UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2019

or

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

For the transition period from ____________ to ____________

Commission File Number 001-5075

PerkinElmer, Inc.

(Exact name of Registrant as specified in its Charter)

Massachusetts	**04-2052042**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
940 Winter Street, Waltham, Massachusetts	**02451**
(Address of principal executive offices)	**(Zip Code)**

(781) 663-6900
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of exchange on which registered
Common stock, $1 par value per share	PKI	The New York Stock Exchange

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

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

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

Large accelerated filer	☑	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark whether 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 ☑

As of August 1, 2019, there were outstanding 111,076,181 shares of common stock, $1 par value per share.

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PART I. FINANCIAL INFORMATION

Item 1. ***Unaudited Financial Statements***

PERKINELMER, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands, except per share data)			
Product revenue	$ 502,114	$ 495,608	$ 940,836	$ 943,216
Service revenue	220,403	207,754	430,418	404,118
Total revenue	722,517	703,362	1,371,254	1,347,334
Cost of product revenue	238,455	229,723	444,731	449,979
Cost of service revenue	136,269	133,499	270,924	264,993
Total cost of revenue	374,724	363,222	715,655	714,972
Selling, general and administrative expenses	201,553	204,880	400,410	404,605
Research and development expenses	48,344	47,196	96,324	93,180
Restructuring and contract termination charges, net	6,161	—	13,800	6,578
Operating income from continuing operations	91,735	88,064	145,065	127,999
Interest and other expense, net	19,908	16,356	36,473	27,786
Income from continuing operations before income taxes	71,827	71,708	108,592	100,213
Provision for income taxes	2,686	7,035	3,998	9,505
Income from continuing operations	69,141	64,673	104,594	90,708
Loss on disposition of discontinued operations before income taxes	—	(551)	—	(551)
Provision for income taxes on discontinued operations and dispositions	54	59	95	70
Loss from discontinued operations and dispositions	(54)	(610)	(95)	(621)
Net income	$ 69,087	$ 64,063	$ 104,499	$ 90,087
Basic earnings per share:				
Income from continuing operations	$ 0.62	$ 0.59	$ 0.94	$ 0.82
Loss from discontinued operations and dispositions	(0.00)	(0.01)	(0.00)	(0.01)
Net income	$ 0.62	$ 0.58	$ 0.94	$ 0.82
Diluted earnings per share:				
Income from continuing operations	$ 0.62	$ 0.58	$ 0.94	$ 0.81
Loss from discontinued operations and dispositions	(0.00)	(0.01)	(0.00)	(0.01)
Net income	$ 0.62	$ 0.57	$ 0.94	$ 0.81
Weighted average shares of common stock outstanding:				
Basic	110,845	110,477	110,694	110,386
Diluted	111,528	111,452	111,411	111,391
Cash dividends declared per common share	$ 0.07	$ 0.07	$ 0.14	$ 0.14

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERKINELMER, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Net income	$ 69,087	$ 64,063	$ 104,499	$ 90,087
Other comprehensive income (loss):				
Foreign currency translation adjustments	(7,320)	(102,592)	(4,254)	(84,093)
Unrealized gain (loss) on securities, net of tax	103	4	(17)	45
Other comprehensive loss	(7,217)	(102,588)	(4,271)	(84,048)
Comprehensive income (loss)	$ 61,870	$ (38,525)	$ 100,228	$ 6,039

The accompanying notes are an integral part of these condensed consolidated financial statements.

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PERKINELMER, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS

(Unaudited)

	June 30, 2019	December 30, 2018
	(In thousands, except share and per share data)	
Current assets:		
Cash and cash equivalents	$ 150,016	$ 163,111
Accounts receivable, net	654,454	632,669
Inventories	414,330	338,347
Other current assets	118,961	100,507
Total current assets	1,337,761	1,234,634
Property, plant and equipment:		
At cost	670,821	680,183
Accumulated depreciation	(368,101)	(361,593)
Property, plant and equipment, net	302,720	318,590
Operating lease right-of-use assets	187,934	—
Intangible assets, net	1,282,440	1,199,667
Goodwill	3,042,049	2,952,608
Other assets, net	246,168	270,023
Total assets	$ 6,399,072	$ 5,975,522
Current liabilities:		
Current portion of long-term debt	$ 8,205	$ 14,856
Accounts payable	188,051	220,949
Accrued restructuring and contract termination charges	10,987	4,834
Accrued expenses and other current liabilities	497,426	528,827
Current liabilities of discontinued operations	2,130	2,165
Total current liabilities	706,799	771,631
Long-term debt	2,104,466	1,876,624
Long-term liabilities	716,929	742,312
Operating lease liabilities	164,011	—
Total liabilities	3,692,205	3,390,567
Commitments and contingencies (see Note 19)		
Stockholders' equity:		
Preferred stock—$1 par value per share, authorized 1,000,000 shares; none issued or outstanding	—	—
Common stock—$1 par value per share, authorized 300,000,000 shares; issued and outstanding 111,071,000 shares and 110,597,000 shares at June 30, 2019 and at December 30, 2018, respectively	111,071	110,597
Capital in excess of par value	72,181	48,772
Retained earnings	2,704,367	2,602,067
Accumulated other comprehensive loss	(180,752)	(176,481)
Total stockholders' equity	2,706,867	2,584,955
Total liabilities and stockholders' equity	$ 6,399,072	$ 5,975,522

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERKINELMER, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

	For the Six-Month Period Ended June 30, 2019				
	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	(In thousands)				
Balance, December 30, 2018	$ 110,597	$ 48,772	$ 2,602,067	$ (176,481)	$ 2,584,955
Impact of adopting ASC 842 (see Note 1)	—	—	13,289	—	13,289
Net income	—	—	35,412	—	35,412
Other comprehensive income	—	—	—	2,946	2,946
Dividends	—	—	(7,742)	—	(7,742)
Exercise of employee stock options and related income tax benefits	186	8,424	—	—	8,610
Issuance of common stock for employee stock purchase plans	19	1,367	—	—	1,386
Purchases of common stock	(57)	(5,236)	—	—	(5,293)
Issuance of common stock for long-term incentive program	146	3,392	—	—	3,538
Stock compensation	—	1,371	—	—	1,371
Balance, March 31, 2019	$ 110,891	$ 58,090	$ 2,643,026	$ (173,535)	$ 2,638,472
Net income	—	—	69,087	—	69,087
Other comprehensive income	—	—	—	(7,217)	(7,217)
Dividends	—	—	(7,746)	—	(7,746)
Exercise of employee stock options and related income tax benefits	167	7,777	—	—	7,944
Issuance of common stock for employee stock purchase plans	15	1,387	—	—	1,402
Purchases of common stock	(7)	(757)	—	—	(764)
Issuance of common stock for long-term incentive program	5	4,384	—	—	4,389
Stock compensation	—	1,300	—	—	1,300
Balance, June 30, 2019	$ 111,071	$ 72,181	$ 2,704,367	$ (180,752)	$ 2,706,867

	For the Six-Month Period Ended July 1, 2018				
	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	(In thousands)				
Balance, December 31, 2017	$ 110,361	$ 58,828	$ 2,380,517	$ (46,518)	$ 2,503,188
Cumulative effect of adopting ASC 606	—	—	10,209	—	10,209
Impact of adopting ASU 2016-16	—	—	(2,062)	—	(2,062)
Net income	—	—	26,024	—	26,024
Other comprehensive income	—	—	—	18,540	18,540
Dividends	—	—	(7,736)	—	(7,736)
Exercise of employee stock options and related income tax benefits	173	7,295	—	—	7,468
Issuance of common stock for employee stock purchase plans	—	—	—	—	—
Purchases of common stock	(58)	(4,444)	—	—	(4,502)
Issuance of common stock for long-term incentive program	144	2,741	—	—	2,885
Stock compensation	—	1,238	—	—	1,238
Balance, April 1, 2018	$ 110,620	$ 65,658	$ 2,406,952	$ (27,978)	$ 2,555,252
Net income	—	—	64,063	—	64,063
Other comprehensive income	—	—	—	(102,588)	(102,588)
Dividends	—	—	(7,728)	—	(7,728)
Exercise of employee stock options and related income tax benefits	21	859	—	—	880
Issuance of common stock for employee stock purchase plans	21	1,462	—	—	1,483
Purchases of common stock	(1)	(93)	—	—	(94)
Issuance of common stock for long-term incentive program	55	4,512	—	—	4,567
Stock compensation	—	1,342	—	—	1,342
Balance, July 1, 2018	$ 110,716	$ 73,740	$ 2,463,287	$ (130,566)	$ 2,517,177

The accompanying notes are an integral part of these consolidated financial statements.

PERKINELMER, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended	
	June 30, 2019	July 1, 2018
	(In thousands)	
Operating activities:		
Net income	$ 104,499	$ 90,087
Loss from discontinued operations and dispositions, net of income taxes	95	621
Income from continuing operations	104,594	90,708
Adjustments to reconcile income from continuing operations to net cash used in continuing operations:		
Stock-based compensation	12,801	12,148
Restructuring and contract termination charges, net	13,800	6,578
Depreciation and amortization	103,793	88,225
Loss on disposition of businesses and assets, net	2,469	—
Change in fair value of contingent consideration	3,161	7,065
Amortization of deferred debt financing costs and accretion of discount	1,790	1,519
Amortization of acquired inventory revaluation	5,565	18,160
Changes in assets and liabilities which provided (used) cash, excluding effects from companies acquired:		
Accounts receivable, net	(9,604)	(18,768)
Inventories	(50,450)	(42,993)
Accounts payable	(39,951)	(24,384)
Accrued expenses and other	(106,425)	(79,831)
Net cash provided by operating activities of continuing operations	41,543	58,427
Net cash provided by operating activities of discontinued operations	—	—
Net cash provided by operating activities	41,543	58,427
Investing activities:		
Capital expenditures	(36,461)	(39,608)
Purchases of investments	(868)	—
Purchases of licenses	(5,000)	—
Proceeds from disposition of businesses	550	173
Proceeds from surrender of life insurance policies	—	72
Activity related to acquisitions and investments, net of cash and cash equivalents acquired	(244,738)	(40,557)
Net cash used in investing activities of continuing operations	(286,517)	(79,920)
Net cash provided by investing activities of discontinued operations	—	—
Net cash used in investing activities	(286,517)	(79,920)
Financing activities:		
Payments on borrowings	(578,000)	(667,000)
Proceeds from borrowings	849,550	342,000
Proceeds from sale of senior debt	—	369,340
Payments of debt financing costs	(181)	(2,634)
Settlement of cash flow hedges	(1,659)	(32,711)
Net payments on other credit facilities	(9,806)	(10,154)
Payments for acquisition-related contingent consideration	(23,700)	—
Proceeds from issuance of common stock under stock plans	16,554	8,348
Purchases of common stock	(6,057)	(4,649)
Dividends paid	(15,507)	(15,471)
Net cash provided by (used in) financing activities of continuing operations	231,194	(12,931)
Net cash provided by financing activities of discontinued operations	—	—
Net cash provided by (used in) financing activities	231,194	(12,931)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	685	(4,351)
Net decrease in cash, cash equivalents and restricted cash	(13,095)	(38,775)
Cash, cash equivalents and restricted cash at beginning of period	166,315	202,371
Cash, cash equivalents and restricted cash at end of period	$ 153,220	$ 163,596

Supplemental disclosures of cash flow information

Reconciliation of cash, cash equivalents and restricted cash reported within the condensed consolidated balance sheets that sum to the total shown in the condensed consolidated statements of cash flows:				
Cash and cash equivalents		150,016		163,392
Restricted cash included in other current assets		3,204		204
Total cash, cash equivalents and restricted cash shown in the condensed consolidated statements of cash flows	$	153,220	$	163,596

The accompanying notes are an integral part of these condensed consolidated financial statements.

PERKINELMER, INC. AND SUBSIDIARIES

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1: Basis of Presentation

The condensed consolidated financial statements included herein have been prepared by PerkinElmer, Inc. (the “Company”), in accordance with accounting principles generally accepted in the United States of America (the “U.S.” or the "United States") and pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”). Certain information in the footnote disclosures of the financial statements has been condensed or omitted where it substantially duplicates information provided in the Company’s latest audited consolidated financial statements, in accordance with the rules and regulations of the SEC. These condensed consolidated financial statements should be read in conjunction with the Company’s audited consolidated financial statements and notes included in its Annual Report on Form 10-K for the fiscal year ended December 30, 2018, filed with the SEC (the “2018 Form 10-K”). The balance sheet amounts at December 30, 2018 in this report were derived from the Company’s audited 2018 consolidated financial statements included in the 2018 Form 10-K. The condensed consolidated financial statements reflect all adjustments that, in the opinion of management, are necessary to present fairly the Company’s financial position, results of operations and cash flows for the periods indicated. The preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles (“GAAP”) requires management to make estimates and assumptions that affect the reported amounts and classifications of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The results of operations for the three and six months ended June 30, 2019 and July 1, 2018, respectively, are not necessarily indicative of the results for the entire fiscal year or any future period.

The Company’s fiscal year ends on the Sunday nearest December 31. The Company reports fiscal years under a 52/53 week format and as a result, certain fiscal years will contain 53 weeks. The fiscal year ending December 29, 2019 ("fiscal year 2019") will include 52 weeks, and the fiscal year ended December 30, 2018 ("fiscal year 2018") included 52 weeks.

Recently Adopted and Issued Accounting Pronouncements: From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (the "FASB") and are adopted by the Company as of the specified effective dates. Unless otherwise discussed, such pronouncements did not have or will not have a significant impact on the Company’s consolidated financial position, results of operations and cash flows or do not apply to the Company’s operations.

In April 2019, the FASB issued Accounting Standards Update No. 2019-04, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments* ("ASU 2019-04"). ASU 2019-04 clarifies certain aspects of previously issued accounting standards related to: (1) ASU 2016-13, *Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Statements* ("ASU 2016-13"), in areas of accrued interest receivable, transfers of loans and debt securities between classifications, recoveries and prepayments, (2) ASU 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"), in areas of partial-term fair value hedges, fair value hedge basis adjustments, certain disclosures and transition requirements and (3) ASU 2016-01, *Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01"), in areas of remeasurement of equity securities under ASC 820, *Fair Value Measurement*, when using the measurement alternative and remeasurement of equity securities at historical exchange rates. The amendments related to ASU 2016-13 are required to be adopted in conjunction with that accounting standards update, as further described below. Since the Company has already adopted ASU 2017-12 and ASU 2016-01, the related amendments in ASU 2019-04 are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years, with early adoption permitted in any interim period. The amendments to ASU 2017-12 can either be adopted retrospectively as of the date of adoption of ASU 2017-12 or they can be adopted prospectively. The amendments to ASU 2016-01 are required to be applied using a modified-retrospective adoption approach with a cumulative-effect adjustment to retained earnings as of the date of adoption of ASU 2016-01, except for those related to equity securities without readily determinable fair values that are measured using the measurement alternative, which are required to be applied prospectively. The Company is currently evaluating the requirements of ASU 2019-04 and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

In August 2018, the FASB issued Accounting Standards Update No. 2018-15, *Intangibles-Goodwill and Other- Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract* ("ASU 2018-15"). ASU 2018-15 aligns the accounting for implementation costs incurred in a hosting arrangement that is a service contract with the guidance on capitalizing costs associated with developing or obtaining internal-use software (and hosting arrangements that include an internal-use software license). The provisions of this guidance are to be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. ASU 2018-15 is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years with early adoption permitted. The Company is currently evaluating the requirements of this guidance and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

In August 2018, the FASB issued Accounting Standards Update No. 2018-14, *Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans* ("ASU 2018-14"). ASU 2018-14 adds, removes, and clarifies disclosure requirements related to defined benefit pension and other postretirement plans. ASU 2018-14 adds requirements for an entity to disclose the weighted-average interest crediting rates used in the entity's cash balance pension plans and other similar plans; and an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. Further, ASU 2018-14 removes guidance that currently requires the following disclosures: the amounts in accumulated other comprehensive income expected to be recognized as part of net periodic benefit cost over the next year; the amount and timing of plan assets expected to be returned to the employer; information about (1) benefits covered by related-party insurance and annuity contracts and (2) significant transactions between the plan and related parties; and the effects of a one-percentage-point change on the assumed health care costs and the effect of this change in rates on service cost, interest cost, and the benefit obligation for postretirement health care benefits. ASU 2018-14 also clarifies the guidance in *Compensation-Retirement Benefits (Topic 715-20-50-3)* on defined benefit plans to require disclosure of (1) the projected benefit obligation ("PBO") and fair value of plan assets for pension plans with PBOs in excess of plan assets (the same disclosure with reference to the accumulated postretirement benefit obligation rather than the PBO is required for other postretirement benefit plans) and (2) the accumulated benefit obligation ("ABO") and fair value of plan assets for pension plans with ABOs in excess of plan assets. The provisions of this guidance are to be applied retrospectively to all periods presented upon their effective date. ASU 2018-14 is effective for annual reporting periods beginning after December 15, 2020, and interim periods within those years with early adoption permitted. The Company is currently evaluating the requirements of this guidance and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

In August 2018, the FASB issued Accounting Standards Update No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"). ASU 2018-13 adds, removes, and modifies certain disclosures related to fair value measurements. ASU 2018-13 adds requirements for an entity to disclose the changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period; and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. Further, ASU 2018-13 removes the requirement to disclose the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy; the policy for timing of transfers between levels; and the valuation processes for Level 3 fair value measurements. ASU 2018-13 also modifies existing disclosure requirements related to measurement uncertainty. The amendments regarding changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty are to be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments are to be applied retrospectively to all periods presented upon their effective date. ASU 2018-13 is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years. Early adoption is permitted for any removed or modified disclosures. The Company is currently evaluating the requirements of this guidance and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

