 31, 2018 resulted primarily from the acquisition of certain assets and liabilities of privately-held companies. For additional details, refer to Note 6 “Business Combinations”.

As of December 31, 2018, there have been no significant events or circumstances affecting the carrying value of goodwill subsequent to the qualitative assessment performed in the third quarter of the fiscal year ended June 30, 2018. For additional details, refer to Note 6 “Goodwill and Purchased Intangible Assets,” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for 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.

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Purchased Intangible Assets

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

(In thousands)		As of December 31, 2018			As of June 30, 2018		
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	$166,029	$ 146,001	$20,028	$160,859	$ 144,202	$16,657
Trade name/Trademark	5-7 years	21,073	20,143	930	20,993	20,060	933
Customer relationships	4-7 years	58,050	55,388	2,662	56,680	55,136	1,544
Other	<1-5 years	1,270	1,072	198	660	461	199
Total		$246,422	$ 222,604	$23,818	$239,192	$ 219,859	$19,333

Purchased 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.

For the three months ended December 31, 2018 and 2017, amortization expense for purchased intangible assets was $1.3 million and $1.2 million, respectively. For the six months ended December 31, 2018 and 2017, amortization expense for purchased intangible assets was $2.7 million and $2.4 million, respectively. The change in purchased intangible assets gross carrying amount resulted primarily from the acquisition of certain assets and liabilities of privately-held companies. For additional details, refer to Note 6 "Business Combinations."

Based on the purchased intangible assets gross carrying amount recorded as of December 31, 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 (remaining 6 months)	$ 2,218
2020	4,438
2021	4,438
2022	4,438
2023	4,242
Thereafter	4,044
Total	$ 23,818

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NOTE 8 – DEBT

The following table summarizes our debt as of December 31, 2018 and June 30, 2018:

	As of December 31, 2018		As of June 30, 2018	
	Amount (In thousands)	Effective Interest Rate	Amount (In thousands)	Effective Interest Rate
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 %
Total	2,250,000		2,250,000	
Unamortized discount	(2,343)		(2,523)	
Unamortized debt issuance costs	(9,279)		(10,075)	
Total	$2,238,378		$2,237,402	
Reported as:				
Current portion of long-term debt	$249,996		$—	
Long-term debt	1,988,382		2,237,402	
Total	$2,238,378		$2,237,402	

(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%.

As of December 31, 2018, future principal payments for the long-term debt are $250.0 million in fiscal year 2020; $500.0 million in fiscal year 2022; and $1.50 billion after fiscal year 2023.

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”) as part of the leveraged recapitalization plan.

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. 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 15, “Derivative Instruments and Hedging Activities” of this report, and Note 7 “Debt” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

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 indenture for the Senior Notes (the “Indenture”) includes covenants that limit our ability to grant liens on our 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 we have exercised our rights to redeem the Senior 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 Senior 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 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 December 31, 2018 and June 30, 2018 was approximately $2.30 billion and $2.33 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 December 31, 2018, we were in compliance with all of our covenants under the Indenture associated with the Senior Notes.

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Revolving 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. In November 2018, we entered into an Incremental Facility, Extension and Amendment Agreement (the "Amendment"), which amends the Credit Agreement to (a) extend the Maturity Date (the "Maturity Date") from November 30, 2022 to November 30, 2023, (b) increase the total commitment by $250.0 million and (c) effect certain other amendments to the Credit Agreement as set forth in the Amendment. After giving effect to the Amendment, the total commitments under the Credit Agreement are $1.00 billion.

We may borrow, repay and reborrow funds under the Revolving Credit Facility until 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 outstanding borrowings under 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 December 31, 2018, we pay an annual commitment fee of 12.5 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 all covenants under the Credit Agreement as of December 31, 2018 and had no outstanding borrowings under the unfunded Revolving Credit Facility.

NOTE 9 – EQUITY AND LONG-TERM INCENTIVE COMPENSATION PLANS

Equity Incentive Program

As of December 31, 2018, we were able to issue equity incentive awards, such as restricted stock units ("RSUs") and stock options, to our employees, consultants and members of our Board of Directors under our 2004 Equity Incentive Plan (the "2004 Plan") with 13.4 million shares available for issuance.

For details of the 2004 Plan refer to Note 8 "Equity and Long-Term Incentive Compensation Plans," of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

Equity Incentive Plans - General Information

The following table summarizes the combined activity under our equity incentive plans for the indicated periods:

(In thousands)	Available For Grant[1]
Balance as of June 30, 2018	3,680
Plan shares increased	12,000
Restricted stock units granted [2]	(675)
Restricted stock units granted adjustment [3]	5
Restricted stock units canceled	20
Balance as of December 31, 2018	15,030

(1) The number of RSUs reflects the application of the award multiplier (1.8x or 2.0x depending on the grant date of the applicable award).

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(2) Includes RSUs granted to senior management during the six months ended December 31, 2018 with performance-based vesting criteria (in addition to service-based vesting criteria for any of such RSUs that are deemed to have been earned). As of December 31, 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 such performance-based RSUs granted during the six months ended December 31, 2018, 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 (0.4 million shares for the six months ended December 31, 2018 reflects the application of the multiplier described above).

(3) Represents the portion of RSUs granted with performance-based vesting criteria and reported at the actual number of shares issued upon achievement of the performance vesting criteria during the six months ended December 31, 2018.

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 RSUs granted without "dividend equivalent" rights, fair value is calculated 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 those RSUs. The fair value for RSUs granted with "dividend equivalent" rights is determined using the closing price of our common stock on the grant date. The fair value for purchase rights under our Employee Stock Purchase Plan is determined using a Black-Scholes model.

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

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Stock-based compensation expense by:				
Costs of revenues	$1,823	$1,656	$3,654	$3,072
Research and development	2,483	2,275	5,002	4,446
Selling, general and administrative	11,389	9,808	23,177	20,252
Total stock-based compensation expense	$15,695	$13,739	$31,833	$27,770

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

(In thousands)	As of December 31, 2018	As of June 30, 2018
Inventory	$ 4,859	$4,580

Restricted Stock Units

The following table shows the activity and weighted-average grant date fair value for RSUs during the six months ended December 31, 2018:

	Shares[(1)] (In thousands)	Weighted-Average Grant Date Fair Value
Outstanding restricted stock units as of June 30, 2018[(2)]	2,014	$ 76.50
Granted[(2)]	338	$ 117.21
Granted adjustments[(3)]	(2)	$ 50.88
Vested and released	(383)	$ 66.41
Withheld for taxes	(264)	$ 66.41
Forfeited	(10)	$ 81.55
Outstanding restricted stock units as of December 31, 2018[(2)]	1,693	$ 88.48

(1) Share numbers reflect actual shares subject to awarded RSUs. 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.

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(2) Includes RSUs granted to senior management with performance-based vesting criteria (in addition to service-based vesting criteria for any of such RSUs that are deemed to have been earned). As of December 31, 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 such performance-based RSUs, reported at the maximum possible number of shares (42 thousand shares for the fiscal year ended June 30, 2017, 0.2 million shares for the fiscal year ended June 30, 2018 and 0.2 million shares for the six months ended December 31, 2018) 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 RSUs granted with performance-based vesting criteria and reported at the actual number of shares issued upon achievement of the performance vesting criteria during six months ended December 31, 2018.

The RSUs granted by us 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 us as of the applicable vesting date. The RSUs granted to the independent members of the Board of Directors' vest annually.

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

	Three months ended December 31,		Six months ended December 31,	
(In thousands, except for weighted-average grant date fair value)	2018	2017	2018	2017
Weighted-average grant date fair value per unit	$96.51	$105.15	$117.21	$91.39
Grant date fair value of vested restricted stock units	$6,862	$5,322	$42,934	$41,856
Tax benefits realized by us in connection with vested and released restricted stock units	$3,812	$(1,930)	$10,730	$16,482

As of December 31, 2018, the unrecognized stock-based compensation expense balance related to RSUs was $116.4 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 1.5 years. The intrinsic value of outstanding RSUs as of December 31, 2018 was $151.5 million.