In June 2016, the FASB issued Accounting Standards Update No. 2016-13, *Financial Instruments - Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. The standard requires entities to use the expected loss impairment model and will apply to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables, loans, held-to-maturity debt securities, net investments in leases and off-balance sheet credit exposures. Entities are required to estimate the lifetime "expected credit loss" for each applicable financial asset and record an allowance that, when deducted from the amortized cost basis of the financial asset, presents the net amount expected to be collected on the financial asset. The standard also amends the impairment model for available-for-sale ("AFS") debt securities and requires entities to determine whether all or a portion of the unrealized loss on an AFS debt security is a credit loss. An entity will recognize an allowance for credit losses on an AFS debt security as a contra-account to the amortized cost basis rather than as a direct reduction of the amortized cost basis of the investment. The provisions of this guidance are to be applied using a modified-retrospective approach. A prospective transition approach is required for debt securities for which an other-than-temporary impairment had been recognized before the effective date. Subsequent to the issuance of ASU 2016-13, in November 2018, the FASB issued Accounting Standards Update No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses* ("ASU 2018-19"), in April 2019, the FASB issued ASU 2019-04, and in May 2019, the FASB issued Accounting Standards Update No. 2019-05, *Financial Instruments - Credit Losses (Topic 326), Targeted Transition Relief* ("ASU

2019-05"). The amendments in ASU 2018-19 clarify that receivables arising from operating leases are not within the scope of Subtopic 326-20, *Financial Instruments - Credit Losses - Measured at Amortized Cost*. Instead, impairment of receivables arising from operating leases should be accounted for in accordance with Topic 842, *Leases*. The amendments in ASU 2019-04 clarify the measurement of allowance for credit losses on accrued interest receivable; the inclusion of expected recoveries in the allowance for credit losses; the permission of a prepayment-adjusted effective interest rate when determining the allowance for credit losses; and the steps entities should take when recording the transfer of loans or debt securities between measurement classifications. The amendments in ASU 2019-05 provide an option to irrevocably elect the fair value option in Subtopic 825-10, *Financial Instruments-Overall*, on an instrument-by-instrument basis, for eligible financial assets measured at amortized cost basis upon adoption of ASU 2016-13, but this fair value option election does not apply to held-to-maturity debt securities. The effective date and transition requirements for the amendments in ASU 2018-19, ASU 2019-04 and ASU 2019-05 are the same as the effective date and transition requirements of ASU 2016-13, which is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years. Early adoption is permitted for annual periods beginning after December 15, 2018, and interim periods therein. The Company is currently evaluating the requirements of this guidance and has not yet determined the impact of its adoption on the Company's consolidated financial position, results of operations and cash flows.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 requires organizations that lease assets to recognize assets and liabilities on the balance sheet related to the rights and obligations created by those leases, regardless of whether they are classified as finance or operating leases. Consistent with current guidance, the recognition, measurement, and presentation of expenses and cash flows arising from a lease of assets will primarily depend on its classification as a finance or operating lease. ASU 2016-02 also requires new disclosures to help financial statement users better understand the amount, timing, and uncertainty of cash flows arising from leases. The provisions of this guidance are effective for annual periods beginning after December 15, 2018, and interim periods within those years, with early adoption permitted. ASU 2016-02 is to be applied using a modified retrospective approach. Subsequent to the issuance of ASU 2016-02, in July 2018, the FASB issued Accounting Standards Update No. 2018-10, *Codification Improvements to Topic 842, Leases* ("ASU 2018-10") and Accounting Standards Update No. 2018-11, *Leases (Topic 842): Targeted Improvements* ("ASU 2018-11"), and in March 2019, the FASB issued Accounting Standards Update No. 2019-01, *Leases (Topic 842): Codification Improvements* ("ASU 2019-01"). The amendments in ASU 2018-10 clarify, correct or remove inconsistencies in the guidance provided under ASU 2016-02 related to sixteen specific issues identified. The amendments in ASU 2018-11 provide entities with an additional (and optional) transition method to adopt the new leases standard. Under the new transition method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Consequently, an entity's reporting for the comparative periods presented in the financial statements in the period of adoption will continue to be in accordance with Accounting Standards Codification (“ASC”) 840, *Leases* ("ASC 840"). An entity that elects this additional (and optional) transition method must provide the required disclosures under ASC 840 for all periods that continue to be in accordance with ASC 840. ASU 2018-11 also provides lessors with a practical expedient, by class of underlying asset, to not separate nonlease components from the associated lease component and, instead, to account for those components as a single component if certain criteria are met. ASU 2019-01 provides clarification on implementation issues associated with adopting ASU 2016-02. ASU 2019-01 provides guidance on transition disclosures related to Topic 250, *Accounting Changes and Error Corrections*, specifically paragraph 205-10-50-3, which requires entities to provide in the fiscal year in which a new accounting principle is adopted the identical disclosures for interim periods after the date of adoption. The guidance in ASU 2019-01 explicitly provides an exception to the paragraph 250-10-50-3 interim disclosure requirements in the Topic 842 transition disclosure requirements. The effective date and transition requirements for these standards are the same as the effective date and transition requirements of ASU 2016-02. The standards were effective for the Company beginning on December 31, 2018, the first day of the Company's fiscal year 2019. The Company did not early adopt these standards and adopted these standards using the optional transition method.

The Company applied the modified retrospective approach, and applied the new leases standards at December 31, 2018, with a cumulative effect adjustment recognized in the opening balance of retained earnings in fiscal year 2019. As a lessee, the most significant impact of the standards relates to the recognition of the right-of-use assets and lease liabilities for the operating leases in the balance sheet. In addition, the Company had deferred gains from sale-leaseback transactions that are being amortized in operating expenses over the lease terms and the leases are accounted for as operating leases under ASC 840. Under the new standards, the Company recognized the deferred gains from the sales as a cumulative effect adjustment in retained earnings at December 31, 2018. The Company also derecognized the impact of its build-to-suit arrangements in which the Company was the deemed owner during the construction period, for which the construction is complete and the lease commenced before the initial date of adoption. The adoption of the standards resulted in an increase in retained earnings at December 31, 2018 of approximately $13.3 million for the cumulative effect of initially applying the standards as of that date. In addition, the adoption of the standards resulted in the recognition of right-of-use assets of approximately $199.5 million and lease liabilities of approximately $147.1 million, primarily related to the facilities operating leases, a decrease in property and equipment of approximately $34.6 million and an increase in deferred tax liabilities of $4.6 million for the tax impact of the cumulative adjustments. The adoption did not have an impact to cash from or used in operating, investing or financing activities in the Company's consolidated statement of cash flows at December 31, 2018.

Note 2: Revenue

Disaggregation of revenue

In the following tables, revenue is disaggregated by primary geographical markets, primary end-markets and timing of revenue recognition. The tables also include a reconciliation of the disaggregated revenue with the reportable segments revenue.

	Reportable Segments					
	Three Months Ended					
	June 30, 2019			July 1, 2018		
	Discovery & Analytical Solutions	Diagnostics	Total	Discovery & Analytical Solutions	Diagnostics	Total
	(In thousands)					
Primary geographical markets						
Americas	$ 177,974	$ 105,636	$ 283,610	$ 170,973	$ 98,395	$ 269,368
Europe	123,809	72,646	196,455	127,646	69,700	197,346
Asia	132,184	110,268	242,452	132,009	104,639	236,648
	$ 433,967	$ 288,550	$ 722,517	$ 430,628	$ 272,734	$ 703,362
Primary end-markets						
Diagnostics	$ —	$ 288,550	$ 288,550	$ —	$ 272,734	$ 272,734
Life sciences	241,862	—	241,862	233,906	—	233,906
Applied markets	192,105	—	192,105	196,722	—	196,722
	$ 433,967	$ 288,550	$ 722,517	$ 430,628	$ 272,734	$ 703,362
Timing of revenue recognition						
Products and services transferred at a point in time	$ 316,713	$ 267,450	$ 584,163	$ 312,994	$ 252,463	$ 565,457
Services transferred over time	117,254	21,100	138,354	117,634	20,271	137,905
	$ 433,967	$ 288,550	$ 722,517	$ 430,628	$ 272,734	$ 703,362

	Reportable Segments					
	Six Months Ended					
	June 30, 2019			July 1, 2018		
	Discovery & Analytical Solutions	Diagnostics	Total	Discovery & Analytical Solutions	Diagnostics	Total
	(In thousands)					
Primary geographical markets						
Americas	$ 340,391	$ 203,644	$ 544,035	$ 328,467	$ 186,929	$ 515,396
Europe	231,415	138,504	369,919	247,019	137,412	384,431
Asia	250,994	206,306	457,300	251,667	195,840	447,507
	$ 822,800	$ 548,454	$ 1,371,254	$ 827,153	$ 520,181	$ 1,347,334
Primary end-markets						
Diagnostics	$ —	$ 548,454	$ 548,454	$ —	$ 520,181	$ 520,181
Life sciences	459,239	—	459,239	453,616	—	453,616
Applied markets	363,561	—	363,561	373,537	—	373,537
	$ 822,800	$ 548,454	$ 1,371,254	$ 827,153	$ 520,181	$ 1,347,334
Timing of revenue recognition						
Products and services transferred at a point in time	$ 592,151	$ 506,697	$ 1,098,848	$ 595,078	$ 478,294	$ 1,073,372
Services transferred over time	230,649	41,757	272,406	232,075	41,887	273,962
	$ 822,800	$ 548,454	$ 1,371,254	$ 827,153	$ 520,181	$ 1,347,334

Contract Balances

Contract assets: The unbilled receivables (contract assets) primarily relate to the Company's right to consideration for work completed but not billed at the reporting date. The unbilled receivables are transferred to trade receivables when billed to customers. Contract assets are generally classified as current assets and are included in "Accounts receivable, net" in the consolidated balance sheets. The balance of contract assets as of June 30, 2019 and December 30, 2018 were $42.6 million and $31.9 million, respectively. The amount of unbilled receivables recognized at the beginning of the period that were transferred to trade receivables during the six months ended June 30, 2019 was $14.5 million. The increase in unbilled receivables during the six months ended June 30, 2019 as a result of recognition of revenue before billing to customers, excluding amounts transferred to trade receivables during the period, amounted to $25.3 million.

Contract liabilities: The contract liabilities primarily relate to the advance consideration received from customers for products and related installation for which transfer of control has not occurred at the balance sheet date. Contract liabilities are classified as either current in "Accounts payable" or long-term in "Long-term liabilities" in the consolidated balance sheets based on the timing of when the Company expects to recognize revenue. The balance of contract liabilities as of June 30, 2019 and December 30, 2018 were $31.6 million and $30.8 million, respectively. The increase in contract liabilities during the six months ended June 30, 2019 due to cash received, excluding amounts recognized as revenue during the period, was $17.9 million. The amount of revenue recognized during the six months ended June 30, 2019 that was included in the contract liability balance at the beginning of the period was $17.1 million.

Contract costs: The Company recognizes the incremental costs of obtaining a contract with a customer as an asset if it expects the benefit of those costs to be longer than one year. The Company determined that certain sales incentive programs meet the requirements to be capitalized. Total capitalized costs to obtain a contract were immaterial during the period and are included in other current and long-term assets on the consolidated balance sheets. The Company applies a practical expedient to expense costs as incurred for costs to obtain a contract with a customer when the amortization period would have been one year or less. These costs include the Company's internal sales force compensation program, as the Company determined that annual compensation is commensurate with annual sales activities.

Transaction price allocated to the remaining performance obligations

The Company applies the practical expedient in ASC 606-10-50-14 and does not disclose information about remaining performance obligations that have original expected durations of one year or less. The estimated revenue expected to be recognized beyond one year in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the period are not material to the Company. The remaining performance obligations primarily include noncancelable purchase orders and noncancelable software subscriptions and cloud service contracts.

Note 3: Business Combinations

Acquisitions in fiscal year 2019

During the first half of fiscal year 2019, the Company has completed the acquisition of three businesses for aggregate consideration of $258.0 million in cash. Cisbio Bioassays SAS ("Cisbio"), a company based in Codolet, France, was acquired for a total consideration of $219.8 million in cash, and two other businesses were acquired for a total consideration of $38.2 million in cash. The excess of the purchase price over the fair value of the acquired businesses' net assets represents cost and revenue synergies specific to the Company, as well as non-capitalizable intangible assets, such as the employee workforces acquired, and has been allocated to goodwill, which is not tax deductible. The Company has reported the operations for these acquisitions within the results of the Company's Diagnostics and Discovery & Analytical Solutions segments, from the acquisition dates. Identifiable definite-lived intangible assets, such as core technology, trade names and customer relationships, acquired as part of these acquisitions had a weighted average amortization period of 10.1 years.

The total purchase price for the acquisitions in fiscal year 2019 has been allocated to the estimated fair values of assets acquired and liabilities assumed as follows:

		2019 Acquisitions
		(In thousands)
Fair value of business combination:		
Cash payments	$	257,970
Working capital and other adjustments		—
Less: cash acquired		(13,866)
Total	$	244,104
Identifiable assets acquired and liabilities assumed:		
Current assets	$	46,003
Property, plant and equipment		5,309
Other assets		529
Identifiable intangible assets:		
Core technology		115,467
Trade names		5,600
Customer relationships		40,200
Goodwill		85,483
Deferred taxes		(46,140)
Deferred revenue		(83)
Liabilities assumed		(8,264)
Total	$	244,104

Acquisitions in fiscal year 2018

During fiscal year 2018, the Company completed the acquisition of four businesses for aggregate consideration of $105.8 million. The excess of the purchase price over the fair value of the acquired businesses' net assets represents cost and revenue synergies specific to the Company, as well as non-capitalizable intangible assets, such as the employee workforces acquired, and has been allocated to goodwill, which is not tax deductible. The Company has reported the operations for these acquisitions within the results of the Company's Diagnostics and Discovery & Analytical Solutions segments from the acquisition dates. Identifiable definite-lived intangible assets, such as core technology, trade names and customer relationships, acquired as part of these acquisitions had a weighted average amortization period of 11.2 years.

The total purchase price for the acquisitions in fiscal year 2018 has been allocated to the estimated fair values of assets acquired and liabilities assumed as follows:

		2018 Acquisitions
		(In thousands)
Fair value of business combination:		
Cash payments	$	95,950
Other liability		3,354
Contingent consideration		6,200
Working capital and other adjustments		262
Less: cash acquired		(1,132)
Total	$	104,634
Identifiable assets acquired and liabilities assumed:		
Current assets	$	6,079
Property, plant and equipment		1,166
Other assets		891
Identifiable intangible assets:		
Core technology		34,021
Trade names		1,070
Customer relationships		10,200
Goodwill		65,003
Deferred taxes		(8,923)
Debt assumed		(461)
Liabilities assumed		(4,412)
Total	$	104,634

The preliminary allocations of the purchase prices for acquisitions are based upon initial valuations. The Company's estimates and assumptions underlying the initial valuations are subject to the collection of information necessary to complete its valuations within the measurement periods, which are up to one year from the respective acquisition dates. The primary areas of the preliminary purchase price allocations that are not yet finalized relate to the fair value of certain tangible and intangible assets acquired and liabilities assumed, assets and liabilities related to income taxes and related valuation allowances, and residual goodwill. The Company expects to continue to obtain information to assist in determining the fair values of the net assets acquired at the acquisition dates during the measurement periods. During the measurement periods, the Company will adjust assets or liabilities if new information is obtained about facts and circumstances that existed as of the acquisition dates that, if known, would have resulted in the recognition of those assets and liabilities as of those dates. These adjustments will be made in the periods in which the amounts are determined and the cumulative effect of such adjustments will be calculated as if the adjustments had been completed as of the acquisition dates. All changes that do not qualify as adjustments made during the measurement periods are also included in current period earnings.

Allocations of the purchase price for acquisitions are based on estimates of the fair value of the net assets acquired and are subject to adjustment upon finalization of the purchase price allocations. The accounting for business combinations requires estimates and judgments as to expectations for future cash flows of the acquired business, and the allocation of those cash flows to identifiable intangible assets, in determining the estimated fair values for assets acquired and liabilities assumed. The fair values assigned to tangible and intangible assets acquired and liabilities assumed, including contingent consideration, are based on management’s estimates and assumptions, as well as other information compiled by management, including valuations that utilize customary valuation procedures and techniques. Contingent consideration is measured at fair value at the acquisition date, based on the probability that revenue thresholds or product development milestones will be achieved during the earnout period, with changes in the fair value after the acquisition date affecting earnings to the extent it is to be settled in cash. Increases or decreases in the fair value of contingent consideration liabilities primarily result from changes in the estimated probabilities of achieving revenue thresholds, changes in discount rates or product development milestones during the earnout period.

As of June 30, 2019, the Company may have to pay contingent consideration related to acquisitions with open contingency periods of up to $38.0 million. As of June 30, 2019, the Company has recorded contingent consideration obligations with an estimated fair value of $34.3 million, of which $30.8 million was recorded in accrued expenses and other current liabilities, and $3.5 million was recorded in long-term liabilities. As of December 30, 2018, the Company had recorded contingent consideration obligations with an estimated fair value of $69.7 million, of which $67.0 million was recorded in accrued expenses and other current liabilities, and $2.7 million was recorded in long-term liabilities. The expected maximum earnout period for acquisitions with open contingency periods does not exceed 1.3 years from June 30, 2019, and the remaining weighted average expected earnout period at June 30, 2019 was 0.6 years. If the actual results differ from the estimates and judgments used in these fair values, the amounts recorded in the condensed consolidated financial statements could result in a possible impairment of the intangible assets and goodwill, require acceleration of the amortization expense of definite-lived intangible assets or the recognition of additional contingent consideration which would be recognized as a component of operating expenses from continuing operations.

Total acquisition and divestiture-related costs for the three and six months ended June 30, 2019 were $3.3 million and $5.1 million, respectively. These amounts include $2.4 million and $2.6 million of net foreign exchange loss related mainly to the Company's acquisition of Cisbio for the three and six months ended June 30, 2019, respectively. Total acquisition and divestiture-related costs for the three and six months ended July 1, 2018 were $1.7 million and $3.8 million, respectively. These amounts included $0.2 million and $0.8 million of net foreign exchange gain related to the foreign currency denominated stay bonus associated with the Company's acquisition of Tulip Diagnostics Private Limited for the three and six months ended July 1, 2018, respectively. These acquisition and divestiture-related costs were expensed as incurred and recorded in selling, general and administrative expenses and interest and other expense, net in the Company's consolidated statements of operations.

Note 4: Restructuring and Contract Termination Charges, Net

The Company has undertaken a series of restructuring actions related to the impact of acquisitions and divestitures, the alignment of the Company's operations with its growth strategy, the integration of its business units and its productivity initiatives. The current portion of restructuring and contract termination charges is recorded in accrued restructuring and contract termination charges and the long-term portion of restructuring and contract termination charges is recorded in long-term liabilities. The activities associated with these plans have been reported as restructuring and contract termination charges, net, as applicable, and are included as a component of income from continuing operations.

The Company implemented a restructuring plan in the second quarter of fiscal year 2019 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q2 2019 Plan"). The Company implemented a restructuring plan in the first quarter of fiscal year 2019 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q1 2019 Plan"). The Company implemented a restructuring plan in each of the first, third and fourth quarters of fiscal year 2018 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q1 2018 Plan", "Q3 2018 Plan" and "Q4 2018 Plan", respectively). Details of the plans initiated in previous years (the “Previous Plans”) are discussed more fully in Note 6 to the audited consolidated financial statements in the 2018 Form 10-K.

The following table summarizes the reductions in headcount, the initial restructuring or contract termination charges by reporting segment, and the dates by which payments were substantially completed, or the dates by which payments are expected to be substantially completed, for restructuring actions implemented during fiscal years 2019 and 2018 in continuing operations:

	Workforce Reductions				(Expected) Date Payments Substantially Completed by
	Headcount Reduction	Discovery & Analytical Solutions	Diagnostics	Total	Severance
	(In thousands, except headcount data)				
Q2 2019 Plan	44	$ 4,461	$ 1,129	$ 5,590	Q1 FY2020
Q1 2019 Plan	105	6,001	1,459	7,460	Q4 FY2019
Q4 2018 Plan	1	348	—	348	Q1 FY2019
Q3 2018 Plan	61	1,146	618	1,764	Q4 FY2019
Q1 2018 Plan	47	5,096	902	5,998	Q4 FY2019

The Company does not currently expect to incur any future charges for these plans. The Company expects to make payments under the Previous Plans for remaining residual lease obligations, with terms varying in length, through fiscal year 2022.

In connection with the termination of various contractual commitments, the Company recorded additional pre-tax charges of $0.2 million and $0.3 million during the three and six months ended June 30, 2019, respectively, in the Discovery & Analytical Solutions segment. In connection with the termination of various contractual commitments, the Company recorded additional pre-tax charges of $0.2 million during each of the three and six months ended June 30, 2019, respectively, in the Diagnostics segment.

At June 30, 2019, the Company had $12.3 million recorded for accrued restructuring and contract termination charges, of which $11.0 million was recorded in short-term accrued restructuring and contract termination charges and $1.3 million was recorded in operating lease liabilities. At December 30, 2018, the Company had $6.2 million recorded for accrued restructuring and contract termination charges, of which $4.8 million was recorded in short-term accrued restructuring and contract termination charges, and $1.4 million was recorded in long-term liabilities. The following table summarizes the Company's restructuring and contract termination accrual balances and related activity by restructuring plan, as well as contract termination accrual balances and related activity, during the six months ended June 30, 2019:

	Balance at December 30, 2018	2019 Charges	2019 Changes in Estimates, Net	2019 Amounts Paid	Balance at June 30, 2019
			(In thousands)		
Severance:					
Q2 2019 Plan	$ —	$ 5,590	$ —	$ (590)	$ 5,000
Q1 2019 Plan	—	7,460	23	(3,940)	3,543
Q4 2018 Plan	348	—	—	(348)	—
Q3 2018 Plan	1,415	—	275	(1,196)	494
Q1 2018 Plan	1,609	—	—	(282)	1,327
Previous Plans	2,671	—	—	(941)	1,730
Restructuring	6,043	13,050 —	298	(7,297)	12,094
Contract Termination	137	402	50	(401)	188
Total Restructuring and Contract Termination	$ 6,180	$ 13,452	$ 348	$ (7,698)	$ 12,282

Note 5: Interest and Other Expense, Net

Interest and other expense, net, consisted of the following:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
		(In thousands)		
Interest income	$ (350)	$ (173)	$ (633)	$ (438)
Interest expense	17,207	16,411	33,057	34,061
Loss on disposition of businesses and assets, net	336	—	2,469	—
Other expense (income), net	2,715	118	1,580	(5,837)
Total interest and other expense, net	$ 19,908	$ 16,356	$ 36,473	$ 27,786

Foreign currency transaction losses were $4.4 million and $4.5 million for the three and six months ended June 30, 2019, respectively. Foreign currency transaction losses (gains) were $12.9 million and $(13.1) million for the three and six months ended July 1, 2018, respectively. Net (gains) losses from forward currency hedge contracts were $(0.2) million and $27 thousand for the three and six months ended June 30, 2019, respectively. Net (gains) losses from forward currency hedge contracts were $(10.3) million and $12.3 million for the three and six months ended July 1, 2018, respectively. The other components of net periodic pension credit were $1.5 million and $2.9 million for the three and six months ended June 30, 2019, respectively. The other components of net periodic pension credit were $2.5 million and $5.0 million for the three and six months ended July 1, 2018, respectively. These amounts were included in other income, net.

Note 6: Inventories

Inventories as of June 30, 2019 and December 30, 2018 consisted of the following:

	June 30, 2019	December 30, 2018
	(In thousands)	
Raw materials	$ 144,484	$ 119,115
Work in progress	30,314	18,110
Finished goods	239,532	201,122
Total inventories	$ 414,330	$ 338,347

Note 7: Income Taxes

The Company regularly reviews its tax positions in each significant taxing jurisdiction in the process of evaluating its unrecognized tax benefits. The Company makes adjustments to its unrecognized tax benefits when: (i) facts and circumstances regarding a tax position change, causing a change in management's judgment regarding that tax position; (ii) a tax position is effectively settled with a tax authority at a differing amount; and/or (iii) the statute of limitations expires regarding a tax position.

The total provision for income taxes included in the condensed consolidated statement of operations consisted of the following:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Continuing operations	$ 2,686	$ 7,035	$ 3,998	$ 9,505
Discontinued operations	54	59	95	70
Total	$ 2,740	$ 7,094	$ 4,093	$ 9,575

At June 30, 2019, the Company had gross tax effected unrecognized tax benefits of $31.3 million, of which $29.6 million, if recognized, would affect the continuing operations effective tax rate. The remaining amount, if recognized, would affect discontinued operations.

The Company believes that it is reasonably possible that approximately $1.1 million of its uncertain tax positions at June 30, 2019, including accrued interest and penalties, and net of tax benefits, may be resolved over the next twelve months as a result of lapses in applicable statutes of limitations and potential settlements. Various tax years after 2009 remain open to examination by certain jurisdictions in which the Company has significant business operations, such as Finland, Germany, Italy, Netherlands, Singapore, the United Kingdom and the United States. The tax years under examination vary by jurisdiction.

During the first six months of fiscal years 2019 and 2018, the Company recorded net discrete income tax benefits of $9.2 million and $1.6 million, respectively. The discrete tax benefits in the first six months of fiscal year 2019 and fiscal year 2018 include recognition of excess tax benefits on stock compensation of $4.4 million and $1.9 million, respectively.

Note 8: Debt

Senior Unsecured Revolving Credit Facility. The Company's senior unsecured revolving credit facility provides for $1.0 billion of revolving loans and has an initial maturity of August 11, 2021. As of June 30, 2019, undrawn letters of credit in the aggregate amount of $11.4 million were treated as issued and outstanding when calculating the borrowing availability under the senior unsecured revolving credit facility. As of June 30, 2019, the Company had $299.8 million available for additional borrowing under the facility. The Company uses the senior unsecured revolving credit facility for general corporate purposes, which may include working capital, refinancing existing indebtedness, capital expenditures, share repurchases, acquisitions and strategic alliances. The interest rates under the senior unsecured revolving credit facility are based on the Eurocurrency rate or the base rate at the time of borrowing, plus a margin. The base rate is the higher of (i) the rate of interest in effect for such day as publicly announced from time to time by JP Morgan Chase Bank, N.A. as its "prime rate," (ii) the Federal Funds rate plus 50 basis points or (iii) an adjusted one-month Libor plus 1.00%. The Eurocurrency margin as of June 30, 2019 was 110 basis points. The weighted average Eurocurrency interest rate as of June 30, 2019 was 2.36%, resulting in a weighted average effective Eurocurrency rate, including the margin, of 3.46%, which was the interest applicable to the borrowings outstanding under the Eurocurrency rate as of June 30, 2019. As of June 30, 2019, the senior unsecured revolving credit facility had outstanding borrowings of $688.8 million, and $2.1 million of unamortized debt issuance costs. As of December 30, 2018, the senior unsecured revolving credit facility had outstanding borrowings of $418.0 million, and $2.4 million of unamortized debt issuance costs. The credit agreement for the facility contains affirmative, negative and financial covenants and events of default. The financial covenants include a debt-to-capital ratio that remains applicable for so long as the Company's debt is rated as investment grade. In the event that the Company's debt is not rated as investment grade, the debt-to-capital ratio covenant is replaced with a maximum consolidated leverage ratio covenant and a minimum consolidated interest coverage ratio covenant.

5% Senior Unsecured Notes due in 2021. On October 25, 2011, the Company issued $500.0 million aggregate principal amount of senior unsecured notes due in 2021 (the "November 2021 Notes") in a registered public offering and received $493.6 million of net proceeds from the issuance. The November 2021 Notes were issued at 99.4% of the principal amount, which resulted in a discount of $3.1 million. As of June 30, 2019, the November 2021 Notes had an aggregate carrying value of $497.7 million, net of $0.9 million of unamortized original issue discount and $1.3 million of unamortized debt issuance costs. As of December 30, 2018, the November 2021 Notes had an aggregate carrying value of $497.4 million, net of $1.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs. The November 2021 Notes mature in November 2021 and bear interest at an annual rate of 5%. Interest on the November 2021 Notes is payable semi-annually on May 15th and November 15th each year. Prior to August 15, 2021 (three months prior to their maturity date), the Company may redeem the November 2021 Notes in whole or in part, at its option, at a redemption price equal to the greater of (i) 100% of the principal amount of the November 2021 Notes to be redeemed, plus accrued and unpaid interest, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the November 2021 Notes being redeemed, discounted on a semi-annual basis, at the Treasury Rate plus 45 basis points, plus accrued and unpaid interest. At any time on or after August 15, 2021 (three months prior to their maturity date), the Company may redeem the November 2021 Notes, at its option, at a redemption price equal to 100% of the principal amount of the November 2021 Notes to be redeemed plus accrued and unpaid interest. Upon a change of control (as defined in the indenture governing the November 2021 Notes) and a contemporaneous downgrade of the November 2021 Notes below investment grade, each holder of November 2021 Notes will have the right to require the Company to repurchase such holder's November 2021 Notes for 101% of their principal amount, plus accrued and unpaid interest.

1.875% Senior Unsecured Notes due 2026. On July 19, 2016, the Company issued €500.0 million aggregate principal amount of senior unsecured notes due in 2026 (the "2026 Notes") in a registered public offering and received approximately €492.3 million of net proceeds from the issuance. The 2026 Notes were issued at 99.118% of the principal amount, which resulted in a discount of €4.4 million. The 2026 Notes mature in July 2026 and bear interest at an annual rate of 1.875%. Interest on the 2026 Notes is payable annually on July 19th each year. The proceeds from the 2026 Notes were used to pay in full the outstanding balance of the Company's previous senior unsecured revolving credit facility. As of June 30, 2019, the 2026 Notes had an aggregate carrying value of $561.1 million, net of $3.8 million of unamortized original issue discount and $3.5 million of unamortized debt issuance costs. As of December 30, 2018, the 2026 Notes had an aggregate carrying value of $564.5 million, net of $4.0 million of unamortized original issue discount and $3.8 million of unamortized debt issuance costs.

Prior to April 19, 2026 (three months prior to their maturity date), the Company may redeem the 2026 Notes in whole at any time or in part from time to time, at its option, at a redemption price equal to the greater of (i) 100% of the principal amount of the 2026 Notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the 2026 Notes being redeemed, discounted on an annual basis, at the applicable Comparable Government Bond Rate (as defined in the indenture governing the 2026 Notes) plus 35 basis points; plus, in each case, accrued and unpaid interest. In addition, at any time on or after April 19, 2026 (three months prior to their maturity date), the Company may redeem the 2026 Notes, at its option, at a redemption price equal to 100% of the principal amount of the 2026 Notes due to be redeemed plus accrued and unpaid interest.

Upon a change of control (as defined in the indenture governing the 2026 Notes) and a contemporaneous downgrade of the 2026 Notes below investment grade, the Company will, in certain circumstances, make an offer to purchase the 2026 Notes at a price equal to 101% of their principal amount plus any accrued and unpaid interest.

0.6% Senior Unsecured Notes due in 2021. On April 11, 2018, the Company issued €300.0 million aggregate principal amount of senior unsecured notes due in 2021 (the "April 2021 Notes") in a registered public offering and received approximately €298.7 million of net proceeds from the issuance. The April 2021 Notes were issued at 99.95% of the principal amount, which resulted in a discount of €0.2 million. As of June 30, 2019, the April 2021 Notes had an aggregate carrying value of $339.4 million, net of $0.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs. As of December 30, 2018, the April 2021 Notes had an aggregate carrying value of $341.3 million, net of $0.1 million of unamortized original issue discount and $2.0 million of unamortized debt issuance costs. The April 2021 Notes mature in April 2021 and bear interest at an annual rate of 0.6%. Interest on the April 2021 Notes is payable annually on April 9th each year. The proceeds from the April 2021 Notes were used to pay in full the outstanding balance of the Company's senior unsecured term loan credit facility, and a portion of the outstanding senior unsecured revolving credit facility, and in each case the borrowings were incurred to pay a portion of the purchase price for the Company's acquisition of EUROIMMUN, which closed on December 19, 2017. Prior to the maturity date of the April 2021 Notes, the Company may redeem them in whole at any time or in part from time to time, at its option, at a redemption price equal to the greater of (i) 100% of the principal amount of the April 2021 Notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the April 2021 Notes being redeemed, discounted on an annual basis, at the applicable Comparable Government Bond Rate (as defined in the indenture governing the April 2021 Notes) plus 15 basis points; plus, in each case, accrued and unpaid interest. Upon a change of control (as defined in the indenture governing the April 2021 Notes) and a contemporaneous downgrade of the April 2021 Notes below investment grade, the Company will, in certain circumstances, make an offer to purchase the April 2021 Notes at a price equal to 101% of their principal amount, plus accrued and unpaid interest.

Other Debt Facilities. The Company's other debt facilities include Euro-denominated bank loans with an aggregate carrying value of $27.4 million (or €24.1 million) and $32.1 million (or €28.0 million) as of June 30, 2019 and December 30, 2018, respectively. These bank loans are primarily utilized for financing fixed assets and are required to be repaid in monthly or quarterly installments with maturity dates extending to 2028. Of these bank loans, loans in the aggregate amount of $27.3 million bear fixed interest rates between 1.1% and 4.5% and a loan in the amount of $0.1 million bears a variable interest rate based on the Euribor rate plus a margin of 1.5%. An aggregate amount of $4.3 million of the bank loans are secured by mortgages on real property and the remaining $23.1 million are unsecured. Certain credit agreements for the unsecured bank loans include financial covenants which are based on an equity ratio or an equity ratio and minimum interest coverage ratio.

In addition, the Company had secured bank loans in the aggregate amount of $0.3 million as of June 30, 2019, and unsecured revolving credit facilities and a secured bank loan in the amount of $5.8 million and $0.3 million, respectively, as of December 30, 2018. The unsecured revolving debt facilities had fixed interest at a rate of 2.3%. The secured bank loans of $0.3 million bear fixed annual interest rates between 1.95% and 5.0% and are required to be repaid in monthly installments until 2027.

Financing Lease Obligations. In fiscal year 2012, the Company entered into agreements with the lessors of certain buildings that the Company is currently occupying and leasing to expand those buildings. The Company provided a portion of the funds needed for the construction of the additions to the buildings, and as a result the Company was considered the owner of the buildings during the construction period. At the end of the construction period, the Company was not reimbursed by the lessors for all of the construction costs. The Company is therefore deemed to have continuing involvement and the leases qualify as financing leases under sale-leaseback accounting guidance, representing debt obligations for the Company and non-cash investing and financing activities. As a result, the Company capitalized $29.3 million in property, plant and equipment, net, representing the fair value of the buildings with a corresponding increase to debt. The Company has also capitalized $11.5 million in additional construction costs necessary to complete the renovations to the buildings, which were funded by the lessors, with a corresponding increase to debt. At December 30, 2018, the Company had $34.5 million recorded for these financing lease obligations, of which $1.5 million was recorded as short-term debt and $33.0 million was recorded as long-term debt. Prior to adoption of ASC 842, *Leases* ("ASC 842"), the buildings were depreciated on a straight-line basis over the terms of the leases to their estimated residual values, which will equal the remaining financing obligation at the end of the lease term. At the end of the lease term, the remaining balances in property, plant and equipment, net and debt will be reversed against each other. Upon adoption of ASC 842, the Company derecognized the impact of this build-to-suit arrangement.

Note 9: Earnings Per Share

Basic earnings per share was computed by dividing net income by the weighted-average number of common shares outstanding during the period less restricted unvested shares. Diluted earnings per share was computed by dividing net income by the weighted-average number of common shares outstanding plus all potentially dilutive common stock equivalents, primarily shares issuable upon the exercise of stock options using the treasury stock method. The following table reconciles the number of shares utilized in the earnings per share calculations:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Number of common shares—basic	110,845	110,477	110,694	110,386
Effect of dilutive securities:				
Stock options	559	786	595	824
Restricted stock awards	124	189	122	181
Number of common shares—diluted	111,528	111,452	111,411	111,391
Number of potentially dilutive securities excluded from calculation due to antidilutive impact	291	346	388	339

Antidilutive securities include outstanding stock options with exercise prices and average unrecognized compensation cost in excess of the average fair market value of common stock for the related period. Antidilutive options were excluded from the calculation of diluted net income per share and could become dilutive in the future.