Cash-Based Long-Term Incentive Compensation

We have adopted a cash-based long-term incentive (“Cash LTI Plan”) program for many of our employees as part of our employee compensation program. Executives and non-employee Board of Directors’ members are not participating in this program. During the six months ended December 31, 2018 and 2017, we approved Cash LTI awards of $5.6 million and $4.0 million, respectively under our Cash LTI Plan. During the three months ended December 31, 2018 and 2017, we recognized $12.0 million and $11.5 million, respectively, in compensation expense under the Cash LTI Plan. During the six months ended December 31, 2018 and 2017, we recognized $27.2 million and $26.3 million, respectively, in compensation expense under the Cash LTI Plan. As of December 31, 2018, the unrecognized compensation balance (excluding the impact of estimated forfeitures) related to the Cash LTI Plan was $104.9 million. For details, refer to Note 8 “Equity and Long-Term Incentive Compensation Plans,” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

Employee Stock Purchase Plan

Our Employee Stock Purchase Plan (“ESPP”) provides that eligible employees may contribute up to 15% of their eligible earnings toward the semi-annual purchase of our common stock. 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 our common stock at the commencement of the applicable six-month offering period or (ii) the fair market value of our common stock on the purchase date. We estimate the fair value of purchase rights under the ESPP using a Black-Scholes model.

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

	Three months ended December 31,		Six months ended December 31,	
	2018	2017	2018	2017
Stock purchase plan:				
Expected stock price volatility	30.0%	25.9%	30.0%	25.9%
Risk-free interest rate	1.9 %	0.9 %	1.9 %	0.9 %
Dividend yield	2.9 %	2.6 %	2.9 %	2.6 %
Expected life (in years)	0.5	0.5	0.5	0.5

The following table shows the tax benefits realized by us 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)	Three months ended December 31,		Six months ended December 31,	
	2018	2017	2018	2017
Total cash received from employees for the issuance of shares under the ESPP	$20,556	$20,579	$20,556	$20,579
Number of shares purchased by employees through the ESPP	270	264	270	264
Tax benefits realized by us in connection with the disqualifying dispositions of shares purchased under the ESPP	$92	$47	$603	$894
Weighted-average fair value per share based on Black-Scholes model	$22.73	$19.04	$22.73	$19.04

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 we estimate will be required to be issued under the ESPP during the forthcoming fiscal year. As of December 31, 2018, a total of 2.4 million shares were reserved and available for issuance under the ESPP.

Quarterly cash dividends

On November 7, 2018, our Board of Directors declared a regular quarterly cash dividend of $0.75 per share on the outstanding shares of our common stock, which was paid on December 4, 2018 to the stockholders of record as of the close of business on November 17, 2018. The total amount of regular quarterly cash dividends and dividend equivalents paid by us during the three months ended December 31, 2018 and 2017 was $114.5 million and $92.6 million, respectively. The total amount of regular quarterly cash dividends and dividend equivalents paid by us during the six months ended December 31, 2018 and 2017 was $234.4 million and $186.7 million, respectively. The amount of accrued dividends payable for regular quarterly cash dividends on unvested RSUs with dividend equivalent rights as of December 31, 2018 and June 30, 2018 was $5.4 million and $6.7 million, respectively. These accrued cash dividends will be paid upon vesting of the underlying RSUs.

Special cash dividend

On November 19, 2014, our Board of Directors declared a special cash dividend of $16.50 per share on our outstanding common stock. 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 8 “Debt” that was completed during the three months ended December 31, 2014. The total amount of the special cash dividend accrued by us at the declaration date was substantially 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 RSUs and to be paid when such underlying unvested RSUs vest. During the three months ended December 31, 2018 and 2017, the total special cash dividends paid with respect to vested RSUs were immaterial. During the six months ended December 31, 2018 and 2017, the total special cash dividends paid with respect to vested RSUs were $2.9 million and $6.2 million, respectively. As of December 31, 2018, all of the special cash dividends accrued with respect to outstanding RSUs were vested and paid in full. For details of the special cash dividend, refer to Note 8 “Equity and Long-Term Incentive Compensation Plans,” of the

Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

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NOTE 10 – STOCK REPURCHASE PROGRAM

Our Board of Directors has authorized a program which permits us to repurchase up to $1.00 billion of its common stock, or up to $2.00 billion if the Orbotech Merger closes. For additional details, refer to Note 1, “Basis of Presentation”. The intent of this program is to offset the dilution from our equity incentive plans, employee stock purchase plan, the issuance of shares in the merger involving Orbotech, as well as to return excess cash to our 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. This stock repurchase program has no expiration date and may be suspended at any time. As of December 31, 2018, an aggregate of approximately $411.7 million was available for repurchase under our stock repurchase program.

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

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Number of shares of common stock repurchased	2,556	388	5,337	822
Total cost of repurchases	$242,401	$40,868	$550,187	$81,643

NOTE 11 – NET INCOME (LOSS) PER SHARE

Basic net income (loss) per share is calculated by dividing net income (loss) available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income (loss) 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 our outstanding dilutive restricted stock units had been issued. The dilutive effect of outstanding restricted stock units is reflected in diluted net income (loss) per share by application of the treasury stock method.

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

(In thousands, except per share amounts)	Three months ended December 31,		Six months ended December 31,	
	2018	2017	2018	2017
Numerator:				
Net income (loss)	$369,100	$(134,319)	$765,044	$146,617
Denominator:				
Weighted-average shares-basic, excluding unvested restricted stock units	152,148	156,587	153,684	156,707
Effect of dilutive restricted stock units and options	500	—	705	981
Weighted-average shares-diluted	152,648	156,587	154,389	157,688
Basic net income (loss) per share	$2.43	$(0.86)	$4.98	$0.94
Diluted net income (loss) per share	$2.42	$(0.86)	$4.96	$0.93
Anti-dilutive securities excluded from the computation of diluted net income (loss) per share	341	909	280	11

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NOTE 12 – INCOME TAXES

The following table provides details of income taxes:

(Dollar amounts in thousands)	Three months ended December 31, 2018	2017	Six months ended December 31, 2018	2017
Income before income taxes	$415,963	$347,307	$843,531	$683,459
Provision for income taxes	$46,863	$481,626	$78,487	$536,842
Effective tax rate	11.3 %	138.7 %	9.3 %	78.5 %

As of December 31, 2018, we had completed our accounting for the tax effects of the Act, which was enacted into law on December 22, 2017. We recorded a tax benefit adjustment of $0.3 million and $20.1 million for the transition tax liability provided by the Act during the three and six months ended December 31, 2018, respectively. Future guidance of the Act from U.S. federal and state governments may change the tax liability.

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. We are subject to state income tax examinations for all years beginning from the fiscal year ended June 30, 2014. We are 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. We believe that it may recognize up to $10.0 million of our 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 – LITIGATION AND OTHER LEGAL MATTERS

We are named from time to time as a party to lawsuits and other types of legal proceedings and claims in the normal course of our business. Actions filed against us 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. We believe the amounts provided in our condensed 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 our condensed consolidated financial statements or will not have a material adverse effect on our results of operations, financial condition or cash flows.

NOTE 14 – COMMITMENTS AND CONTINGENCIES

Factoring. We have agreements (referred to as “factoring agreements”) with financial institutions to sell certain of our trade receivables and promissory notes from customers without recourse. We do not believe we are at risk for any material losses as a result of these agreements. 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:

(In thousands)	Three months ended December 31, 2018	2017	Six months ended December 31, 2018	2017
Receivables sold under factoring agreements	$39,814	$47,232	$101,354	$79,133
Proceeds from sales of LCs	$8,339	$—	$19,231	$5,571

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.