Note 10: Industry Segment Information

The Company discloses information about its operating segments based on the way that management organizes the segments within the Company for making operating decisions and assessing financial performance. The Company evaluates the performance of its operating segments based on revenue and operating income. Intersegment revenue and transfers are not significant. The accounting policies of the operating segments are the same as those described in Note 1 to the audited consolidated financial statements in the 2018 Form 10-K.

The principal products and services of the Company's two operating segments are:

- *Discovery & Analytical Solutions*. Provides products and services targeted towards the life sciences and applied markets.
- *Diagnostics*. Develops diagnostics, tools and applications focused on clinically-oriented customers, especially within the reproductive health, immunodiagnostics and applied genomics markets. The Diagnostics segment serves the diagnostics market.

The Company has included the expenses for its corporate headquarters, such as legal, tax, audit, human resources, information technology, and other management and compliance costs, as well as the activity related to the mark-to-market adjustment on postretirement benefit plans, as “Corporate” below. The Company has a process to allocate and recharge expenses to the reportable segments when these costs are administered or paid by the corporate headquarters based on the extent to which the segment benefited from the expenses. These amounts have been calculated in a consistent manner and are included in the Company’s calculations of segment results to internally plan and assess the performance of each segment for all purposes, including determining the compensation of the business leaders for each of the Company’s operating segments.

Revenue and operating income (loss) from continuing operations by operating segment are shown in the table below:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Discovery & Analytical Solutions				
Product revenue	$ 259,514	$ 263,325	$ 482,304	$ 501,020
Service revenue	174,453	167,303	340,496	326,133
Total revenue	433,967	430,628	822,800	827,153
Operating income from continuing operations	57,689	64,665	94,616	100,862
Diagnostics				
Product revenue	242,600	232,283	458,532	442,196
Service revenue	45,950	40,451	89,922	77,985
Total revenue	288,550	272,734	548,454	520,181
Operating income from continuing operations	49,255	38,780	80,741	57,174
Corporate				
Operating loss from continuing operations	(15,209)	(15,381)	(30,292)	(30,037)
Continuing Operations				
Product revenue	502,114	495,608	940,836	943,216
Service revenue	220,403	207,754	430,418	404,118
Total revenue	722,517	703,362	1,371,254	1,347,334
Operating income from continuing operations	91,735	88,064	145,065	127,999
Interest and other expense, net (see Note 5)	19,908	16,356	36,473	27,786
Income from continuing operations before income taxes	$ 71,827	$ 71,708	$ 108,592	$ 100,213

Note 11: Stockholders' Equity

Comprehensive Income:

The components of accumulated other comprehensive loss consisted of the following:

	June 30, 2019	December 30, 2018
	(In thousands)	
Foreign currency translation adjustments	$ (180,713)	$ (176,459)
Unrecognized prior service costs, net of income taxes	245	245
Unrealized net losses on securities, net of income taxes	(284)	(267)
Accumulated other comprehensive loss	$ (180,752)	$ (176,481)

Stock Repurchases:

On July 23, 2018, the Board of Directors (the "Board") authorized the Company to repurchase shares of common stock for an aggregate amount up to $250.0 million under a stock repurchase program (the "Repurchase Program"). The Repurchase Program will expire on July 23, 2020 unless terminated earlier by the Board and may be suspended or discontinued at any time. During the six months ended June 30, 2019, the Company had no stock repurchases under the Repurchase Program. As of June 30, 2019, $197.8 million remained available for aggregate repurchases of shares under the Repurchase Program.

In addition, the Board has authorized the Company to repurchase shares of common stock to satisfy minimum statutory tax withholding obligations in connection with the vesting of restricted stock awards and restricted stock unit awards granted pursuant to the Company's equity incentive plans and to satisfy obligations related to the exercise of stock options made pursuant to the Company's equity incentive plans. During the three months ended June 30, 2019, the Company repurchased 8,279 shares of common stock for this purpose at an aggregate cost of $0.8 million. During the six months ended June 30, 2019, the Company repurchased 65,568 shares of common stock for this purpose at an aggregate cost of $6.1 million. The repurchased shares have been reflected as additional authorized but unissued shares, with the payments reflected in common stock and capital in excess of par value.

Dividends:

The Board declared a regular quarterly cash dividend of $0.07 per share for the first two quarters of fiscal year 2019 and in each quarter of fiscal year 2018. At June 30, 2019, the Company has accrued $7.8 million for dividends declared on April 25, 2019 for the second quarter of fiscal year 2019 that will be payable in August 2019. On July 25, 2019, the Company announced that the Board had declared a quarterly dividend of $0.07 per share for the third quarter of fiscal year 2019 that will be payable in November 2019. In the future, the Board may determine to reduce or eliminate the Company's common stock dividend in order to fund investments for growth, repurchase shares or conserve capital resources.

Note 12: Stock Plans

The Company's 2019 Incentive Plan (the "2019 Plan") authorizes the issuance of incentive stock options intended to qualify under Section 422 of the Internal Revenue Code of 1986, as amended, non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units, other stock-based awards and cash awards as part of the Company's compensation programs. The 2019 Plan was approved by the Company's board of directors on January 24, 2019 and by the Company's shareholders on April 23, 2019. The 2019 Plan replaced the Company's 2009 Incentive Plan (the "2009 Plan"), under which the Company's common stock was made available for stock option grants, restricted stock awards, performance restricted stock units, performance units and stock awards as part of the Company's compensation programs. Upon shareholder approval of the 2019 Plan, 6.25 million shares of the Company's common stock, as well as shares of the Company's common stock previously granted under the 2009 Plan that expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by the Company at their original issuance price subject to a contractual repurchase right, became available for grant under the 2019 Plan. Awards granted under the 2009 Plan prior to its expiration remain outstanding. As part of the Company's compensation programs, the Company also offers shares of its common stock under its Employee Stock Purchase Plan.

The following table summarizes total pre-tax compensation expense recognized related to the Company's stock option grants, restricted stock awards, performance restricted stock units, performance units and stock awards, included in the Company's condensed consolidated statements of operations for the three and six months ended June 30, 2019 and July 1, 2018:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Cost of revenue	$ 377	$ 358	$ 711	$ 663
Research and development expenses	333	386	624	694
Selling, general and administrative expenses	5,993	6,072	11,466	10,791
Total stock-based compensation expense	$ 6,703	$ 6,816	$ 12,801	$ 12,148

The total income tax benefit recognized in the condensed consolidated statements of operations for stock-based compensation was $3.0 million and $7.2 million for the three and six months ended June 30, 2019, respectively. The total income tax benefit recognized in the condensed consolidated statements of operations for stock-based compensation was $1.6 million and $4.5 million for the three and six months ended July 1, 2018, respectively. Stock-based compensation costs capitalized as part of inventory was $0.5 million and $0.4 million as of June 30, 2019 and July 1, 2018, respectively.

Stock Options: The fair value of each option grant is estimated using the Black-Scholes option pricing model. The Company's weighted-average assumptions used in the Black-Scholes option pricing model were as follows:

	Three and Six Months Ended	
	June 30, 2019	July 1, 2018
Risk-free interest rate	1.9%	2.9%
Expected dividend yield	0.3%	0.4%
Expected term	5 years	5 years
Expected stock volatility	22.8%	20.7%

The following table summarizes stock option activity for the six months ended June 30, 2019:

	Number of Shares		Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term		Total Intrinsic Value
	(In thousands)			(In years)		(In millions)
Outstanding at December 30, 2018	1,765	$	52.91			
Granted	302		93.67			
Exercised	(353)		46.92			
Forfeited	(60)		77.35			
Outstanding at June 30, 2019	1,654	$	60.74	4.4	$	58.9
Exercisable at June 30, 2019	1,002	$	48.57	3.3	$	47.8

The weighted-average per-share grant-date fair value of options granted during the three and six months ended June 30, 2019 was $21.95 and $22.64, respectively. The weighted-average per-share grant-date fair value of options granted during the three and six months ended July 1, 2018 was $17.30 and $17.49, respectively. The total intrinsic value of options exercised during the three and six months ended June 30, 2019 was $7.9 million and $16.7 million, respectively. The total intrinsic value of options exercised during the three and six months ended July 1, 2018 was $0.7 million and $6.4 million, respectively. Cash received from option exercises for the six months ended June 30, 2019 and July 1, 2018 was $16.6 million and $8.3 million, respectively.

The total compensation expense recognized related to the Company's outstanding options was $1.3 million and $2.7 million for the three and six months ended June 30, 2019, respectively, and $1.3 million and $2.6 million for the three and six months ended July 1, 2018, respectively.

There was $9.7 million of total unrecognized compensation cost related to nonvested stock options granted as of June 30, 2019. This cost is expected to be recognized over a weighted-average period of 2.1 years.

Restricted Stock Awards: The following table summarizes restricted stock award activity for the six months ended June 30, 2019:

	Number of Shares		Weighted-Average Grant-Date Fair Value
	(In thousands)		
Nonvested at December 30, 2018	465	$	61.72
Granted	160		94.90
Vested	(207)		54.57
Forfeited	(35)		73.85
Nonvested at June 30, 2019	383	$	78.45

The fair value of restricted stock awards vested during the three and six months ended June 30, 2019 was $2.0 million and $11.3 million, respectively. The fair value of restricted stock awards vested during the three and six months ended July 1, 2018 was $0.7 million and $9.0 million, respectively. The total compensation expense recognized related to the Company's outstanding restricted stock awards was $2.8 million and $5.5 million for the three and six months ended June 30, 2019, respectively, and $3.2 million and $5.6 million for the three and six months ended July 1, 2018, respectively.

As of June 30, 2019, there was $22.5 million of total unrecognized compensation cost related to nonvested restricted stock awards. This cost is expected to be recognized over a weighted-average period of 1.7 years.

Performance Restricted Stock Units: As part of the Company's executive compensation program, the Company granted 76,218 performance restricted stock units during the six months ended June 30, 2019 that will vest based on performance of the Company. The weighted-average per-share grant date fair value of performance restricted stock units granted during the six months ended June 30, 2019 was $92.95. During the six months ended June 30, 2019, 18,777 performance restricted stock units were forfeited. The total compensation expense recognized related to the performance restricted stock units was $0.7 million and $1.5 million for the three and six months ended June 30, 2019, respectively, and $0.5 million and $0.9 million for the three and six months ended July 1, 2018, respectively. As of June 30, 2019, there were 145,114 performance restricted stock units outstanding.

Performance Units: No performance units were granted during the six months ended June 30, 2019. During the six months ended June 30, 2019, 10,116 performance units were forfeited. The total compensation expense recognized related to performance units was $1.2 million and $2.4 million for the three and six months ended June 30, 2019, respectively, and $1.0 million and $2.3 million for the three and six months ended July 1, 2018, respectively. As of June 30, 2019, there were 71,213 performance units outstanding and subject to forfeiture, with a corresponding liability of $7.2 million recorded in accrued expenses and other current liabilities.

Stock Awards: The Company’s stock award program provides an annual equity award to non-employee directors. During the six months ended June 30, 2019, the Company awarded 7,301 shares to non-employee directors. The weighted-average per-share grant-date fair value of the stock awards granted during the six months ended June 30, 2019 was $95.84. The total compensation expense recognized related to the stock awards was $0.7 million and $0.8 million for the six months ended June 30, 2019 and July 1, 2018, respectively.

Employee Stock Purchase Plan: During the six months ended June 30, 2019, the Company issued 33,843 shares of common stock under the Company's Employee Stock Purchase Plan at a weighted-average price of $82.25 per share. During the six months ended July 1, 2018, the Company issued 21,321 shares of common stock under the Company's Employee Stock Purchase Plan at a weighted-average price of $69.57 per share. At June 30, 2019, an aggregate of 0.8 million shares of the Company’s common stock remained available for sale to employees out of the 5.0 million shares authorized by shareholders for issuance under this plan.

Note 13: Goodwill and Intangible Assets, Net

The Company tests goodwill and non-amortizing intangible assets at least annually for possible impairment. Accordingly, the Company completes the annual testing of impairment for goodwill and non-amortizing intangible assets on the later of January 1 or the first day of each fiscal year. In addition to its annual test, the Company regularly evaluates whether events or circumstances have occurred that may indicate a potential impairment of goodwill or non-amortizing intangible assets.

The process of testing goodwill for impairment involves the determination of the fair value of the applicable reporting units. The test consists of the comparison of the fair value to the carrying value of the reporting unit to determine if the carrying value exceeds the fair value. If the carrying value of the reporting unit exceeds its fair value, an impairment loss in an amount equal to that excess is recognized up to the amount of goodwill. The Company performed its annual impairment testing for its reporting units as of January 1, 2019, its annual impairment testing date for fiscal year 2019. The Company concluded that there was no goodwill impairment. The range of the long-term terminal growth rates for the Company’s reporting units was 3% to 5% for the fiscal year 2019 impairment analysis. The range for the discount rates for the reporting units was 10.5% to 15%. Keeping all other variables constant, a 10% change in any one of these input assumptions for the various reporting units would still allow the Company to conclude that there was no impairment of goodwill.

The Company has consistently employed the income approach to estimate the current fair value when testing for impairment of goodwill. A number of significant assumptions and estimates are involved in the application of the income approach to forecast operating cash flows, including markets and market share, sales volumes and prices, costs to produce, tax rates, capital spending, discount rates and working capital changes. Cash flow forecasts are based on approved business unit operating plans for the early years’ cash flows and historical relationships in later years. The income approach is sensitive to changes in long-term terminal growth rates and the discount rates. The long-term terminal growth rates are consistent with the Company’s historical long-term terminal growth rates, as the current economic trends are not expected to affect the long-term terminal growth rates of the Company. The Company corroborates the income approach with a market approach.

Non-amortizing intangibles are also subject to an annual impairment test. The Company has consistently employed the relief from royalty model to estimate the current fair value when testing for impairment of non-amortizing intangible assets. The impairment test consists of a comparison of the fair value of the non-amortizing intangible asset with its carrying amount. If the carrying amount of a non-amortizing intangible asset exceeds its fair value, an impairment loss in an amount equal to that excess is recognized up to the amount of the amortizing intangible asset. In addition, the Company evaluates the remaining useful life of its non-amortizing intangible asset at least annually to determine whether events or circumstances continue to support an indefinite useful life. If events or circumstances indicate that the useful life of the Company's non-amortizing intangible asset is no longer indefinite, the asset will be tested for impairment. This intangible asset will then be amortized prospectively over its estimated remaining useful life and accounted for in the same manner as other intangible assets that are subject to amortization. The Company performed its annual impairment testing as of January 1, 2019, and concluded that there was no impairment of its non-amortizing intangible asset. An assessment of the recoverability of amortizing intangible assets takes place when events have occurred that may give rise to an impairment. No such events occurred during the first six months of fiscal year 2019.

The changes in the carrying amount of goodwill for the six months ended June 30, 2019 were as follows:

	Discovery & Analytical Solutions	Diagnostics	Consolidated
		(In thousands)	
Balance at December 30, 2018	$ 1,334,992	$ 1,617,616	$ 2,952,608
Foreign currency translation	(615)	(784)	(1,399)
Acquisitions, earn-outs and other	17,664	73,176	90,840
Balance at June 30, 2019	$ 1,352,041	$ 1,690,008	$ 3,042,049

Identifiable intangible asset balances by category were as follows:

	June 30, 2019	December 30, 2018
	(In thousands)	
Patents	$ 30,843	$ 42,646
Less: Accumulated amortization	(26,701)	(37,753)
Net patents	4,142	4,893
Trade names and trademarks	83,127	78,146
Less: Accumulated amortization	(36,837)	(33,801)
Net trade names and trademarks	46,290	44,345
Licenses	58,486	53,305
Less: Accumulated amortization	(47,699)	(45,550)
Net licenses	10,787	7,755
Core technology	654,884	540,911
Less: Accumulated amortization	(293,401)	(265,744)
Net core technology	361,483	275,167
Customer relationships	1,117,420	1,089,527
Less: Accumulated amortization	(329,617)	(293,964)
Net customer relationships	787,803	795,563
IPR&D	1,351	1,360
Net amortizable intangible assets	1,211,856	1,129,083
Non-amortizing intangible asset:		
Trade name	70,584	70,584
Total	$ 1,282,440	$ 1,199,667

Total amortization expense related to definite-lived intangible assets was $41.2 million and $79.9 million for the three and six months ended June 30, 2019, respectively, and $32.5 million and $65.4 million for the three and six months ended July 1, 2018, respectively. Estimated amortization expense related to amortizable intangible assets for each of the next five years is $83.8 million for the remainder of fiscal year 2019, $178.0 million for fiscal year 2020, $163.0 million for fiscal year 2021, $146.9 million for fiscal year 2022, and $122.9 million for fiscal year 2023.

Note 14: Warranty Reserves

The Company provides warranty protection for certain products usually for a period of one year beyond the date of sale. The majority of costs associated with warranty obligations include the replacement of parts and the time for service personnel to respond to repair and replacement requests. A warranty reserve is recorded based upon historical results, supplemented by management’s expectations of future costs. Warranty reserves are included in “Accrued expenses and other current liabilities” on the condensed consolidated balance sheets.

A summary of warranty reserve activity is as follows:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Balance at beginning of period	$ 8,159	$ 8,786	$ 8,393	$ 9,050
Provision charged to income	2,934	3,515	5,702	6,685
Payments	(3,283)	(3,490)	(6,537)	(6,967)
Adjustments to previously provided warranties, net	149	446	419	336
Foreign currency translation and acquisitions	26	(314)	8	(161)
Balance at end of period	$ 7,985	$ 8,943	$ 7,985	$ 8,943

Note 15: Employee Postretirement Benefit Plans

The following table summarizes the components of net periodic pension credit for the Company's various defined benefit employee pension and postretirement plans:

	Defined Benefit Pension Benefits		Postretirement Medical Benefits	
	Three Months Ended			
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Service and administrative costs	$ 1,629	$ 1,712	$ 22	$ 26
Interest cost	4,150	4,057	29	30
Expected return on plan assets	(6,161)	(7,310)	(294)	(313)
Amortization of prior service costs	(38)	(41)	—	—
Net periodic pension credit	$ (420)	$ (1,582)	$ (243)	$ (257)

	Defined Benefit Pension Benefits		Postretirement Medical Benefits	
	Six Months Ended			
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Service cost	$ 3,262	$ 3,468	$ 44	$ 53
Interest cost	8,309	8,161	58	60
Expected return on plan assets	(12,337)	(14,656)	(588)	(627)
Amortization of prior service costs	(77)	(82)	—	—
Net periodic benefit credit	$ (843)	$ (3,109)	$ (486)	$ (514)

During the six months ended June 30, 2019 and July 1, 2018, the Company contributed $4.1 million and $4.4 million, respectively, in the aggregate, to pension plans outside of the United States.

The Company recognizes actuarial gains and losses, unless an interim remeasurement is required, in the fourth quarter of the year in which the gains and losses occur, in accordance with the Company's accounting method for defined benefit pension plans and other postretirement benefits as described in Note 1 of the Company's audited consolidated financial statements and notes included in its 2018 Form 10-K. Such adjustments for gains and losses are primarily driven by events and circumstances beyond the Company's control, including changes in interest rates, the performance of the financial markets and mortality assumptions. Service costs for plans in active accrual are included in operating expenses.

Note 16: Derivatives and Hedging Activities

The Company uses derivative instruments as part of its risk management strategy only, and includes derivatives utilized as economic hedges that are not designated as hedging instruments. By nature, all financial instruments involve market and credit risks. The Company enters into derivative instruments with major investment grade financial institutions and has policies to monitor the credit risk of those counterparties. The Company does not enter into derivative contracts for trading or other speculative purposes, nor does the Company use leveraged financial instruments. Approximately 70% of the Company's business is conducted outside of the United States, generally in foreign currencies. As a result, fluctuations in foreign currency exchange rates can increase the costs of financing, investing and operating the business.

In the ordinary course of business, the Company enters into foreign exchange contracts for periods consistent with its committed exposures to mitigate the effect of foreign currency movements on transactions denominated in foreign currencies. The intent of these economic hedges is to offset gains and losses that occur on the underlying exposures from these currencies, with gains and losses resulting from the forward currency contracts that hedge these exposures. Transactions covered by hedge contracts include intercompany and third-party receivables and payables. The contracts are primarily in European and Asian currencies, have maturities that do not exceed 12 months, have no cash requirements until maturity, and are recorded at fair value on the Company's condensed consolidated balance sheets. The unrealized gains and losses on the Company's foreign currency contracts are recognized immediately in interest and other expense, net. The cash flows related to the settlement of these hedges are included in cash flows from operating activities within the Company's condensed consolidated statement of cash flows.

Principal hedged currencies include the Chinese Yuan, Euro, Swedish Krona, and Singapore Dollar. The Company held forward foreign exchange contracts, designated as economic hedges, with U.S. dollar equivalent notional amounts totaling $241.2 million, $223.3 million and $147.6 million at June 30, 2019, December 30, 2018 and July 1, 2018, respectively, and the fair value of these foreign currency derivative contracts was insignificant. The gains and losses realized on these foreign currency derivative contracts are not material. The duration of these contracts was generally 30 days or less during each of the six months ended June 30, 2019 and July 1, 2018.

In addition, in connection with certain intercompany loan agreements utilized to finance its acquisitions and stock repurchase program, the Company enters into forward foreign exchange contracts intended to hedge movements in foreign exchange rates prior to settlement of such intercompany loans denominated in foreign currencies. The Company records these hedges at fair value on the Company's condensed consolidated balance sheets. The unrealized gains and losses on these hedges, as well as the gains and losses associated with the remeasurement of the intercompany loans, are recognized immediately in interest and other expense, net. The cash flows related to the settlement of these hedges are included in cash flows from financing activities within the Company's condensed consolidated statement of cash flows.

The outstanding forward exchange contracts designated as economic hedges, which were intended to hedge movements in foreign exchange rates prior to the settlement of certain intercompany loan agreements included combined Euro notional amounts of €15.8 million and combined U.S. Dollar notional amounts of $13.3 million as of June 30, 2019, combined Euro notional amounts of €37.3 million and combined U.S. Dollar notional amounts of $5.7 million as of December 30, 2018, and combined Euro notional amounts of €49.7 million and combined U.S. Dollar notional amounts of $50.8 million as of July 1, 2018. The net gains and losses on these derivatives, combined with the gains and losses on the remeasurement of the hedged intercompany loans were not material for each of the three and six months ended June 30, 2019 and July 1, 2018. The Company paid $1.7 million and $32.7 million during the six months ended June 30, 2019 and July 1, 2018, respectively, from the settlement of these hedges.

In April 2018, the Company designated a portion of the 2026 Notes to hedge its investments in certain foreign subsidiaries. Unrealized translation adjustments from a portion of the 2026 Notes were included in the foreign currency translation component of AOCI, which offsets translation adjustments on the underlying net assets of foreign subsidiaries. The cumulative translation gains or losses will remain in AOCI until the foreign subsidiaries are liquidated or sold. As of June 30, 2019, the total notional amount of the 2026 Notes that was designated to hedge investments in foreign subsidiaries was €134.2 million. The unrealized foreign exchange losses (gains) recorded in AOCI related to the net investment hedge was $1.7 million and $(3.1) million for the three and six months ended June 30, 2019, respectively, and $(4.8) million and $(6.9) million for the three and six months ended July 1, 2018, respectively.

During fiscal year 2018, the Company designated the April 2021 Notes to hedge its investments in certain foreign subsidiaries. Unrealized translation adjustments from the April 2021 Notes were included in the foreign currency translation component of AOCI, which offsets translation adjustments on the underlying net assets of foreign subsidiaries. The cumulative translation gains or losses will remain in AOCI until the foreign subsidiaries are liquidated or sold. As of June 30, 2019, the total notional amount of the April 2021 Notes that was designated to hedge investments in foreign subsidiaries was €299.9 million. The unrealized foreign exchange losses (gains) recorded in AOCI related to the net investment hedge were $4.5 million and $(2.3) million for the three and six months ended June 30, 2019, respectively, and $(20.8) million for the three and six months ended July 1, 2018.

On May 31, 2019, the Company entered into a cross-currency swap designated as a net investment hedge to hedge the Euro currency exposure of the Company's net investment in certain foreign subsidiaries. This agreement is a contract to exchange fixed-rate payments in one currency for fixed-rate payments in another currency. Changes in the fair value of this swap are recorded in equity as a component of AOCI in the same manner as foreign currency translation adjustments. In assessing the effectiveness of this hedge, the Company uses a method based on changes in spot rates to measure the impact of the foreign currency exchange rate fluctuations on both its foreign subsidiary net investment and the related swap. Under this method, changes in the fair value of the hedging instrument other than those due to changes in the spot rate are initially recorded in AOCI as a translation adjustment, and then are amortized into other (income) expense, net in the condensed consolidated statement of operations using a systematic and rational method over the instrument's term. Changes in the fair value associated with the effective portion (i.e. those changes due to the spot rate) are recorded in AOCI as a translation adjustment and are released and recognized in earnings only upon the sale or liquidation of the hedged net investment. The cross-currency swap has an initial notional value of €197.4 million or $220.0 million and matures on November 15, 2021. Interest on the cross-currency swap is payable semi-annually, in Euro, on May 15th and November 15th of each year based on the Euro notional value and a fixed rate of 2.47%. The Company receives interest in U.S. dollars on May 15th and November 15th of each year based on the U.S. dollar equivalent of the Euro notional value and a fixed rate of 5.00%. On June 30, 2019, the fair value of the cross-currency swap was a loss of $4.8 million which was recorded in AOCI.

The Company does not expect any material net pre-tax gains or losses to be reclassified from accumulated other comprehensive loss into interest and other expense, net within the next twelve months.

Note 17: Fair Value Measurements

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash equivalents, derivatives, marketable securities and accounts receivable. The Company believes it had no significant concentrations of credit risk as of June 30, 2019.

The Company uses the market approach technique to value its financial instruments and there were no changes in valuation techniques during the six months ended June 30, 2019. The Company's financial assets and liabilities carried at fair value are primarily comprised of marketable securities, derivative contracts used to hedge the Company's currency risk, and acquisition-related contingent consideration. The Company has not elected to measure any additional financial instruments or other items at fair value.

Valuation Hierarchy: The following summarizes the three levels of inputs required to measure fair value. For Level 1 inputs, the Company utilizes quoted market prices as these instruments have active markets. For Level 2 inputs, the Company utilizes quoted market prices in markets that are not active, broker or dealer quotations, or utilizes alternative pricing sources with reasonable levels of price transparency. For Level 3 inputs, the Company utilizes unobservable inputs based on the best information available, including estimates by management primarily based on information provided by third-party fund managers, independent brokerage firms and insurance companies. A financial asset's or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible.

The following tables show the assets and liabilities carried at fair value measured on a recurring basis as of June 30, 2019 and December 30, 2018 classified in one of the three classifications described above:

		Fair Value Measurements at June 30, 2019 Using:		
	Total Carrying Value at June 30, 2019	**Quoted Prices in Active Markets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
		(In thousands)		
Marketable securities	$ 2,618	$ 2,618	$ —	$ —
Foreign exchange derivative assets	157	—	157	—
Foreign exchange derivative liabilities	(5,095)	—	(5,095)	—
Contingent consideration	(34,261)	—	—	(34,261)

	Total Carrying Value at December 30, 2018	Fair Value Measurements at December 30, 2018 Using: Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)			
Marketable securities	$ 2,447	$ 2,447	$ —	$ —
Foreign exchange derivative assets	750	—	750	—
Foreign exchange derivative liabilities	(594)	—	(594)	—
Contingent consideration	(69,661)	—	—	(69,661)

Level 1 and Level 2 Valuation Techniques: The Company's Level 1 and Level 2 assets and liabilities are comprised of investments in equity and fixed-income securities as well as derivative contracts. For financial assets and liabilities that utilize Level 1 and Level 2 inputs, the Company utilizes both direct and indirect observable price quotes, including common stock price quotes, foreign exchange forward prices and bank price quotes. Below is a summary of valuation techniques for Level 1 and Level 2 financial assets and liabilities.

Marketable securities: Include equity and fixed-income securities measured at fair value using the quoted market prices in active markets at the reporting date.

Foreign exchange derivative assets and liabilities: Include foreign exchange derivative contracts that are valued using quoted forward foreign exchange prices at the reporting date. The Company's foreign exchange derivative contracts are subject to master netting arrangements that allow the Company and its counterparties to net settle amounts owed to each other. Derivative assets and liabilities that can be net settled under these arrangements have been presented in the Company's condensed consolidated balance sheet on a net basis and are recorded in other assets. As of both June 30, 2019 and December 30, 2018, none of the master netting arrangements involved collateral.

Level 3 Valuation Techniques: The Company's Level 3 liabilities are comprised of contingent consideration related to acquisitions. For liabilities that utilize Level 3 inputs, the Company uses significant unobservable inputs. Below is a summary of valuation techniques for Level 3 liabilities.

Contingent consideration: Contingent consideration is measured at fair value at the acquisition date using projected milestone dates, discount rates, probabilities of success and projected revenues (for revenue-based considerations). Projected risk-adjusted contingent payments are discounted back to the current period using a discounted cash flow model.

During fiscal year 2015, the Company acquired certain assets and assumed certain liabilities from Vanadis Diagnostics AB. Under the terms of the acquisition, the initial purchase consideration was $32.0 million, net of cash and the Company will be obligated to make potential future milestone payments, based on completion of a proof of concept, regulatory approvals and product sales, of up to $93.0 million ranging from 2016 to 2019. The fair value of the contingent consideration as of the acquisition date was estimated at $56.9 million. During the second quarter of fiscal year 2019, the Company updated the fair value of the contingent consideration and recorded a liability of $28.6 million as of June 30, 2019. The key assumptions used to determine the fair value of the contingent consideration as of June 30, 2019 included projected milestone dates within 2019, discount rates ranging from 3.6% to 5.1%, conditional probabilities of success of each individual milestone ranging from 95% to 99% and cumulative probabilities of success for each individual milestone ranging from 94% to 99%. A significant delay in the product development (including projected regulatory milestone) achievement date in isolation could result in a significantly lower fair value measurement; a significant acceleration in the product development (including projected regulatory milestone) achievement date in isolation would not have a material impact on the fair value measurement; a significant change in the discount rate in isolation would not have a material impact on the fair value measurement; and a significant change in the probabilities of success in isolation could result in a significant change in fair value measurement.

During the six months ended June 30, 2019, the Company paid $38.5 million of contingent consideration, of which $23.7 million was included in financing activities and $14.8 million was included in operating activities in the consolidated statements of cash flows.

The fair values of contingent consideration are calculated on a quarterly basis based on a collaborative effort of the Company's regulatory, research and development, operations, finance and accounting groups, as appropriate. Potential valuation adjustments are made as additional information becomes available, including the progress towards achieving proof of concept, regulatory approvals and revenue targets as compared to initial projections, the impact of market competition and market landscape shifts from non-invasive prenatal testing products, with the impact of such adjustments being recorded in the Company's consolidated statements of operations.

As of June 30, 2019, the Company may have to pay contingent consideration, related to acquisitions with open contingency periods, of up to $38.0 million. The expected maximum earnout period for the acquisitions with open contingency periods does not exceed 1.3 years from June 30, 2019, and the remaining weighted average expected earnout period at June 30, 2019 was 0.6 years.

A reconciliation of the beginning and ending Level 3 net liabilities for contingent consideration is as follows:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
	(In thousands)			
Balance at beginning of period	$ (34,349)	$ (65,445)	$ (69,661)	$ (65,328)
Additions	—	(1,700)	—	(1,700)
Amounts paid and foreign currency translation	147	—	38,561	—
Change in fair value (included within selling, general and administrative expenses)	(59)	(6,948)	(3,161)	(7,065)
Balance at end of period	$ (34,261)	$ (74,093)	$ (34,261)	$ (74,093)

The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable and accrued expenses approximate fair value due to the short-term maturities of these assets and liabilities. If measured at fair value, cash and cash equivalents would be classified as Level 1.

As of June 30, 2019, the Company's senior unsecured revolving credit facility, which provides for $1.0 billion of revolving loans, had a carrying value of $686.7 million, net of $2.1 million of unamortized debt issuance costs. As of December 30, 2018, the Company's senior unsecured revolving credit facility had a carrying value of $415.6 million, net of $2.4 million of unamortized debt issuance costs. The interest rate on the Company's senior unsecured revolving credit facility is reset at least monthly to correspond to variable rates that reflect currently available terms and conditions for similar debt. The Company had no change in credit standing during the first six months of fiscal year 2019. Consequently, the carrying value approximates fair value and were classified as Level 2.

The Company's November 2021 Notes, with a face value of $500.0 million, had an aggregate carrying value of $497.7 million, net of $0.9 million of unamortized original issue discount and $1.3 million of unamortized debt issuance costs as of June 30, 2019. The November 2021 Notes had an aggregate carrying value of $497.4 million, net of $1.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs as of December 30, 2018. The November 2021 Notes had a fair value of $524.4 million and $516.1 million as of June 30, 2019 and December 30, 2018, respectively. The fair value of the November 2021 Notes is estimated using market quotes from brokers and is based on current rates offered for similar debt.

The Company's 2026 Notes, with a face value of €500.0 million, had an aggregate carrying value of $561.1 million, net of $3.8 million of unamortized original issue discount and $3.5 million of unamortized debt issuance costs as of June 30, 2019. The 2026 Notes had an aggregate carrying value of $564.5 million, net of $4.0 million of unamortized original issue discount and $3.8 million of unamortized debt issuance costs as of December 30, 2018. The 2026 Notes had a fair value of €518.8 million and €496.1 million as of June 30, 2019 and December 30, 2018, respectively. The fair value of the 2026 Notes is estimated using market quotes from brokers and is based on current rates offered for similar debt.

The Company's April 2021 Notes, with a face value of €300.0 million, had an aggregate carrying value of $339.4 million, net of $0.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs as of June 30, 2019. The April 2021 Notes had an aggregate carrying value of $341.3 million, net of $0.1 million of unamortized original issue discount and $2.0 million of unamortized debt issuance costs as of December 30, 2018. The April 2021 Notes had a fair value of €302.9 million and €300.5 million as of June 30, 2019 and December 30, 2018, respectively. The fair value of the April 2021 Notes is estimated using market quotes from brokers and is based on current rates offered for similar debt.

As of June 30, 2019, the April 2021 Notes, November 2021 Notes, and 2026 Notes were classified as Level 2.

The Company’s other debt facilities had an aggregate carrying value of $27.7 million and $38.2 million as of June 30, 2019 and December 30, 2018, respectively. As of June 30, 2019, these consisted of bank loans in the aggregate amount of $27.6 million bearing fixed interest rates between 1.1% and 5.0% and a bank loan in the amount of $0.1 million bearing a variable interest rate based on the Euribor rate plus a margin of 1.5%. The Company had no change in credit standing during the first six months of fiscal year 2019. Consequently, the carrying value approximates fair value and were classified as Level 2.

As of June 30, 2019, there has not been any significant impact to the fair value of the Company’s derivative liabilities due to credit risk. Similarly, there has not been any significant adverse impact to the Company’s derivative assets based on the evaluation of its counterparties’ credit risks.

Note 18: Leases

Changes in significant accounting policies

Except for the changes below, the Company consistently applied the accounting policies to all periods presented in these condensed consolidated financial statements.

The Company adopted ASC 842 with a date of initial application of December 31, 2018 ("transition date"). As a result, the Company has changed its accounting policy for leases as detailed below. The Company applied ASC 842 using the modified retrospective method and applied the new leases standard at transition date, with a cumulative effect adjustment recognized in the opening balance of retained earnings in fiscal year 2019. Therefore, the comparative information has not been adjusted and continues to be reported under ASC 840.