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Facilities. We lease certain of our facilities under arrangements that are accounted for as operating leases. Rent expense was $2.4 million and $2.5 million for the three months ended December 31, 2018 and 2017, respectively and was $4.7 million and $5.0 million for the six months ended December 31, 2018 and 2017, respectively
The following is a schedule of expected operating lease payments:

Fiscal year ending June 30,	Amount (In thousands)
2019 (remaining 6 months)	$ 7,145
2020	8,361
2021	6,016
2022	3,166
2023	2,317
2024 and thereafter	3,078
Total minimum lease payments	$ 30,083

Purchase Commitments. We maintain commitments to purchase inventory from our suppliers as well as goods, services, and other assets 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. Our estimate of our significant purchase commitments for primarily material, services, supplies and asset purchases is approximately $489.8 million as of December 31, 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 December 31, 2018, we have committed $129.8 million for future payment obligations under our 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 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 us as of the applicable award vesting date.
Guarantees and Contingencies. We maintain guarantee arrangements available through various financial institutions for up to $22.5 million, of which $18.2 million had been issued as of December 31, 2018, primarily to fund guarantees to customs authorities for value-added tax (“VAT”) and other operating requirements of our subsidiaries in Europe and Asia.
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 several 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 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 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, 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 condensed 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 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 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.

NOTE 15 – 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, (collectively "derivatives") as either assets or liabilities at fair value on the condensed consolidated balance sheets. In accordance with the accounting guidance, we designate 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 corresponding debt financing, respectively.

Our foreign subsidiaries operate and sell our products in various global markets. As a result, we are exposed to risks relating to changes in foreign currency exchange rates. We utilize 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. We routinely hedge our 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 our hedging arrangements experiences financial difficulties or is otherwise unable to honor the terms of the foreign currency hedge, we may experience material losses.

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 was matured and terminated in the second quarter of the fiscal year ended June 30, 2015 and we recorded the fair value of $7.5 million as a gain within accumulated other comprehensive income (loss) ("OCI") as of December 31, 2014. As of December 31, 2018, the unamortized portion of the fair value of the forward contracts for the Rate Lock Agreements was $4.4 million. For more details, refer to Note

16, “Derivative Instruments and Hedging Activities” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

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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. During the six months ended December 31, 2018, the 2018 Rate Lock Agreements were extended with a maturity date in the fiscal quarter ending March 31, 2019 and the realized net loss of $3.8 million was recorded in OCI.

For derivatives that are designated and qualify as cash flow hedge, the effective portion of the gains or losses is reported in OCI and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Prior to adopting the new accounting guidance for hedge accounting, time value was excluded from the assessment of effectiveness for derivatives designated as cash flow hedges. Time value was amortized on a mark-to-market basis and recognized in earnings over the life of the derivative contract. For derivative contracts executed after adopting the new accounting guidance, the election to include time value for the assessment of effectiveness is made on all forward contracts designated as cash flow hedges. The change in fair value of the derivative are recorded in OCI until the hedged item is recognized in earnings. The assessment of effectiveness of options contracts designated as cash flow hedges continue to exclude time value after adopting the new accounting guidance. The initial value of the component excluded from the assessment of effectiveness are recognized in earnings over the life of the derivative contract. Any difference between change in the fair value of the excluded components and the amounts recognized in earnings are recorded in OCI.

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

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

The gains (losses) on derivatives in cash flow hedging relationships recognized in OCI for the indicated periods were as follows:

(In thousands)	Three months ended December 31, 2018	Three months ended December 31, 2017	Six months ended December 31, 2018	Six months ended December 31, 2017
Derivatives Designated as Hedging Instruments:				
Rate lock agreements:				
Amounts included in the assessment of effectiveness	$(17,752)	$—	$(5,396)	$—
Foreign exchange contracts:				
Amounts included in the assessment of effectiveness	$(1,201)	$697	$237	$1,141
Amounts excluded from the assessment of effectiveness	$(29)	$—	$(29)	$—

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

(In thousands)	Three months ended December 31, 2018				Three months ended December 31, 2017			
	Revenue	Cost of revenues	Interest expense	Other income (expense), net	Revenue	Cost of revenues	Interest expense	Other income (expense), net
Total amounts presented in the condensed consolidated statement of operations in which the effects of cash flow hedges are recorded	$1,119,898	$408,260	$26,538	$(9,228)	$975,822	$347,002	$27,372	$(7,824)
Gains (losses) on Derivatives Designated as Hedging Instruments:								
Rate lock agreements:								
Amount of gains (losses) reclassified from accumulated OCI to earnings	$—	$—	$189	$—	$—	$—	$—	$—
Amount of gains (losses) reclassified from accumulated OCI to earnings as a result that a forecasted transaction is no longer probable of occurring	$—	$—	$—	$(108)	$—	$—	$—	$—
Foreign exchange contracts:								
Amount of gains (losses) reclassified from accumulated OCI to earnings	$1,705	$(158)	$—	$(3)	$397	$377	$189	$—
Amount excluded from the assessment of effectiveness recognized in earnings based on an amortization approach	$80	$(8)	$—	$—	$—	$—	$—	$—
Amount excluded from the assessment of effectiveness	$—	$—	$—	$(220)	$—	$—	$—	$(158)
Gains (losses) on Derivatives Not Designated as Hedging Instruments:								
Amount of gains (losses) recognized in earnings	$—	$—	$—	$(3,700)	$—	$—	$—	$3,237

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(In thousands)	Six months ended December 31, 2018				Six months ended December 31, 2017			
	Revenue	Cost of revenues	Interest expense	Other income (expense), net	Revenue	Cost of revenues	Interest expense	Other income (expense), net
Total amounts presented in the condensed consolidated statement of operations in which the effects of cash flow hedges are recorded	$2,213,158	$789,647	$52,900	$(19,253)	$1,945,403	$700,119	$57,948	$(12,207)
Gains (losses) on Derivatives Designated as Hedging Instruments:								
Rate lock agreements:								
Amount of gains (losses) reclassified from accumulated OCI to earnings	$—	$—	$377	$—	$—	$—	$—	$—
Amount of gains (losses) reclassified from accumulated OCI to earnings as a result that a forecasted transaction is no longer probable of occurring	$—	$—	$—	$4	$—	$—	$—	$—
Foreign exchange contracts:								
Amount of gains (losses) reclassified from accumulated OCI to earnings	$2,688	$(292)	$—	$(18)	$1,365	$1,338	$378	$—
Amount excluded from the assessment of effectiveness recognized in earnings based on an amortization approach	$80	$(8)	$—	$—	$—	$—	$—	$—
Amount excluded from the assessment of effectiveness	$—	$—	$—	$(88)	$—	$—	$—	$(229)
Gains (losses) on Derivatives Not Designated as Hedging Instruments:								
Amount of gains (losses) recognized in earnings	$—	$—	$—	$63	$—	$—	$—	$3,676

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 December 31, 2018 and June 30, 2018, were as follows:

(In thousands)	As of December 31, 2018	As of June 30, 2018
Cash flow hedge contracts - foreign currency		
Purchase	$ 777	$8,116
Sell	$ 84,302	$115,032
Other foreign currency hedge contracts		
Purchase	$ 163,758	$130,442
Sell	$ 173,793	$154,442

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The locations and fair value of our derivatives reported in our Condensed Consolidated Balance Sheets as of the dates indicated below were as follows:

	Asset Derivatives			Liability Derivatives		
	Balance Sheet Location	As of December 31, 2018	As of June 30, 2018	Balance Sheet Location	As of December 31, 2018	As of June 30, 2018
(In thousands)		Fair Value			Fair Value	
Derivatives designated as hedging instruments						
Rate lock contracts	Other current assets	$ —	$ 219	Other current liabilities	$ 10,955	$ 5,158
Foreign exchange contracts	Other current assets	102	3,259	Other current liabilities	649	312
Total derivatives designated as hedging instruments		102	3,478		11,604	5,470
Derivatives not designated as hedging instruments						
Foreign exchange contracts	Other current assets	1,630	1,907	Other current liabilities	2,714	1,358
Total derivatives not designated as hedging instruments		1,630	1,907		2,714	1,358
Total derivatives		$ 1,732	$ 5,385		$ 14,318	$ 6,828

The changes in OCI, before taxes, related to derivatives for the indicated periods were as follows:

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Beginning balance	$15,103	$6,452	$2,346	$8,126
Amount reclassified to earnings	(1,736)	(963)	(2,773)	(3,081)
Net change in unrealized gains or losses	(18,982)	697	(5,188)	1,141
Ending balance	$(5,615)	$6,186	$(5,615)	$6,186

Offsetting of Derivative Assets and Liabilities

We present derivatives at gross fair values in the Condensed Consolidated Balance Sheets. We have entered into arrangements with each of our counterparties, which reduce credit risk by permitting net settlement of transactions with the same counterparty under certain conditions. The information related to the offsetting arrangements for the periods indicated was as follows (in thousands):

As of December 31, 2018				Gross Amounts of Derivatives Not Offset in the Condensed Consolidated Balance Sheets		
Description	Gross Amounts of Derivatives	Gross Amounts of Derivatives Offset in the Condensed Consolidated	Net Amount of Derivatives Presented in the Condensed	Financial Instruments	Cash Collateral Received	Net Amount

		Balance Sheets	Consolidated Balance Sheets			
Derivatives - Assets	$1,732	$ —	$ 1,732	$ (995)	$ —	$737
Derivatives - Liabilities	$(14,318)	$ —	$ (14,318)	$ 995	$ —	$(13,323)

As of June 30, 2018				Gross Amounts of Derivatives Not Offset in the Condensed Consolidated Balance Sheets		
Description	Gross Amounts of Derivatives	Gross Amounts of Derivatives Offset in the Condensed Consolidated Balance Sheets	Net Amount of Derivatives Presented in the Condensed 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)

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NOTE 16 – RELATED PARTY TRANSACTIONS

During the three and six months ended December 31, 2018 and 2017, we purchased from, or sold to, several entities, where one or more of our executive officers or members of our 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., Keysight Technologies, Inc., MetLife Insurance K.K., NetApp, Inc., and Proofpoint, Inc. The following table provides the transactions with these parties for the indicated periods (for the portion of such period that they were considered related):

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Total revenues	$11	$455	$13	$457
Total purchases[1]	$1,603	$542	$2,206	$1,246

(1) During the three months ended June 30, 2018, we acquired a product line from Keysight Technologies, Inc. (“Keysight”) and entered into a transition services agreement pursuant to which Keysight provides certain manufacturing services to us. For additional details refer to Note 6, “Business Combinations”. We recorded the manufacturing services fees under the transition services agreement with Keysight within cost of revenues, which was immaterial for the three and six months ended December 31, 2018.

Our receivable and payable balances from these parties were immaterial as of December 31, 2018 and June 30, 2018.

NOTE 17 – SEGMENT REPORTING AND GEOGRAPHIC INFORMATION

While we operate our business in multiple operating segments, we have only one reportable segment. 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. Our chief operating decision maker is our Chief Executive Officer.

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. Our 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 we operate in one reportable segment, all financial segment information required by the authoritative guidance can be found in the condensed consolidated financial statements.

Our 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.

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):

	Three months ended December 31,						Six months ended December 31,					
(Dollar amounts in thousands)	2018			2017			2018			2017		
Revenues:												
China	$269,878	24	%	$66,460	7	%	$610,012	28	%	$234,799	12	%
Taiwan	266,534	24	%	216,791	22	%	520,971	24	%	355,350	18	%
Japan	180,283	16	%	154,762	16	%	315,861	14	%	301,197	15	%
North America	150,113	13	%	149,042	15	%	252,242	11	%	278,292	14	%
Korea	126,968	11	%	270,184	28	%	280,469	13	%	544,862	28	%

Europe and Israel	80,618	7	%	82,158	8	%	152,287	7	%	165,663	9	%
Rest of Asia	45,504	5	%	36,425	4	%	81,316	3	%	65,240	4	%
Total	$1,119,898	100	%	$975,822	100	%	$2,213,158	100	%	$1,945,403	100	%

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

	Three months ended December 31,				Six months ended December 31,			
(Dollar amounts in thousands)	2018		2017		2018		2017	
Revenues:								
Wafer Inspection	$505,878	45 %	$400,584	41 %	$978,191	44 %	$790,004	41 %
Patterning	288,997	26 %	274,868	28 %	598,206	27 %	569,218	29 %
Global Service and Support[(1)]	295,216	26 %	273,805	28 %	568,193	26 %	534,303	27 %
Other	29,807	3 %	26,565	3 %	68,568	3 %	51,878	3 %
Total	$1,119,898	100%	$975,822	100%	$2,213,158	100%	$1,945,403	100%

(1) The Global Service and Support revenues includes service revenues as presented in the Condensed Consolidated Statements of Operations as well as certain product revenues, primarily revenues from our K-T Pro business.

In the three months ended December 31, 2018, two customers accounted for approximately 14% and 13% of total revenues. In the three months ended December 31, 2017, one customer accounted for approximately 17% of total revenues. In the six months ended December 31, 2018, one customer accounted for approximately 14% of total revenues. In the six months ended December 31, 2017, one customer accounted for approximately 22% of total revenues. Three customers on an individual basis accounted for greater than 10% of net accounts receivables as of December 31, 2018 and June 30, 2018, respectively.

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

(In thousands)	As of December 31, 2018	As of June 30, 2018
Long-lived assets:		
United States	$ 205,253	$ 187,352
Singapore	49,302	47,009
Israel	27,517	26,980
Europe	12,816	12,924
Rest of Asia	11,463	12,041
Total	$ 306,351	$ 286,306

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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 the unfunded portion of our 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 adoption of new accounting pronouncements including ASC 606; the tax liabilities resulting from the enactment of the Tax Cuts and Jobs Act; 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 Part II, Item 1A, "Risk Factors" in this report as well as in Item 1, "Business" and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended June 30, 2018, filed with the Securities and Exchange Commission on August 6, 2018. 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. 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.

EXECUTIVE SUMMARY

We are 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.

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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.

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. During the three months ended December 31, 2018, revenues for our process control equipment had a modest increase compared to the three months ended September 30, 2018. 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.

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Our view of the current wafer fab equipment demand climate is aligned with consensus industry analyst expectations for the calendar year 2019, which reflects a decline in capital equipment spending by memory customers. In contrast to the memory business, capital equipment spending by foundry and logic customers at the leading edge has begun to ramp, and the momentum is expected to continue in calendar year 2019. We have already seen our mix of business begin to shift toward increased purchases by logic and foundry customers as a percentage of total sales, and we expect spending from these customers to continue to remain strong. Because of a more diversified semiconductor device-end demand, and disciplined capacity planning by wafer fab equipment customers, we believe the long-term growth dynamics for the industry remain strong.

The following table sets forth some of our key quarterly unaudited financial information[(1)]:

(In thousands, except net income (loss) per share)	Three months ended					
	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018	December 31, 2017	September 30, 2017
Total revenues	$1,119,898	$ 1,093,260	$1,070,004	$1,021,294	$ 975,822	$ 969,581
Gross margin	$711,638	$ 711,873	$692,106	$652,606	$ 628,488	$ 616,132
Net income (loss)[(2)]	$369,100	$ 395,944	$348,767	$306,881	$ (134,319)	$ 280,936
Diluted net income (loss) per share[(3)]	$2.42	$ 2.54	$2.22	$1.95	$ (0.86)	$ 1.78

(1) On July 1, 2018, we adopted ASC 606 using the modified retrospective transition approach. Results for reporting periods beginning after July 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported in accordance with the previous revenue guidance in ASC 605.

(2) Our net income (loss) decreased to a loss of $134.3 million during the three months ended December 31, 2017, 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.

(3) Diluted net income (loss) per share are computed independently for each of the quarters presented based on the weighted-average fully diluted shares outstanding for each quarter. Therefore, the sum of quarterly diluted net income (loss) per share information may not equal annual (or other multiple-quarter calculations of) diluted net income (loss) per share.

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. KLA continues to have advanced discussions with the State Administration for Market Regulation of the People’s Republic of China (SAMR) regarding clearance of the proposed merger with a goal of obtaining clearance as soon as practicable in 2019. 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 share repurchase authorization up to $2 billion. 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 program. For additional details, refer to Note 10, “Stock Repurchase Program.” to the condensed consolidated financial statements.

CRITICAL ACCOUNTING ESTIMATES AND POLICIES

The preparation of our condensed 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 Quarterly Report on Form 10-Q.

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We updated our accounting policies for Revenue Recognition, Business Combinations, Global Intangible Low-Taxed Income (“GILTI”), and Derivative Financial Instruments. There have been no other material changes in our critical accounting estimates and policies since our Annual Report on Form 10-K for the fiscal year ended June 30, 2018. Refer to Note 1 “Basis of Presentation” to the condensed consolidated financial statements for additional details. In addition, please refer to Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in Part II, Item 7 of our Annual Report on Form 10-K for our fiscal year ended June 30, 2018 for a more complete discussion of our critical accounting policies and estimates.

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 condensed consolidated financial statements of those not yet adopted, see Note 1, “Basis of Presentation” to the condensed consolidated financial statements for additional details.

RESULTS OF OPERATIONS

On July 1, 2018, we adopted ASC 606 using the modified retrospective transition approach. Results for reporting periods beginning after July 1, 2018 are presented under the ASC 606, while prior period amounts are presented under legacy guidance. For additional details, refer to Note 2 “Revenue” to the condensed consolidated financial statements.

Revenues and Gross Margin

	Three months ended						
(Dollar amounts in thousands)	December 31, 2018	September 30, 2018	December 31, 2017	Q2 FY19 vs. Q1 FY19		Q2 FY19 vs. Q2 FY18	
Revenues:							
Product	$852,201	$829,227	$ 761,587	$22,974	3%	$90,614	12%
Service	267,697	264,033	214,235	3,664	1%	53,462	25%
Total revenues	$1,119,898	$1,093,260	$ 975,822	$26,638	2%	$144,076	15%
Costs of revenues	$408,260	$381,387	$ 347,002	$26,873	7%	$61,258	18%
Gross margin percentage	64 %	65 %	64 %				

	Six months ended			
(Dollar amounts in thousands)	December 31, 2018	December 31, 2017	Q2 FY19 YTD vs. Q2 FY18 YTD	
Revenues:				
Product	$1,681,428	$1,522,374	$159,054	10%
Service	531,730	423,029	108,701	26%
Total revenues	$2,213,158	$1,945,403	$267,755	14%
Costs of revenues	$789,647	$700,119	$89,528	13%
Gross margin percentage	64 %	64 %		

Product revenues

Our business is affected by the concentration of our customer base and our customers’ capital equipment procurement patterns 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 revenue increased during the three months ended December 31, 2018 compared to the three months ended September 30, 2018 and December 31, 2017, primarily due to a strong demand from our customers in the memory business resulting in the increased next generation and capacity-related investments.

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Product revenues increased during the six months ended December 31, 2018 compared to the six months ended December 31, 2017, primarily due to a strong demand from our customers in the memory and wafer inspection businesses resulting in the increased next generation and capacity-related investments, and a favorable impact from the adoption of ASC 606 due to our assessment of timing of transfer of control.

Service revenues

Service revenues are generated from product maintenance and support services, as well as billable time and material service calls made to our customers. The amount of our service revenues is typically a function of the number of 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 during the three months ended December 31, 2018 increased compared to the three months ended September 30, 2018, primarily due to an increase in the number of systems installed at our customers' sites.

Service revenues during the three and six months ended December 31, 2018 increased compared to the three and six months ended December 31, 2017, primarily due an increase in the number of systems installed at our customers' sites, and the impact of adoption of ASC 606 whereby revenue from the standard warranty represents a separate performance obligation and included in our services revenue.

Revenues by region

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)	Three months ended					
	December 31, 2018		September 30, 2018		December 31, 2017	
China	$269,878	24 %	$340,134	31 %	$66,460	7 %
Taiwan	266,534	24 %	254,437	23 %	216,791	22 %
Japan	180,283	16 %	135,578	12 %	154,762	16 %
North America	150,113	13 %	102,129	9 %	149,042	15 %
Korea	126,968	11 %	153,501	14 %	270,184	28 %
Europe and Israel	80,618	7 %	71,669	7 %	82,158	8 %
Rest of Asia	45,504	5 %	35,812	4 %	36,425	4 %
Total	$1,119,898	100%	$1,093,260	100%	$975,822	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.

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

	Gross Margin Percentage Three months ended		Gross Margin Percentage Three months ended	Gross Margin Percentage Six months ended
September 30, 2018	65.1 %	December 31, 2017	64.4 %	64.0 %
Revenue volume of products and services	0.1 %	Revenue volume of products and services	(0.1)%	(0.2)%
Mix of products and services sold	(1.9)%	Mix of products and services sold	0.5 %	1.7 %
Manufacturing labor, overhead and efficiencies	0.1 %	Manufacturing labor, overhead and efficiencies	(0.3)%	(0.4)%
Other service and manufacturing costs	0.1 %	Other service and manufacturing costs	(1.0)%	(0.8)%
December 31, 2018	63.5 %	December 31, 2018	63.5 %	64.3 %

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 decreased to 63.5% for three months ended December 31, 2018 from 65.1% during the three months ended September 30, 2018, primarily due to an unfavorable mix of products and services sold.

Our gross margin decreased to 63.5% for three months ended December 31, 2018 from 64.4% during the three months ended December 31, 2017, primarily due to an increase in service and manufacturing costs, partially offset by a favorable mix of products and services sold.

Our gross margin increased to 64.3% during the six months ended December 31, 2018, from 64.0% during the six months ended December 31, 2017, primarily due to a favorable mix of products and services sold, partially offset by an increase in service and manufacturing costs.

Research and Development ("R&D")

(Dollar amounts in thousands)	Three months ended December 31, 2018	September 30, 2018	December 31, 2017	Q2 FY19 vs. Q1 FY19		Q2 FY19 vs. Q2 FY18	
R&D expenses	$165,903	$153,530	$156,700	$12,373	8%	$9,203	6%
R&D expenses as a percentage of total revenues	15 %	14 %	16 %				

(Dollar amounts in thousands)	Six months ended December 31, 2018	December 31, 2017	Q2 FY19 YTD vs. Q2 FY18 YTD	
R&D expenses	$319,433	$303,387	$16,046	5%
R&D expenses as a percentage of total revenues	14 %	16 %		

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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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 R&D. We remain committed to product development in new and emerging technologies as we address the yield challenges our customers face at future technology nodes.

R&D expenses during the three months ended December 31, 2018 increased compared to the three months ended September 30, 2018, primarily due to an increase in engineering materials and supplies expenses of $12.5 million, an increase in depreciation expense of $1.2 million offset by a decrease in employee-related expenses of $2.2 million as a result of lower variable compensation.