As a lessee, the Company recognized operating leases in the consolidated balance sheet under ASC 842. Operating leases are included in operating lease right-of-use (“ROU”) assets, other current liabilities, and operating lease liabilities in the Company's consolidated balance sheet. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities were recognized at the transition date based on the present value of the remaining lease payments over the lease term. As most of the Company's leases as of the transition date did not provide an implicit rate, the Company used its incremental borrowing rate based on the information available at transition date in determining the present value of lease payments. The Company used the implicit rate when readily determinable. The operating lease ROU asset excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

The Company has lease agreements with lease and non-lease components, which are generally accounted for separately. For certain equipment leases, such as cars, the Company accounts for the lease and non-lease components as a single lease component. Additionally, for certain equipment leases, the Company applies a portfolio approach to effectively account for the operating lease ROU assets and liabilities.

The Company has made an accounting policy election not to recognize ROU assets and lease liabilities that arise from short-term leases for facilities and equipment. Instead, the Company recognizes the lease payments in the consolidated statement of operations on a straight-line basis over the lease term and variable lease payments in the period in which the obligation for those payments is incurred.

As a lessor, the Company applies the practical expedient to not separate non-lease components from the associated lease component, instead to account for those components as a single component if the non-lease components otherwise would be accounted for under ASC 606, *Revenue From Contracts With Customers* (“ASC 606”), and both of the following criteria are met: 1) the timing and pattern of transfer of the non-lease component or components and associated lease component are the same; and 2) the lease component, if accounted for separately, would be classified as an operating lease. If the non-lease component or components associated with the lease component are the predominant component of the combined component, the Company accounts for the combined component in accordance with ASC 606. Otherwise, the Company accounts for the combined component as an operating lease in accordance with ASC 842.

Lessee Disclosures

The Company leases certain property and equipment under operating and finance leases. The Company's leases have remaining lease terms of less than 1 year to 41 years, some of which include options to extend the lease for up to 5 years, and some of which include options to terminate the lease within 1 year. Finance leases are not material to the Company.

The components of lease expense were as follows:

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
	(In thousands)	
Lease cost:		
Operating lease cost	$ 16,375	29,920

Supplemental cash flow information related to leases was as follows:

	Three Months Ended June 30, 2019	Six Months Ended June 30, 2019
	(In thousands)	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 13,390	24,725

Supplemental balance sheet information related to leases was as follows:

	June 30, 2019
	(In thousands, except lease term and discount rate)
Operating Leases:	
Operating lease right-of-use assets	$ 187,934
Accrued expenses and other current liabilities	$ 40,286
Operating lease liabilities	164,011
Total operating liabilities	$ 204,297
Weighted Average Remaining Lease Term in Years	
Operating leases	7.6
Weighted Average Remaining Discount Rate	
Operating leases	3.3%

Maturities of lease liabilities as of June 30, 2019 were as follows:

	Operating Leases (In thousands)
2019	$ 25,103
2020	43,706
2021	36,376
2022	25,315
2023	20,073
2024	17,954
2025 and thereafter	65,823
Total lease payments	234,350
Less imputed interest	(30,053)
Total	$ 204,297

Under ASC 840, minimum rental commitments under noncancelable operating leases as of December 30, 2018 were as follows: $56.4 million in fiscal year 2019, $46.6 million in fiscal year 2020, $33.5 million in fiscal year 2021, $22.1 million in fiscal year 2022, $15.6 million in fiscal year 2023 and $67.6 million in fiscal year 2024 and thereafter.

Lessor Disclosures

Certain of the Company's contracts require that it places its instrument at the customer's site and sells reagents to the customer. As the predominant component in these contracts with customers are the sales of reagents and when both of the criteria above are met, the Company accounts for the combined component under ASC 606. When one of the criteria above are not met, the Company accounts for the non-lease component under ASC 606 and the lease component under ASC 842. Profit or loss, interest income and aggregate net investment in sales-type leases that did not qualify for the practical expedient are not material to the Company.

Note 19: Contingencies

The Company is conducting a number of environmental investigations and remedial actions at current and former locations of the Company and, along with other companies, has been named a potentially responsible party (“PRP”) for certain waste disposal sites. The Company accrues for environmental issues in the accounting period that the Company’s responsibility is established and when the cost can be reasonably estimated. The Company has accrued $8.5 million and $7.9 million as of June 30, 2019 and December 30, 2018, respectively, which represents its management’s estimate of the cost of the remediation of known environmental matters, and does not include any potential liability for related personal injury or property damage claims. These amounts were included in accrued expenses and other current liabilities. The Company's environmental accrual is not discounted and does not reflect the recovery of any material amounts through insurance or indemnification arrangements. The cost estimates are subject to a number of variables, including the stage of the environmental investigations, the magnitude of the possible contamination, the nature of the potential remedies, possible joint and several liability, the time period over which remediation may occur, and the possible effects of changing laws and regulations. For sites where the Company has been named a PRP, management does not currently anticipate any additional liability to result from the inability of other significant named parties to contribute. The Company expects that the majority of such accrued amounts could be paid out over a period of up to ten years. As assessment and remediation activities progress at each individual site, these liabilities are reviewed and adjusted to reflect additional information as it becomes available. There have been no environmental problems to date that have had, or are expected to have, a material adverse effect on the Company’s condensed consolidated financial statements. While it is possible that a loss exceeding the amounts recorded in the condensed consolidated financial statements may be incurred, the potential exposure is not expected to be materially different from those amounts recorded.

The Company is subject to various claims, legal proceedings and investigations covering a wide range of matters that arise in the ordinary course of its business activities. Although the Company has established accruals for potential losses that it believes are probable and reasonably estimable, in the opinion of the Company’s management, based on its review of the information available at this time, the total cost of resolving these contingencies at June 30, 2019 would not have a material adverse effect on the Company’s condensed consolidated financial statements. However, each of these matters is subject to uncertainties, and it is possible that some of these matters may be resolved unfavorably to the Company.

Item 2. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

This quarterly report on Form 10-Q, including the following management's discussion and analysis, contains forward-looking information that you should read in conjunction with the condensed consolidated financial statements and notes to the condensed consolidated financial statements that we have included elsewhere in this report. For this purpose, any statements contained in this report that are not statements of historical fact may be deemed to be forward-looking statements. Words such as "believes," "plans," "anticipates," "intends," "expects," "will" and similar expressions are intended to identify forward-looking statements. Our actual results may differ materially from the plans, intentions or expectations we disclose in the forward-looking statements we make. We have included important factors below under the heading "Risk Factors" in Part II, Item 1A. that we believe could cause actual results to differ materially from the forward-looking statements we make. We are not obligated to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

Overview

We are a leading provider of products, services and solutions for the diagnostics, life sciences and applied markets. Through our advanced technologies and differentiated solutions, we address critical issues that help to improve lives and the world around us.

The principal products and services of our two operating segments are:

- *Discovery & Analytical Solutions*. Provides products and services targeted towards the life sciences and applied markets.
- *Diagnostics*. Develops diagnostics, tools and applications focused on clinically-oriented customers, especially within the reproductive health, immunodiagnostics and applied genomics markets. The Diagnostics segment serves the diagnostics market.

Overview of the Second Quarter of Fiscal Year 2019

Our fiscal year ends on the Sunday nearest December 31. We report fiscal years under a 52/53 week format and as a result, certain fiscal years will contain 53 weeks. The fiscal year ending December 29, 2019 ("fiscal year 2019") will include 52 weeks, and the fiscal year ended December 30, 2018 ("fiscal year 2018") included 52 weeks.

Our overall revenue in the second quarter of fiscal year 2019 was $722.5 million and increased $19.2 million, or 3%, as compared to the second quarter of fiscal year 2018, reflecting an increase of $15.8 million, or 6%, in our Diagnostics segment revenue and an increase of $3.3 million, or 1%, in our Discovery & Analytical Solutions segment revenue. The increase in our Diagnostics segment revenue for the second quarter of fiscal year 2019 was driven by broad based growth across our reproductive health, immunodiagnostics businesses and applied genomics businesses partially offset by unfavorable changes in foreign exchange rates. The increase in our Discovery & Analytical Solutions segment revenue for the second quarter of fiscal year 2019 was driven by an increase in our life sciences market revenue partially offset by a decrease in our applied markets revenue and unfavorable changes in foreign exchange rates.

In our Diagnostics segment, we experienced growth in reproductive health that was primarily driven by our genomic testing business. Our immunodiagnostics business grew from strong performance from EUROIMMUN. We experienced a solid performance in our applied genomics businesses that was primarily driven by an increase in revenue from single cell genomics.

In our Discovery & Analytical Solutions segment, we had an increase in revenue for the second quarter of fiscal year 2019 as compared to the second quarter of fiscal year 2018, primarily driven by an increase in our life sciences market revenue partially offset by a decrease in our applied markets revenue. The increase in our life sciences market revenue was the result of an increase in revenue in our pharma and biotech markets driven by continued growth of our discovery and OneSource businesses which was partially offset by a decrease in our academic and government market revenue driven by the timing of various service offerings. The decrease in our applied markets revenue was driven by a decrease in revenue from our industrial, environmental and safety markets partially offset by an increase in revenue from our food market.

Our consolidated gross margins decreased 22 basis points in the second quarter of fiscal year 2019, as compared to the second quarter of fiscal year 2018, primarily due to an unfavorable shift in product mix and increased amortization expense partially offset by improved manufacturing productivity. Our consolidated operating margins increased 18 basis points in the second quarter of fiscal year 2019, as compared to the second quarter of fiscal year 2018, primarily driven by improved operating expense leverage.

We continue to believe that we are well positioned to take advantage of the spending trends in our end markets and to promote efficiencies in markets where current conditions may increase demand for certain services. Overall, we believe that our strategic focus on Diagnostics and Discovery and Analytical Solutions markets, coupled with our deep portfolio of technologies and applications, leading market positions, global scale and financial strength will provide us with a foundation for growth.

Critical Accounting Policies and Estimates

The preparation of condensed consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, warranty costs, bad debts, inventories, accounting for business combinations and dispositions, long-lived assets, income taxes, restructuring, pensions and other postretirement benefits, contingencies and litigation. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Critical accounting policies are those policies that affect our more significant judgments and estimates used in the preparation of our condensed consolidated financial statements. We believe our critical accounting policies include our policies regarding revenue recognition, warranty costs, allowances for doubtful accounts, inventory valuation, business combinations, value of long-lived assets, including goodwill and other intangibles, employee compensation and benefits, restructuring activities, gains or losses on dispositions and income taxes.

We adopted Accounting Standards Codification 842, *Leases* ("ASC 842") on December 31, 2018. As a result, we changed our accounting policy for leases as detailed in Note 18, *Leases,* in the Notes to Condensed Consolidated Financial Statements. For a more detailed discussion of our critical accounting policies and estimates, other than the changes in lease accounting, refer to the Notes to our audited consolidated financial statements 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 fiscal year ended December 30, 2018 (our "2018 Form 10-K"), as filed with the Securities and Exchange Commission (the "SEC"). There have been no significant changes in our critical accounting policies and estimates during the six months ended June 30, 2019, other than the changes in lease accounting mentioned above.

Consolidated Results of Continuing Operations

Revenue

Revenue for the three months ended June 30, 2019 was $722.5 million, as compared to $703.4 million for the three months ended July 1, 2018, an increase of $19.2 million, or 3%, which includes an approximate 1% increase in revenue attributable to acquisitions and divestitures and a 3% decrease in revenue attributable to unfavorable changes in foreign exchange rates. The analysis in the remainder of this paragraph compares segment revenue for the three months ended June 30, 2019 as compared to the three months ended July 1, 2018 and includes the effect of foreign exchange rate fluctuations, acquisitions and divestitures. Our Discovery & Analytical Solutions segment revenue was $434.0 million for the three months ended June 30, 2019, as compared to $430.6 million for the three months ended July 1, 2018, an increase of $3.3 million, or 1%, primarily due to an increase of $8.0 million from our life sciences market revenue partially offset by a decrease of $4.6 million from our applied markets revenue. Our Diagnostics segment revenue was $288.6 million for the three months ended June 30, 2019, as compared to $272.7 million for the three months ended July 1, 2018, an increase of $15.8 million, or 6%, due to broad based growth across our reproductive health, immunodiagnostics businesses and applied genomics businesses. As a result of adjustments to deferred revenue related to certain acquisitions required by business combination accounting rules, we did not recognize $0.2 million of revenue for each of the three months ended June 30, 2019 and July 1, 2018 that otherwise would have been recorded by the acquired businesses during each of the respective periods.

Revenue for the six months ended June 30, 2019 was $1,371.3 million, as compared to $1,347.3 million for the six months ended July 1, 2018, an increase of $23.9 million, or 2%, which includes an approximate 3% decrease in revenue attributable to unfavorable changes in foreign exchange rates. The analysis in the remainder of this paragraph compares segment revenue for the six months ended June 30, 2019 as compared to the six months ended July 1, 2018 and includes the effect of foreign exchange rate fluctuations, acquisitions and divestitures. Our Discovery & Analytical Solutions segment revenue was $822.8 million for the six months ended June 30, 2019, as compared to $827.2 million for the six months ended July 1, 2018, a decrease of $4.4 million, or 1%, primarily due to a decrease of $10.0 million from our applied markets revenue partially offset by an increase of $5.6 million from our life sciences market revenue. Our Diagnostics segment revenue was $548.5 million for the six months ended June 30, 2019, as compared to $520.2 million for the six months ended July 1, 2018, an increase of $28.3 million, or 5%, due to broad based growth across our reproductive health, immunodiagnostics businesses and applied genomics businesses. As a result of adjustments to deferred revenue related to certain acquisitions required by business combination accounting rules, we did not recognize $0.4 million of revenue for each of the six months ended June 30, 2019 and July 1, 2018 that otherwise would have been recorded by the acquired businesses during each of the respective periods.

Cost of Revenue

Cost of revenue for the three months ended June 30, 2019 was $374.7 million, as compared to $363.2 million for the three months ended July 1, 2018, an increase of $11.5 million, or 3%. As a percentage of revenue, cost of revenue increased to 51.9% for the three months ended June 30, 2019, from 51.6% for the three months ended July 1, 2018, resulting in a decrease in gross margin of 22 basis points to 48.1% for the three months ended June 30, 2019, from 48.4% for the three months ended July 1, 2018. Amortization of intangible assets increased and was $15.6 million for the three months ended June 30, 2019, as compared to $11.6 million for the three months ended July 1, 2018. Stock-based compensation expense was $0.4 million for each of the three months ended June 30, 2019 and July 1, 2018. The amortization of purchase accounting adjustments to record the inventory from certain acquisitions added an incremental expense of $5.3 million for the three months ended June 30, 2019 as compared to $9.0 million for the three months ended July 1, 2018. In addition to the above items, the overall decrease in gross margin was primarily the result of an unfavorable shift in product mix and increased amortization expense partially offset by improved manufacturing productivity.

Cost of revenue for the six months ended June 30, 2019 was $715.7 million, as compared to $715.0 million for the six months ended July 1, 2018, an increase of $0.7 million, or 0.1%. As a percentage of revenue, cost of revenue decreased to 52.2% for the six months ended June 30, 2019, from 53.1% for the six months ended July 1, 2018, resulting in an increase in gross margin of 88 basis points to 47.8% for the six months ended June 30, 2019, from 46.9% for the six months ended July 1, 2018. Amortization of intangible assets increased and was $30.4 million for the six months ended June 30, 2019, as compared to $23.3 million for the six months ended July 1, 2018. Stock-based compensation expense was $0.7 million for each of the six months ended June 30, 2019 and July 1, 2018. The amortization of purchase accounting adjustments to record the inventory from certain acquisitions added an incremental expense of $5.6 million for the six months ended June 30, 2019 as compared to $18.2 million for the six months ended July 1, 2018. In addition to the above items, the overall increase in gross margin was primarily the result of improved manufacturing productivity partially offset by an unfavorable shift in product mix.

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the three months ended June 30, 2019 were $201.6 million, as compared to $204.9 million for the three months ended July 1, 2018, a decrease of $3.3 million, or 1.6%. As a percentage of revenue, selling, general and administrative expenses decreased and were 27.9% for the three months ended June 30, 2019, as compared to 29.1% for the three months ended July 1, 2018. Amortization of intangible assets increased and was $25.6 million for the three months ended June 30, 2019, as compared to $20.9 million for the three months ended July 1, 2018. Stock-based compensation expense was $6.0 million for the three months ended June 30, 2019 as compared to $6.1 million for the three months ended July 1, 2018. Other purchase accounting adjustments added an incremental expense of $0.1 million for the three months ended June 30, 2019, as compared to $7.0 million for the three months ended July 1, 2018. Acquisition and divestiture-related expenses added an incremental expense of $0.9 million for the three months ended June 30, 2019, as compared to $1.6 million for the three months ended July 1, 2018. Legal costs for significant litigation matters were $0.4 million for the three months ended June 30, 2019, as compared to a net reversal of legal costs of $0.1 million for the three months ended July 1, 2018. In addition to the above items, the decrease in selling, general and administrative expenses was primarily the result of cost containment and productivity initiatives.

Selling, general and administrative expenses for the six months ended June 30, 2019 were $400.4 million, as compared to $404.6 million for the six months ended July 1, 2018, a decrease of $4.2 million, or 1.0%. As a percentage of revenue, selling, general and administrative expenses decreased and were 29.2% for the six months ended June 30, 2019, as compared to 30.0% for the six months ended July 1, 2018. Amortization of intangible assets increased and was $49.5 million for the six months ended June 30, 2019, as compared to $42.0 million for the six months ended July 1, 2018. Stock-based compensation expense was $11.5 million for the six months ended June 30, 2019 as compared to $10.8 million for the six months ended July 1, 2018. Other purchase accounting adjustments added an incremental expense of $3.2 million for the six months ended June 30, 2019, as compared to $7.1 million for the six months ended July 1, 2018. Acquisition and divestiture-related expenses added an incremental expense of $2.4 million for the six months ended June 30, 2019, as compared to $4.2 million for the six months ended July 1, 2018. Legal costs for significant litigation matters were $0.8 million for the six months ended June 30, 2019, as compared to $4.2 million for the six months ended July 1, 2018. In addition to the above items, the decrease in selling, general and administrative expenses was primarily the result of cost containment and productivity initiatives.