R&D expenses during the three months ended December 31, 2018 increased compared to the three months ended December 31, 2017, primarily due to an increase in employee-related expenses of $5.3 million as a result of additional engineering headcount and higher employee benefit costs, an increase in engineering materials and supplies expenses of $2.2 million, and an increase in depreciation expense of $2.1 million.

R&D expenses during the six months ended December 31, 2018 increased compared to the six months ended December 31, 2017, primarily due to an increase in employee-related expenses of $12.2 million as a result of additional engineering headcount and higher employee benefit costs, an increase in depreciation expenses of $3.2 million, and an increase in travel-related expenses of $1.3 million.

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

(Dollar amounts in thousands)	Three months ended December 31, 2018	September 30, 2018	December 31, 2017	Q2 FY19 vs. Q1 FY19		Q2 FY19 vs. Q2 FY18	
SG&A expenses	$112,462	$114,438	$105,265	$(1,976)	(2)%	$7,197	7%
SG&A expenses as a percentage of total revenues	10%	10%	11%				

(Dollar amounts in thousands)	Six months ended December 31, 2018	December 31, 2017	Q2 FY19 YTD vs. Q2 FY18 YTD	
SG&A expenses	$226,900	$212,697	$14,203	7%
SG&A expenses as a percentage of total revenues	10%	11%		

SG&A expenses during the three months ended December 31, 2018 decreased compared to the three months ended September 30, 2018, primarily due to a decrease in merger-related expense of $1.1 million.

SG&A expenses during the three months ended December 31, 2018 increased compared to the three months ended December 31, 2017, primarily due to an increase in employee-related expenses of $4.2 million as a result of additional headcount and higher employee benefit costs, and an increase in merger-related expenses of $3.0 million pertaining primarily to the pending merger with Orbotech. partially offset by a decrease in consulting expense of $3.1 million.

SG&A expenses during the six months ended December 31, 2018 increased compared to the six months ended December 31, 2017, primarily due to an increase in merger-related expenses of $5.6 million, an increase in employee-related expenses of $4.4 million as a result of additional headcount and higher employee benefit costs, and an increase in travel-related expenses of $4.6 million.

Interest Expense and Other Expense (Income), Net

(Dollar amounts in thousands)	Three months ended December 31, 2018	September 30, 2018	December 31, 2017
Interest expense	$26,538	$26,362	$27,372
Other expense (income), net	$(9,228)	$(10,025)	$(7,824)
Interest expense as a percentage of total revenues	2%	2%	3%
Other expense (income), net as a percentage of total revenues	1%	1%	1%

(Dollar amounts in thousands)	Six months ended December 31, 2018	December 31, 2017
Interest expense	$52,900	$57,948
Other expense (income), net	$(19,253)	$(12,207)
Interest expense as a percentage of total revenues	2%	3%
Other expense (income), net as a percentage of total revenues	1%	1%

Interest expense during the three months ended December 31, 2018 remained relatively unchanged compared to the three months ended September 30, 2018, and December 31, 2017.

Decrease in interest expense during the six months ended December 31, 2018 compared the six months ended December 31, 2017 was primarily due to lower outstanding debt.

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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, and interest-related accruals (such as interest and penalty accruals related to our tax obligations) and interest income earned on our invested cash, cash equivalents and marketable securities.

The decrease in other expense (income), net during the three months ended December 31, 2018 compared to the three months ended September 30, 2018 was primarily due to a lower net foreign currency gain of $0.9 million.

The increase in other expense (income), net during the three months ended December 31, 2018 compared to the three months ended December 31, 2017 was primarily due to an increase in interest income of $2.9 million.

The increase in other expense (income), net during the six months ended December 31, 2018 compared to the six months ended December 31, 2017 was primarily due to an increase in interest income of $5.4 million and a higher net foreign currency gain of $1.5 million.

Provision for Income Taxes

The following table provides details of income taxes:

	Three months ended December 31,		Six months ended December 31,	
(Dollar amounts in thousands)	2018	2017	2018	2017
Income before income taxes	$415,963	$347,307	$843,531	$683,459
Provision for income taxes	$46,863	$481,626	$78,487	$536,842
Effective tax rate	11.3 %	138.7 %	9.3 %	78.5 %

Tax expense was lower as a percentage of income before taxes during the three months ended December 31, 2018 compared to the three months ended December 31, 2017 primarily due to the impact of the following items:

- Tax expense increased by $442.0 million during the three months ended December 31, 2017 due to changes to the U.S. corporate income tax system provided by the Tax Cuts and Jobs Act (the "Act"), which did not take place during the three months ended December 31, 2018;
- Tax expense decreased by $5.5 million during the three months ended December 31, 2018 relating to an increase in the proportion of our earnings generated in jurisdictions with tax rates lower than the U.S. statutory rate during the three months ended December 31, 2018;
- Tax expense decreased by $16.8 million during the three months ended December 31, 2018 relating to the Foreign-Derived Intangible Income deduction provided by the Act; partially offset by
- Tax expense increased by $14.0 million during the three months ended December 31, 2018 relating to the Global Intangible Low-Taxed Income ("GILTI") provided by the Act.

Tax expense was lower as a percentage of income before taxes during the six months ended December 31, 2018 compared to the six months ended December 31, 2017 primarily due to the impact of the following items:

- Tax expense increased by $421.9 million during the six months ended December 31, 2017 due to changes to the U.S. corporate income tax system from the Act, which did not take place during the six months ended December 31, 2018;
- Tax expense decreased by $11.1 million during the six months ended December 31, 2018 relating to an increase in the proportion of our earnings generated in jurisdictions with tax rates lower than the U.S. statutory rate during the three months ended December 31, 2018;

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- Tax expense decreased by $34.1 million during the six months ended December 31, 2018 relating to the Foreign-Derived Intangible Income deduction provided by the Act; partially offset by
- Tax expense increased by $28.3 million during the six months ended December 31, 2018 relating to the GILTI provided by the Act.

As of December 31, 2018, we have completed our accounting for the tax effects of the Act, which was enacted into law on December 22, 2017. We recorded a tax benefit adjustment of $0.3 million and $20.1 million for the transition tax liability provided by the Act during the three and six months ended December 31, 2018, respectively. Future guidance of the Act from U.S. federal and state governments may change the tax liability.

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.

LIQUIDITY AND CAPITAL RESOURCES

(Dollar amounts in thousands)	As of December 31, 2018	As of June 30, 2018
Cash and cash equivalents	$1,793,982	$1,404,382
Marketable securities	900,112	1,475,936
Total cash, cash equivalents and marketable securities	$2,694,094	$2,880,318
Percentage of total assets	48 %	51 %

	Six months ended December 31,	
(In thousands)	2018	2017
Cash flows:		
Net cash provided by operating activities	$663,577	$503,000
Net cash provided by investing activities	523,482	138,949
Net cash used in financing activities	(797,144)	(726,429)
Effect of exchange rate changes on cash and cash equivalents	(315)	4,823
Net increase (decrease) in cash and cash equivalents	$389,600	$(79,657)

Cash and Cash Equivalents and Marketable Securities:

As of December 31, 2018, our cash, cash equivalents and marketable securities totaled $2.69 billion, which represents a decrease of $186.2 million from June 30, 2018. The decrease is mainly due to stock repurchases of $550.2 million, and cash used for payment of dividends and dividend equivalents of $237.3 million, partially offset by our cash generated from operations and net proceeds from marketable securities transactions.

As of December 31, 2018, $2.15 billion of our $2.69 billion of cash, cash equivalents and marketable securities were held by our foreign subsidiaries and branch offices. We currently intend to indefinitely reinvest $1.94 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. 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 $203.8 million of the $2.15 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.