Research and Development Expenses

Research and development expenses for the three months ended June 30, 2019 were $48.3 million, as compared to $47.2 million for the three months ended July 1, 2018, an increase of $1.1 million, or 2%. As a percentage of revenue, research and development expenses were flat and were 6.7% for each of the three months ended June 30, 2019 and July 1, 2018. Amortization of intangible assets was minimal for each of the three months ended June 30, 2019 and July 1, 2018. Stock-based compensation expense was $0.3 million for the three months ended June 30, 2019 as compared to $0.4 million for the three months ended July 1, 2018. The increase in research and development expenses was the result of continued investments in new product development.

Research and development expenses for the six months ended June 30, 2019 were $96.3 million, as compared to $93.2 million for the six months ended July 1, 2018, an increase of $3.1 million, or 3%. As a percentage of revenue, research and development expenses increased and were 7.0% for the six months ended June 30, 2019, as compared to 6.9% for the six months ended July 1, 2018. Amortization of intangible assets was minimal for each of the six months ended June 30, 2019 and July 1, 2018. Stock-based compensation expense was $0.6 million for the six months ended June 30, 2019 as compared to $0.7 million for the six months ended July 1, 2018. The increase in research and development expenses was primarily the result of investments in new product development.

Restructuring and Contract Termination Charges, Net

We have undertaken a series of restructuring actions related to the impact of acquisitions and divestitures, the alignment of our operations with our growth strategy, the integration of our business units and our productivity initiatives. The current portion of restructuring and contract termination charges is recorded in accrued restructuring and contract termination charges and the long-term portion of restructuring and contract termination charges is recorded in long-term liabilities. The activities associated with these plans have been reported as restructuring and contract termination charges, net, as applicable, and are included as a component of income from continuing operations.

We implemented a restructuring plan in the second quarter of fiscal year 2019 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q2 2019 Plan").We implemented a restructuring plan in the first quarter of fiscal year 2019 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q1 2019 Plan"). We implemented a restructuring plan in each of the first, third and fourth quarters of fiscal year 2018 consisting of workforce reductions principally intended to realign resources to emphasize growth initiatives (the "Q1 2018 Plan", "Q3 2018 Plan" and "Q4 2018 Plan", respectively). Details of the plans initiated in previous years (the “Previous Plans”) are discussed more fully in Note 6 to the audited consolidated financial statements in the 2018 Form 10-K.

The following table summarizes the reductions in headcount, the initial restructuring or contract termination charges by operating segment, and the dates by which payments were substantially completed, or the dates by which payments are expected to be substantially completed, for restructuring actions implemented during fiscal years 2019 and 2018 in continuing operations:

	Workforce Reductions				(Expected) Date Payments Substantially Completed by
	Headcount Reduction	Discovery & Analytical Solutions	Diagnostics	Total	Severance
	(In thousands, except headcount data)				
Q2 2019 Plan	44	$ 4,461	$ 1,129	$ 5,590	Q1 FY2020
Q1 2019 Plan	105	6,001	1,459	7,460	Q4 FY2019
Q4 2018 Plan	1	348	—	348	Q1 FY2019
Q3 2018 Plan	61	1,146	618	1,764	Q4 FY2019
Q1 2018 Plan	47	5,096	902	5,998	Q4 FY2019

We do not currently expect to incur any future charges for these plans. We expect to make payments under the Previous Plans for remaining residual lease obligations, with terms varying in length, through fiscal year 2022.

In connection with the termination of various contractual commitments, we recorded additional pre-tax charges of $0.2 million and $0.3 million during the three and six months ended June 30, 2019, respectively, in the Discovery & Analytical

Solutions segment. In connection with the termination of various contractual commitments, we recorded additional pre-tax charges of $0.2 million during each of the three and six months ended June 30, 2019, respectively, in the Diagnostics segment.

At June 30, 2019, we had $12.3 million recorded for accrued restructuring and contract termination charges, of which $11.0 million was recorded in short-term accrued restructuring and contract termination charges and $1.3 million was recorded in operating lease liabilities. At December 30, 2018, we had $6.2 million recorded for accrued restructuring and contract termination charges, of which $4.8 million was recorded in short-term accrued restructuring and contract termination charges, and $1.4 million was recorded in long-term liabilities. The following table summarizes our restructuring and contract termination accrual balances and related activity by restructuring plan, as well as contract termination accrual balances and related activity, during the six months ended June 30, 2019:

	Balance at December 30, 2018	2019 Charges	2019 Changes in Estimates, Net	2019 Amounts Paid	Balance at June 30, 2019
			(In thousands)		
Severance:					
Q2 2019 Plan	$ —	$ 5,590	$ —	$ (590)	$ 5,000
Q1 2019 Plan	—	7,460	23	(3,940)	3,543
Q4 2018 Plan	348	—	—	(348)	—
Q3 2018 Plan	1,415	—	275	(1,196)	494
Q1 2018 Plan	1,609	—	—	(282)	1,327
Previous Plans	2,671	—	—	(941)	1,730
Restructuring	6,043	13,050 —	298	(7,297)	12,094
Contract Termination	137	402	50	(401)	188
Total Restructuring and Contract Termination	$ 6,180	$ 13,452	$ 348	$ (7,698)	$ 12,282

Interest and Other Expense, Net

Interest and other expense, net, consisted of the following:

	Three Months Ended		Six Months Ended	
	June 30, 2019	July 1, 2018	June 30, 2019	July 1, 2018
		(In thousands)		
Interest income	$ (350)	$ (173)	$ (633)	$ (438)
Interest expense	17,207	16,411	33,057	34,061
Loss on disposition of businesses and assets, net	336	—	2,469	—
Other expense (income), net	2,715	118	1,580	(5,837)
Total interest and other expense, net	$ 19,908	$ 16,356	$ 36,473	$ 27,786

Interest and other expense, net, for the three months ended June 30, 2019 was an expense of $19.9 million, as compared to an expense of $16.4 million for the three months ended July 1, 2018, an increase of $3.6 million. The increase in interest and other expense, net, for the three months ended June 30, 2019, as compared to the three months ended July 1, 2018, was primarily due to an increase in other expense, net by $2.6 million, which consisted primarily of acquisition-related foreign currency transactions, translation of non-functional currency assets and liabilities and fluctuation of the pension cost adjustment. In addition, interest expense increased by $0.8 million due to increased borrowing under our revolving credit facility to support acquisition transactions in the second quarter of fiscal year 2019, which was partially offset by a reduction in expense from the cross-currency swap transaction we entered into in the second quarter of fiscal year 2019. The other components of net periodic pension credit were $1.5 million and $2.5 million for the three months ended June 30, 2019 and July 1, 2018, respectively. These amounts were included in other income, net.

Interest and other expense, net, for the six months ended June 30, 2019 was an expense of $36.5 million, as compared to an expense of $27.8 million for the six months ended July 1, 2018, an increase of $8.7 million. The increase in interest and other expense, net, for the six months ended June 30, 2019, as compared to the six months ended July 1, 2018, was primarily due to an increase in other expense, net by $7.4 million. The increase in other expense consisted primarily of changes to gains and expenses related to foreign currency transactions, translation of non-functional currency assets and liabilities and pension cost adjustment, and loss on disposition of businesses and assets, resulting in a net increase in other expense of $2.5 million. These were partially offset by a decrease in interest expense by $1.0 million due to the issuance of the April 2021 Notes in the second quarter of 2018 at a lower coupon than the term loan which they replaced. The other components of net periodic pension credit were $2.9 million and $5.0 million for the six months ended June 30, 2019 and July 1, 2018, respectively. These amounts were included in other expense (income), net. A more complete discussion of our liquidity is set forth below under the heading "Liquidity and Capital Resources."

Provision for Income Taxes

For the three months ended June 30, 2019, the provision for income taxes from continuing operations was $2.7 million, as compared to $7.0 million for the three months ended July 1, 2018. For the six months ended June 30, 2019, the provision for income taxes from continuing operations was $4.0 million, as compared to $9.5 million for the six months ended July 1, 2018.

The effective tax rate from continuing operations was 3.7% and 3.7% for the three and six months ended June 30, 2019, respectively, as compared to 9.8% and 9.5% for the three and six months ended July 1, 2018, respectively. The lower effective tax rate during the three months ended June 30, 2019, as compared to the three months ended July 1, 2018, was due to certain lower tax rate jurisdictions projected to have higher income in fiscal year 2019 as compared to fiscal year 2018, augmented by higher tax benefits related to discrete items. The discrete items were $5.2 million for the three months ended June 30, 2019, as compared to $0.2 million for the three months ended July 1, 2018. The lower effective tax rate during the six months ended June 30, 2019, as compared to the six months ended July 1, 2018, was due to certain lower tax rate jurisdictions projected to have higher income in fiscal year 2019 as compared to fiscal year 2018, along with higher tax benefits related to discrete items. The discrete items were $9.2 million for the six months ended June 30, 2019, as compared to $1.6 million for the six months ended July 1, 2018.

Contingencies, Including Tax Matters

We are conducting a number of environmental investigations and remedial actions at our current and former locations and, along with other companies, have been named a potentially responsible party ("PRP") for certain waste disposal sites. We accrue for environmental issues in the accounting period that our responsibility is established and when the cost can be reasonably estimated. We have accrued $8.5 million and $7.9 million as of June 30, 2019 and December 30, 2018, respectively, which represents our management's estimate of the cost of the remediation of known environmental matters, and does not include any potential liability for related personal injury or property damage claims. These amounts were included in accrued expenses and other current liabilities. Our environmental accrual is not discounted and does not reflect the recovery of any material amounts through insurance or indemnification arrangements. The cost estimates are subject to a number of variables, including the stage of the environmental investigations, the magnitude of the possible contamination, the nature of the potential remedies, possible joint and several liability, the time period over which remediation may occur, and the possible effects of changing laws and regulations. For sites where we have been named a PRP, our management does not currently anticipate any additional liability to result from the inability of other significant named parties to contribute. We expect that the majority of such accrued amounts could be paid out over a period of up to ten years. As assessment and remediation activities progress at each individual site, these liabilities are reviewed and adjusted to reflect additional information as it becomes available. There have been no environmental problems to date that have had, or are expected to have, a material adverse effect on our condensed consolidated financial statements. While it is possible that a loss exceeding the amounts recorded in the condensed consolidated financial statements may be incurred, the potential exposure is not expected to be materially different from those amounts recorded.

Various tax years after 2009 remain open to examination by certain jurisdictions in which we have significant business operations, such as Finland, Germany, Italy, Netherlands, Singapore, the United Kingdom and the United States. The tax years under examination vary by jurisdiction. We regularly review our tax positions in each significant taxing jurisdiction in the process of evaluating our unrecognized tax benefits. We make adjustments to our unrecognized tax benefits when: (i) facts and circumstances regarding a tax position change, causing a change in management's judgment regarding that tax position; (ii) a tax position is effectively settled with a tax authority; and/or (iii) the statute of limitations expires regarding a tax position.

We are subject to various claims, legal proceedings and investigations covering a wide range of matters that arise in the ordinary course of our business activities. Although we have established accruals for potential losses that we believe are probable and reasonably estimable, in our opinion, based on our review of the information available at this time, the total cost of resolving these contingencies at June 30, 2019 would not have a material adverse effect on our condensed consolidated financial statements. However, each of these matters is subject to uncertainties, and it is possible that some of these matters may be resolved unfavorably to us.

Reporting Segment Results of Continuing Operations

Discovery & Analytical Solutions

Revenue for the three months ended June 30, 2019 was $434.0 million, as compared to $430.6 million for the three months ended July 1, 2018, an increase of $3.3 million, or 1%, which includes an approximate 1% increase in revenue attributable to acquisitions and divestitures and a 3% decrease in revenue attributable to unfavorable changes in foreign exchange rates. The analysis in the remainder of this paragraph compares selected revenue by end market for the three months ended June 30, 2019, as compared to the three months ended July 1, 2018, and includes the effect of foreign exchange fluctuations, acquisitions and divestitures. The increase in revenue in our Discovery & Analytical Solutions segment was primarily driven by an increase in our life sciences market revenue partially offset by a decrease in our applied markets revenue and unfavorable changes in foreign exchange rates. The increase in our life sciences market revenue was the result of an increase in revenue in our pharma and biotech markets driven by continued growth of our discovery and OneSource businesses, which was partially offset by a decrease in our academic and government market revenue driven by the timing of various service offerings. The decrease in our applied markets revenue was driven by a decrease in revenue from our industrial, environmental and safety markets partially offset by an increase in revenue from our food market.

Revenue for the six months ended June 30, 2019 was $822.8 million, as compared to $827.2 million for the six months ended July 1, 2018, a decrease of $4.4 million, or 1%, which includes an approximate 3% decrease in revenue attributable to unfavorable changes in foreign exchange rates. The analysis in the remainder of this paragraph compares selected revenue by end market for the six months ended June 30, 2019, as compared to the six months ended July 1, 2018, and includes the effect of foreign exchange fluctuations, acquisitions and divestitures. The decrease in revenue in our Discovery & Analytical Solutions segment was primarily driven by unfavorable changes in foreign exchange rates, as well as a decrease in our applied markets revenue partially offset by an increase in our life sciences market revenue. The decrease in our applied markets revenue was driven by a decrease in revenue from our industrial, food and environmental and safety markets. The increase in our life sciences market revenue was the result of an increase in revenue in our pharma and biotech markets driven by continued growth in our discovery and OneSource businesses partially offset by a decrease in our academic and government market revenue driven by the timing of various service offerings.

Operating income from continuing operations for the three months ended June 30, 2019 was $57.7 million, as compared to $64.7 million for the three months ended July 1, 2018, a decrease of $7.0 million, or 11%. Amortization of intangible assets was $13.1 million for the three months ended June 30, 2019, as compared to $11.5 million for the three months ended July 1, 2018. Restructuring and contract termination charges, net, were $4.8 million for the three months ended June 30, 2019, as compared to zero for the three months ended July 1, 2018. Acquisition and divestiture-related expenses, contingent consideration and other costs added an incremental expense of $5.4 million for the three months ended June 30, 2019, and were minimal for the three months ended July 1, 2018. Legal costs for significant litigation matters were $0.4 million for the three months ended June 30, 2019, as compared to $0.2 million for the three months ended July 1, 2018. In addition to the factors noted above, operating income decreased for the three months ended June 30, 2019, as compared to the three months ended July 1, 2018, primarily the result of an unfavorable shift in product mix and higher costs in research and development expenses partially offset by higher sales volume and stronger productivity through our supply chain initiatives.

Operating income from continuing operations for the six months ended June 30, 2019 was $94.6 million, as compared to $100.9 million for the six months ended July 1, 2018, a decrease of $6.2 million, or 6%. Amortization of intangible assets was $23.4 million for the six months ended June 30, 2019, as compared to $23.2 million for the six months ended July 1, 2018. Restructuring and contract termination charges, net, were $11.0 million for the six months ended June 30, 2019, as compared to $5.7 million for the six months ended July 1, 2018. Acquisition and divestiture-related expenses, contingent consideration and other costs added an incremental expense of $6.0 million for the six months ended June 30, 2019, as compared to $0.1 million for the six months ended July 1, 2018. Legal costs for significant litigation matters were $0.8 million for the six months ended June 30, 2019, as compared to $4.4 million for the six months ended July 1, 2018. In addition to the factors noted above, operating income decreased for the six months ended June 30, 2019, as compared to the six months ended July 1, 2018, primarily the result of an unfavorable shift in product mix and higher costs in research and development expenses partially offset by higher sales volume and stronger productivity through our supply chain initiatives.

Diagnostics

Revenue for the three months ended June 30, 2019 was $288.6 million, as compared to $272.7 million for the three months ended July 1, 2018, an increase of $15.8 million, or 6%, which includes an approximate 3% decrease in revenue attributable to unfavorable changes in foreign exchange rates. As a result of adjustments to deferred revenue related to certain acquisitions required by business combination accounting rules, we did not recognize $0.2 million of revenue in our

Diagnostics segment for each of the three months ended June 30, 2019 and July 1, 2018 that otherwise would have been recorded by the acquired businesses during each of the respective periods. The increase in our Diagnostics segment revenue for the three months ended June 30, 2019 was driven by broad based growth across our reproductive health, immunodiagnostics businesses and applied genomics businesses, partially offset by unfavorable changes in foreign exchange rates.

Revenue for the six months ended June 30, 2019 was $548.5 million, as compared to $520.2 million for the six months ended July 1, 2018, an increase of $28.3 million, or 5%, which includes an approximate 4% decrease in revenue attributable to unfavorable changes in foreign exchange rates. As a result of adjustments to deferred revenue related to certain acquisitions required by business combination accounting rules, we did not recognize $0.4 million of revenue in our Diagnostics segment for each of the six months ended June 30, 2019 and July 1, 2018 that otherwise would have been recorded by the acquired businesses during each of the respective periods. The increase in our Diagnostics segment revenue for the six months ended June 30, 2019 was driven by broad based growth across our reproductive health, immunodiagnostics businesses and applied genomics businesses, partially offset by unfavorable changes in foreign exchange rates.

Operating income from continuing operations for the three months ended June 30, 2019 was $49.3 million, as compared to $38.8 million for the three months ended July 1, 2018, an increase of $10.5 million, or 27%. Amortization of intangible assets increased and was $28.1 million for the three months ended June 30, 2019, as compared to $21.0 million for the three months ended July 1, 2018. Restructuring and contract termination charges, net, were $1.3 million for the three months ended June 30, 2019, as compared to zero for the three months ended July 1, 2018. Acquisition and divestiture-related expenses, contingent consideration and other costs added an incremental expense of $1.0 million for the three months ended June 30, 2019, as compared to $8.8 million for the three months ended July 1, 2018. The amortization of purchase accounting adjustments to record the inventory from certain acquisitions was zero for the three months ended June 30, 2019, as compared to $9.0 million for the three months ended July 1, 2018. Legal costs for significant litigation matters were zero for the three months ended June 30, 2019, as compared to a net reversal of legal costs of $0.3 million for the three months ended July 1, 2018. In addition to the factors noted above, operating income increased for the three months ended June 30, 2019, as compared to the three months ended July 1, 2018, primarily the result of higher sales volume and stronger productivity through our cost curtailment and supply chain initiatives which were partially offset by an unfavorable product mix.