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Quarterly Cash Dividends and Special Cash Dividend:

During the three months ended December 31, 2018, our Board of Directors declared a regular quarterly cash dividend of $0.75 per share on our outstanding common stock, which was paid on December 4, 2018 to our stockholders of record as of the close of business on November 17, 2018. During the same period in fiscal year 2017, our Board of Directors declared and paid a regular quarterly cash dividend of $0.59 per share on our outstanding common stock. The total amount of regular quarterly cash dividends and dividend equivalents paid during the three months ended December 31, 2018 and December 31, 2017 was $114.5 million and $92.6 million, respectively. The total amount of regular quarterly cash dividends and dividend equivalents paid during the six months ended December 31, 2018 and December 31, 2017 was $234.4 million and $186.7 million, respectively. The amount of accrued dividends payable for regular quarterly cash dividends on unvested restricted stock units (RSUs) with dividend equivalent rights as of December 31, 2018 and June 30, 2018 was $5.4 million and $6.7 million, respectively. These amounts will be paid upon vesting of the underlying unvested RSU as described in Note 9, “Equity and Long-term Incentive Compensation Plans,” to the condensed consolidated financial statements.

On November 19, 2014, our Board of Directors declared a special cash dividend of $16.50 per share on our outstanding common stock. 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 8 “Debt” to the condensed consolidated financial statements that was completed during the three months ended December 31, 2014. The total amount of the special cash dividend accrued by us at the declaration date was substantially 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 RSUs and to be paid when such underlying unvested RSUs vest. During the three months ended December 31, 2018 and 2017, the total special cash dividends paid with respect to vested RSUs were immaterial. During the six months ended December 31, 2018 and 2017, the total special cash dividends paid with respect to vested RSUs were $2.9 million and $6.2 million, respectively. As of December 31, 2018, all of the special cash dividends accrued with respect to outstanding RSUs were vested and paid in full. Other than the special cash dividend declared during the three months ended December 31, 2014, we historically have not declared any special cash dividends. For details of the special cash dividend, refer to Note 8 “Equity and Long-Term Incentive Compensation Plans,” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

Stock Repurchases:

The shares repurchased under our stock repurchase program have reduced our basic and diluted weighted-average shares outstanding for the six months ended December 31, 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.

Cash Flows from Operating Activities:

We have historically financed our liquidity requirements through cash generated from our operations. Net cash provided by operating activities during the six months ended December 31, 2018 increased by $160.6 million compared to the six months ended December 31, 2017 primarily as a result of the following factors:

- An increase in collections of approximately $233.0 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017, mainly driven by higher shipments;
- A decrease in income tax payments/ refunds of approximately $35.0 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017;
- A decrease in debt interest payments of approximately $7.0 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017; and partially offset by

An increase in accounts payable payments of approximately $98.0 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017; and

An increase in payments for employee-related expenses of approximately $14.0 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017.

Cash Flows from Investing Activities:

Net cash provided by investing activities during the six months ended December 31, 2018 was $523.5 million compared to cash provided by investing activities of $138.9 million during the six months ended December 31, 2017. This change was mainly due to cash received from sale and maturity of marketable securities of $578.7 million during the six months ended December 31, 2018, compared to $172.4 million during the six months ended December 31, 2017.

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Cash Flows from Financing Activities:

Net cash used in financing activities during the six months ended December 31, 2018 increased by $70.7 million compared to the six months ended December 31, 2017. Net cash used in financing activities was mainly impacted by:

- An increase in common stock repurchases of $469.8 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017; and
- An increase in dividend and dividend equivalent payments of $44.4 million during the six months ended December 31, 2018 compared to the six months ended December 31, 2017, due to an increase in our quarterly dividend from $0.59 to $0.75 per share; and
- A decrease in the net repayment of debt of $447.6 million mainly as a result of the term loan principal payments of $696.3 million offset by $248.7 million borrowings under the revolving credit facility during the six months ended December 31, 2017. There was no repayment or borrowing of debt during the six months ended December 31, 2018.

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”) as part of the leveraged recapitalization plan.

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. 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 15, “Derivative Instruments and Hedging Activities” of this report, and Note 7 “Debt” of the Notes to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2018.

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 our 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 we have exercised our rights to redeem the Senior 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 Senior 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 Senior Notes repurchased plus accrued and unpaid interest, if any, on the Senior Notes repurchased, up to, but not including, the date of repurchase.

As of December 31, 2018, we were in compliance with all of our covenants under the Indenture associated with the Senior Notes.

Revolving 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. In November 2018, we entered into an Incremental Facility, Extension and Amendment Agreement (the “Amendment”), which amends the Credit Agreement to (a) extend the Maturity Date (the “Maturity Date”) from November 30, 2022 to November 30, 2023, (b) increase the total commitment by $250.0 million and (c) effect certain other amendments to the Credit Agreement as set forth in the Amendment. After giving effect to the Amendment, the total commitments under the Credit Agreement are $1.00 billion.

We may borrow, repay and reborrow funds under the Revolving Credit Facility until 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 outstanding borrowings under the Revolving Credit Facility at any time without a prepayment penalty.

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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 December 31, 2018, we pay an annual commitment fee of 12.5 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 December 31, 2018 (the interest expense coverage ratio was 17.12 to 1.00 and the leverage ratio was 1.20 to 1.00) and had no outstanding borrowings under the unfunded Revolving Credit Facility. 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 fiscal year ending June 30, 2019.

Contractual Obligations:

The following is a schedule summarizing our significant obligations to make future payments under contractual cash obligations as of December 31, 2018:

	Fiscal year ending June 30,							
(In thousands)	Total	2019 [2]	2020	2021	2022	2023	2024 and thereafter	Other
Debt obligations[1]	$2,250,000	$—	$250,000	$—	$500,000	$—	$1,500,000	$—
Interest payment associated with all debt obligations[3]	651,295	51,285	98,365	94,142	83,830	73,517	250,156	—
Purchase commitments[4]	489,848	449,122	38,862	672	995	197	—	—
Income taxes payable[5]	75,052	—	—	—	—	—	—	75,052
Operating leases	30,083	7,145	8,361	6,016	3,166	2,317	3,078	—
Cash long-term incentive program[6]	129,832	26,074	49,080	39,256	15,412	10	—	—
Pension obligations[7]	25,463	742	1,668	1,481	2,194	1,945	17,433	—
Executive Deferred Savings Plan[8]	181,976	—	—	—	—	—	—	181,976
Transition tax payable[9]	300,584	26,138	26,138	26,138	26,138	49,008	147,024	—
Other[10]	5,404	482	2,991	1,117	663	151	—	—
Total obligations	$4,139,537	$560,988	$475,465	$168,822	$632,398	$127,145	$1,917,691	$257,028

(1) Represents $2.25 billion aggregate principal amount of Senior Notes due from fiscal year 2020 to fiscal year 2035.

(2) For the remaining six months of fiscal year 2019.

The interest payments associated with the Senior Notes obligations included in the table above are based on the principal amount multiplied by the applicable interest 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.

(3) The interest payment under the Revolving Credit Facility for the undrawn balance is payable at 12.5 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.

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(4) Represents an estimate of significant commitments to purchase inventory from our suppliers as well as an estimate of significant purchase commitments associated with goods, services and other assets 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.

(5) 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.

(6) Represents the amount committed under our cash long-term incentive program. The expected payment after estimated forfeitures is approximately $105.7 million.

(7) 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 December 31, 2018, our defined benefit pension plans do not have material required minimum cash contribution obligations.

(8) 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.

(9) Represents the 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.

(10) Represents amounts committed for accrued dividends payable for quarterly cash dividends for unvested restricted stock units granted with dividend equivalent rights. For additional details, refer to Note 9, "Equity and Long-term Incentive Compensation Plans," to the condensed 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. For additional details, refer to Note 9, "Equity and Long-term Incentive Compensation Plans," to the condensed consolidated financial statements.

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:

	Three months ended December 31,		Six months ended December 31,	
(In thousands)	2018	2017	2018	2017
Receivables sold under factoring agreements	$39,814	$47,232	$101,354	$79,133
Proceeds from sales of LCs	$8,339	$—	$19,231	$5,571

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 $22.5 million, of which $18.2 million had been issued as of December 31, 2018, primarily to fund guarantees to customs authorities for VAT and other operating requirements of our subsidiaries in Europe and Asia.

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Working Capital:

Working capital was $3.00 billion as of December 31, 2018, which is a decrease of $327.9 million compared to our working capital of $3.33 billion as of June 30, 2018. As of December 31, 2018, our principal sources of liquidity consisted of $2.69 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 $1.00 billion 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.

Our credit ratings as of December 31, 2018 are summarized below:

Rating Agency	Rating
Fitch	BBB+
Moody’s	Baa1
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, our financial position, material acquisitions and changes in our business strategy.

Off-Balance Sheet Arrangements

As of December 31, 2018, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K, that have or are reasonably likely to have a current or future effect on our financial position, changes in financial condition, revenues and expenses, results of operations, liquidity, capital expenditures, or capital resources that are material to investors. Refer to Note 14 “Commitments and contingencies” to the condensed consolidated financial statements for information related to indemnification obligations.

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ITEM 3. 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 analysis performed on our financial position as of December 31, 2018. Actual results may differ materially.

As of December 31, 2018, we had an investment portfolio of fixed income securities of $1.57 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 December 31, 2018, the fair value of the portfolio would have declined by $7.3 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 December 31, 2018, the fair value and the book value of our Senior Notes were $2.30 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 8, “Debt,” to the condensed consolidated financial statements in Part I, Item 1 and Management’s Discussion and Analysis of Financial Condition and Results of Operations, “Liquidity and Capital Resources,” in Part I, Item 2 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 December 31, 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 $44.2 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. In November 2018, we entered into an Incremental Facility, Extension and Amendment Agreement (the “Amendment”), which amends the Credit Agreement to (a) extend the Maturity Date (the “Maturity Date”) from November 30, 2022 to November 30, 2023, (b) increase the total commitment by $250.0 million and (c) effect certain other amendments to the Credit Agreement as set forth in the Amendment. After giving effect to the Amendment, the total commitments under the Credit Agreement are $1.00 billion. As of December 31, 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 12.5 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 December 31, 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 $0.6 million.

See Note 5, “Marketable Securities,” to the condensed consolidated financial statements in Part I, Item 1; Management’s Discussion and Analysis of Financial Condition and Results of Operations, “Liquidity and Capital Resources,” in Part I, Item 2; and Risk Factors in Part II, Item 1A of this Quarterly Report on Form 10-Q for a description of recent market events that may affect the value of the investments in our portfolio that we held as of December 31, 2018.

As of December 31, 2018, we had net forward and option contracts to sell $93.6 million in foreign currency in order to hedge certain currency exposures (see Note 15, “Derivative Instruments and Hedging Activities,” to the condensed consolidated financial statements for additional details). If we had entered into these contracts on December 31, 2018,

the U.S. dollar equivalent would have been $106.1 million. A 10% adverse move in all currency exchange rates affecting the contracts would decrease the fair value of the contracts by $28.2 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 results of operations or cash flows.

As of December 31, 2018, we had forward contracts to sell $500.0 million in treasury securities in order to hedge certain interest rate exposures (see Note 15, "Derivative Instruments and Hedging Activities," to the condensed 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 $29.9 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 results of operations or cash flows.

ITEM 4 CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures and Related CEO and CFO Certifications

Evaluation of Disclosure Controls and Procedures

We conducted an evaluation of the effectiveness of the design and operation of our 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 Quarterly Report on Form 10-Q (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 our management, including our 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 our 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 our 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 our management, including the CEO and CFO, as appropriate to allow timely decisions regarding required disclosure. Our Disclosure Controls include components of our internal control over financial reporting, which consists of control processes designed to provide reasonable assurance regarding the reliability of our 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 our internal control over financial reporting are included within our Disclosure Controls, they are included in the scope of our annual controls evaluation.

Limitations on the Effectiveness of Controls

Our management, including the CEO and CFO, does not expect that our Disclosure Controls or internal control over financial reporting will prevent all error 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 our 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 our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the most recent fiscal quarter covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

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PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The information set forth above under Note 13, “Litigation and Other Legal Matters,” to the condensed consolidated financial statements in Item 1 of Part 1 is incorporated herein by reference.

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.

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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.

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 our 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 December 31, 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 $1.00 billion 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 8, "Debt," to our condensed 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 8, "Debt," to our condensed 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 $1.00 billion 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 condensed 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

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;

- 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;

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- 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.

In addition, 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 through the imposition of tariffs or otherwise, could harm our business. For example, effective on October 30, 2018, the United States Department of Commerce added Fujian Jinhua Integrated Circuit Company, Ltd. ("JHICC") to its entity list, restricting exports of technology to JHICC without a license. As a result, unless JHICC is subsequently removed from the entity list, we will be unable to fulfill orders JHICC has made for our products, accept future orders placed by JHICC for our products, and provide services for any of our products already installed at JHICC.

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

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.

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.

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.

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.

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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, 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.
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.

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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.

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.

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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.
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.

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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.

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. As of December 31, 2018, we have completed our accounting for the tax effects of the Act, which was enacted into law on December 22, 2017. However, the recent U.S tax law changes are subject to future guidance from U.S. federal and state governments, such as the Treasury Department and/or the IRS. Any future guidance can change our tax liability. A significant portion of the income taxes due to the enactment of the Act is payable by us over a period of eight years. As a result, our cash flows from operating activities will be adversely impacted until tax liability is 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.

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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 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 fiscal 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.

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.

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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.

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.

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ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Equity Repurchase Plans

The following is a summary of stock repurchases for the three months ended December 31, 2018:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Approximate Dollar Value that May Yet Be Purchased Under the Plans or Programs (1)
October 1, 2018 to October 31, 2018	872,912	$ 93.97	$572,083,743
November 1, 2018 to November 30, 2018	1,142,916	$ 94.82	$463,707,719
December 1, 2018 to December 31, 2018	540,305	$ 96.24	$411,707,942
Total	2,556,133	$ 94.83	

(1) 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.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

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ITEM 6. EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	File Number	Exhibit Number	Filing Date
10.1	Incremental Facility, Extension and Amendment Agreement, dated as of November 2, 2018 by and among KLA-Tencor Corporation, the subsidiary guarantors party thereto, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent	8-K	000-09992	10.1	11/8/2018
10.2	Amended and Restated 2004 Equity Incentive Plan	DEF 14A	000-09992	App. A	9/28/2018
31.1	Certification of Chief Executive Officer under Rule 13a-14(a)/15d-14(a) of the Securities Exchange Act of 1934				
31.2	Certification of Chief Financial Officer under Rule 13a-14(a) /15d-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				

* Denotes a management contract, plan or arrangement.
+ Confidential treatment has been requested as to a portion of this exhibit.

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SIGNATURES

Pursuant to the requirements 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 (Registrant)
January 29, 2019 (Date)	/s/ RICHARD P. WALLACE Richard P. Wallace President and Chief Executive Officer (Principal Executive Officer)
January 29, 2019 (Date)	/s/ BREN D. HIGGINS Bren D. Higgins Executive Vice President and Chief Financial Officer (Principal Financial Officer)
January 29, 2019 (Date)	/s/ VIRENDRA A. KIRLOSKAR Virendra A. Kirloskar Senior Vice President and Chief Accounting Officer (Principal Accounting Officer)

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KLA-TENCOR CORPORATION
EXHIBIT INDEX

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