Operating income from continuing operations for the six months ended June 30, 2019 was $80.7 million, as compared to $57.2 million for the six months ended July 1, 2018, an increase of $23.6 million, or 41%. Amortization of intangible assets increased and was $56.5 million for the six months ended June 30, 2019, as compared to $42.2 million for the six months ended July 1, 2018. Restructuring and contract termination charges, net, were $2.8 million for the six months ended June 30, 2019, as compared to $0.9 million for the six months ended July 1, 2018. Acquisition and divestiture-related expenses, contingent consideration and other costs added an incremental expense of $5.3 million for the six months ended June 30, 2019, as compared to $11.6 million for the six months ended July 1, 2018. The amortization of purchase accounting adjustments to record the inventory from certain acquisitions was $0.3 million for the six months ended June 30, 2019, as compared to $18.2 million for the six months ended July 1, 2018. Legal costs for significant litigation matters were zero for the six months ended June 30, 2019, as compared to a net reversal of legal costs of $0.2 million for the six months ended July 1, 2018. In addition to the factors noted above, operating income increased for the six months ended June 30, 2019, as compared to the six months ended July 1, 2018, primarily the result of higher sales volume and stronger productivity through our cost curtailment and supply chain initiatives which were partially offset by an unfavorable product mix.

Liquidity and Capital Resources

We require cash to pay our operating expenses, make capital expenditures, make strategic acquisitions, service our debt and other long-term liabilities, repurchase shares of our common stock and pay dividends on our common stock. Our principal sources of funds are from our operations and the capital markets, particularly the debt markets. We anticipate that our internal operations will generate sufficient cash to fund our operating expenses, capital expenditures, smaller acquisitions, interest payments on our debt and dividends on our common stock. However, we expect to use external sources to satisfy the balance of our debt when due and fund any larger acquisitions and other long-term liabilities, such as contributions to our postretirement benefit plans.

Principal factors that could affect the availability of our internally generated funds include:

- changes in sales due to weakness in markets in which we sell our products and services, and
- changes in our working capital requirements and capital expenditures.

Principal factors that could affect our ability to obtain cash from external sources include:

- financial covenants contained in the financial instruments controlling our borrowings that limit our total borrowing capacity,
- increases in interest rates applicable to our outstanding variable rate debt,
- a ratings downgrade that could limit the amount we can borrow under our senior unsecured revolving credit facility and our overall access to the corporate debt market,
- increases in interest rates or credit spreads, as well as limitations on the availability of credit, that affect our ability to borrow under future potential facilities on a secured or unsecured basis,
- a decrease in the market price for our common stock, and
- volatility in the public debt and equity markets.

At June 30, 2019, we had cash and cash equivalents of $150.0 million, of which $142.7 million was held by our non-U.S. subsidiaries, and we had $299.8 million of additional borrowing capacity available under our senior unsecured revolving credit facility. We had no other liquid investments at June 30, 2019.

We utilize a variety of tax planning and financing strategies to ensure that our worldwide cash is available in the locations in which it is needed. The Tax Cuts and Jobs Act required us to pay a one-time transition tax on the unremitted earnings of foreign subsidiaries, for which we accrued $80.4 million at December 30, 2018. In fiscal year 2018, we determined that previously undistributed earnings of certain international subsidiaries no longer met the requirements of indefinite reinvestment and therefore recognized $2.9 million of income tax expense during the year. Our intent is to continue to reinvest the remaining undistributed earnings of our international subsidiaries indefinitely, and no additional income tax expense was accrued at June 30, 2019. The amount of foreign earnings that we have the intent and ability to keep invested outside of the U.S. indefinitely and for which no additional incremental U.S. tax cost has been provided, other than the one-time transition tax on deemed repatriation, was approximately $745.0 million and $652.1 million as of June 30, 2019 and December 30, 2018, respectively. No additional income taxes have been provided for any remaining undistributed foreign earnings not subject to the transition tax, or any additional outside basis difference inherent in these entities, as these amounts continue to be indefinitely reinvested in foreign operations.

On July 23, 2018, our Board of Directors (the "Board") authorized us to repurchase shares of common stock for an aggregate amount up to $250.0 million under a stock repurchase program (the "Repurchase Program"). The Repurchase Program will expire on July 23, 2020 unless terminated earlier by the Board and may be suspended or discontinued at any time. During the six months ended June 30, 2019, we had no stock repurchases under the Repurchase Program. As of June 30, 2019, $197.8 million remained available for aggregate repurchases of shares under the Repurchase Program.

In addition, our Board has authorized us to repurchase shares of common stock to satisfy minimum statutory tax withholding obligations in connection with the vesting of restricted stock awards and restricted stock unit awards granted pursuant to our equity incentive plans and to satisfy obligations related to the exercise of stock options made pursuant to our equity incentive plans. During the three months ended June 30, 2019, we repurchased 8,279 shares of common stock for this purpose at an aggregate cost of $0.8 million. During the six months ended June 30, 2019, we repurchased 65,568 shares of common stock for this purpose at an aggregate cost of $6.1 million.

The repurchased shares have been reflected as additional authorized but unissued shares, with the payments reflected in common stock and capital in excess of par value. Any repurchased shares will be available for use in connection with corporate programs. If we continue to repurchase shares, the Repurchase Program will be funded using our existing financial resources, including cash and cash equivalents, and our senior unsecured revolving credit facility.

Distressed global financial markets could adversely impact general economic conditions by reducing liquidity and credit availability, creating increased volatility in security prices, widening credit spreads and decreasing valuations of certain investments. The widening of credit spreads may create a less favorable environment for certain of our businesses and may affect the fair value of financial instruments that we issue or hold. Increases in credit spreads, as well as limitations on the availability of credit at rates we consider to be reasonable, could affect our ability to borrow under future potential facilities on a secured or unsecured basis, which may adversely affect our liquidity and results of operations. In difficult global financial markets, we may be forced to fund our operations at a higher cost, or we may be unable to raise as much funding as we need to support our business activities.

During the first six months of fiscal year 2019, we contributed $4.1 million, in the aggregate, to our defined benefit pension plans outside of the United States, and expect to contribute an additional $4.1 million by the end of fiscal year 2019.

We could potentially have to make additional contributions in future periods for all pension plans. We expect to use existing cash and external sources to satisfy future contributions to our pension plans.

Our pension plans have not experienced a material impact on liquidity or counterparty exposure due to the volatility and uncertainty in the credit markets. We recognize actuarial gains and losses in operating results in the fourth quarter of the year in which the gains and losses occur, unless there is an interim remeasurement required for one of our plans. It is difficult to reliably predict the magnitude of such adjustments for gains and losses in fiscal year 2019. These adjustments are primarily driven by events and circumstances beyond our control, including changes in interest rates, the performance of the financial markets and mortality assumptions. To the extent the discount rates decrease or the value of our pension and postretirement investments decrease, a loss to operations will be recorded in fiscal year 2019. Conversely, to the extent the discount rates increase or the value of our pension and postretirement investments increase more than expected, a gain will be recorded in fiscal year 2019.

Cash Flows

Operating Activities. Net cash provided by continuing operations was $41.5 million for the six months ended June 30, 2019, as compared to net cash provided by continuing operations of $58.4 million for the six months ended July 1, 2018, a decrease in cash provided in operating activities of $16.9 million. The cash provided by operating activities for the six months ended June 30, 2019 was principally a result of income from continuing operations of $104.6 million, and non-cash charges, including depreciation and amortization of $103.8 million, restructuring and contract termination charges, net of $13.8 million, stock-based compensation expense of $12.8 million, change in fair value of contingent consideration of $3.2 million, loss on disposition of businesses and assets, net, of $2.5 million, and amortization of deferred debt financing costs and accretion of discount of $1.8 million. These items were partially offset by a net cash decrease in accrued expenses, other assets and liabilities and other items of $100.9 million and a net cash decrease in working capital of $100.0 million. The change in accrued expenses, other assets and liabilities and other items decreased cash used in operating activities by $100.9 million for the six months ended June 30, 2019, as compared to $61.7 million for the six months ended July 1, 2018. These changes primarily related to the timing of payments for pensions, taxes, restructuring, and salary and benefits, including the amortization of purchase accounting adjustments to record the inventory from certain acquisitions of $5.6 million for the six months ended June 30, 2019 as compared to $18.2 million for the six months ended July 1, 2018. For the six months ended June 30, 2019, $14.8 million of contingent consideration payments were included in operating activities. In addition, we paid stay bonuses associated with our acquisition of Tulip Diagnostics Private Limited of $11.8 million for the six months ended June 30, 2019 as compared to $10.6 million for the six months ended July 1, 2018. Contributing to the net cash decrease in working capital for the six months ended June 30, 2019, excluding the effect of foreign exchange rate fluctuations, was an increase in inventory of $50.5 million, an increase in accounts receivable of $9.6 million, and a decrease in accounts payable of $40.0 million, The increase in inventory was primarily due to seasonal inventory builds. The increase in accounts receivable was a result of was a result of higher sales volume during the first six months of fiscal year 2019. The decrease in accounts payable was primarily a result of the timing of disbursements during the first six months of fiscal year 2019.

Investing Activities. Net cash used in the investing activities of our continuing operations was $286.5 million for the six months ended June 30, 2019, as compared to $79.9 million for the six months ended July 1, 2018, an increase of $206.6 million. For the six months ended June 30, 2019, the net cash used in investing activities of our continuing operations was principally a result of cash used for acquisitions of $244.7 million, capital expenditures of $36.5 million, purchases of licenses of $5.0 million, and purchases of investments of $0.9 million. These items were partially offset by $0.6 million in proceeds from disposition of businesses. Cash used for capital expenditures was $39.6 million for the six months ended July 1, 2018. The capital expenditures in each period were primarily for manufacturing and other capital equipment purchases. In addition, during the six months ended July 1, 2018, we used $40.6 million in cash for acquisitions and investments.

Financing Activities. Net cash provided by financing activities was $231.2 million for the six months ended June 30, 2019, as compared to net cash used in financing activities of $12.9 million for the six months ended July 1, 2018, an increase in cash provided by financing activities of $244.1 million. The cash provided by financing activities during the six months ended June 30, 2019 was a result of proceeds from borrowings and proceeds from the issuance of common stock under stock plans. During the six months ended June 30, 2019, our debt borrowings totaled $849.6 million, which were partially offset by debt payments of $578.0 million and debt issuance costs totaling $0.2 million. This compares to debt borrowings of $342.0 million, which were more than offset by our debt payments of $667.0 million during the six months ended July 1, 2018. Proceeds from the issuance of common stock under our stock plans was $16.6 million during the six months ended June 30, 2019 as compared to $8.3 million for the six months ended July 1, 2018. This cash provided by financing activities during the six months ended June 30, 2019 was more than offset by payments for acquisition-related contingent consideration, payments of dividends, repurchase of our common stock pursuant to our equity incentive plans, net payments on other credit facilities, and settlement of forward foreign exchange contracts. During the six months ended June 30, 2019, we paid $23.7 million for acquisition-related contingent consideration. During each of the six months ended June 30, 2019 and July 1, 2018, we paid $15.5 million in dividends. During the six months ended June 30, 2019, we repurchased 65,568 shares of our common stock to satisfy minimum statutory tax withholding obligations in connection with the vesting of restricted stock awards and restricted stock unit awards granted pursuant to our equity incentive plans and to satisfy obligations related to the exercise of stock options made pursuant to our equity incentive plans, for a total cost of $6.1 million. This compares to repurchases of 59,699 shares of our common stock pursuant to our equity incentive plans for the six months ended July 1, 2018, for a total cost of $4.6 million. During the six months ended June 30, 2019, we had net payments on other credit facilities of $9.8 million as compared to $10.2 million for the six months ended July 1, 2018. In addition, during the six months ended June 30, 2019, we paid $1.7 million as compared to $32.7 million for settlement of forward foreign exchange contracts for the six months ended July 1, 2018.

Borrowing Arrangements

Senior Unsecured Revolving Credit Facility. Our senior unsecured revolving credit facility provides for $1.0 billion of revolving loans and has an initial maturity of August 11, 2021. As of June 30, 2019, undrawn letters of credit in the aggregate amount of $11.4 million were treated as issued and outstanding when calculating the borrowing availability under the senior unsecured revolving credit facility. As of June 30, 2019, we had $299.8 million available for additional borrowing under the facility. We use the senior unsecured revolving credit facility for general corporate purposes, which may include working capital, refinancing existing indebtedness, capital expenditures, share repurchases, acquisitions and strategic alliances. The interest rates under the senior unsecured revolving credit facility are based on the Eurocurrency rate or the base rate at the time of borrowing, plus a margin. The base rate is the higher of (i) the rate of interest in effect for such day as publicly announced from time to time by JP Morgan Chase Bank, N.A. as its "prime rate," (ii) the Federal Funds rate plus 50 basis points or (iii) an adjusted one-month Libor plus 1.00%. The Eurocurrency margin as of June 30, 2019 was 110 basis points. The weighted average Eurocurrency interest rate as of June 30, 2019 was 2.36%, resulting in a weighted average effective Eurocurrency rate, including the margin, of 3.46%, which was the interest applicable to the borrowings outstanding under the Eurocurrency rate as of June 30, 2019. As of June 30, 2019, the senior unsecured revolving credit facility had outstanding borrowings of $688.8 million, and $2.1 million of unamortized debt issuance costs. As of December 30, 2018, the senior unsecured revolving credit facility had outstanding borrowings of $418.0 million, and $2.4 million of unamortized debt issuance costs. The credit agreement for the facility contains affirmative, negative and financial covenants and events of default. The financial covenants include a debt-to-capital ratio that remains applicable for so long as our debt is rated as investment grade. In the event that our debt is not rated as investment grade, the debt-to-capital ratio covenant is replaced with a maximum consolidated leverage ratio covenant and a minimum consolidated interest coverage ratio covenant. We were in compliance with all applicable covenants as of June 30, 2019.

5% Senior Unsecured Notes due in 2021. On October 25, 2011, we issued $500.0 million aggregate principal amount of senior unsecured notes due in 2021 (the “November 2021 Notes”) in a registered public offering and received $493.6 million of net proceeds from the issuance. The November 2021 Notes were issued at 99.4% of the principal amount, which resulted in a discount of $3.1 million. As of June 30, 2019, the November 2021 Notes had an aggregate carrying value of $497.7 million, net of $0.9 million of unamortized original issue discount and $1.3 million of unamortized debt issuance costs. As of December 30, 2018, the November 2021 Notes had an aggregate carrying value of $497.4 million, net of $1.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs. The November 2021 Notes mature in November 2021 and bear interest at an annual rate of 5%. Interest on the November 2021 Notes is payable semi-annually on May 15th and November 15th each year. Prior to August 15, 2021 (three months prior to their maturity date), we may redeem the November 2021 Notes in whole or in part, at our option, at a redemption price equal to the greater of (i) 100% of the principal amount of the November 2021 Notes to be redeemed, plus accrued and unpaid interest, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the November 2021 Notes being redeemed, discounted on a semi-annual basis, at the Treasury Rate plus 45 basis points, plus accrued and unpaid interest. At any time on or after August 15, 2021 (three months prior to their maturity date), we may redeem the November 2021 Notes, at our option, at a redemption price equal to 100% of the principal amount of the November 2021 Notes to be redeemed plus accrued and unpaid interest. Upon a change of control (as defined in the indenture governing the November 2021 Notes) and a contemporaneous downgrade of the November 2021 Notes below investment grade, each holder of November 2021 Notes will have the right to require us to repurchase such holder's November 2021 Notes for 101% of their principal amount, plus accrued and unpaid interest.

1.875% Senior Unsecured Notes due 2026. On July 19, 2016, we issued €500.0 million aggregate principal amount of senior unsecured notes due in 2026 (the “2026 Notes”) in a registered public offering and received approximately €492.3 million of net proceeds from the issuance. The 2026 Notes were issued at 99.118% of the principal amount, which resulted in a discount of €4.4 million. The 2026 Notes mature in July 2026 and bear interest at an annual rate of 1.875%. Interest on the 2026 Notes is payable annually on July 19th each year. The proceeds from the 2026 Notes were used to pay in full the outstanding balance of our previous senior unsecured revolving credit facility. As of June 30, 2019, the 2026 Notes had an aggregate carrying value of $561.1 million, net of $3.8 million of unamortized original issue discount and $3.5 million of unamortized debt issuance costs. As of December 30, 2018, the 2026 Notes had an aggregate carrying value of $564.5 million, net of $4.0 million of unamortized original issue discount and $3.8 million of unamortized debt issuance costs.

Prior to April 19, 2026 (three months prior to their maturity date), we may redeem the 2026 Notes in whole at any time or in part from time to time, at our option, at a redemption price equal to the greater of (i) 100% of the principal amount of the 2026 Notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the 2026 Notes being redeemed, discounted on an annual basis, at the applicable Comparable Government Bond Rate (as defined in the indenture governing the 2026 Notes) plus 35 basis points; plus, in each case, accrued and unpaid interest. In addition, at any time on or after April 19, 2026 (three months prior to their maturity date), we may redeem the 2026 Notes, at our option, at a redemption price equal to 100% of the principal amount of the 2026 Notes due to be redeemed plus accrued and unpaid interest.

Upon a change of control (as defined in the indenture governing the 2026 Notes) and a contemporaneous downgrade of the 2026 Notes below investment grade, we will, in certain circumstances, make an offer to purchase the 2026 Notes at a price equal to 101% of their principal amount plus any accrued and unpaid interest.

0.6% Senior Unsecured Notes due in 2021. On April 11, 2018, we issued €300.0 million aggregate principal amount of senior unsecured notes due in 2021 (the “April 2021 Notes”) in a registered public offering and received approximately €298.7 million of net proceeds from the issuance. The April 2021 Notes were issued at 99.95% of the principal amount, which resulted in a discount of €0.2 million. As of June 30, 2019, the April 2021 Notes had an aggregate carrying value of $339.4 million, net of $0.1 million of unamortized original issue discount and $1.6 million of unamortized debt issuance costs. As of December 30, 2018, the April 2021 Notes had an aggregate carrying value of $341.3 million, net of $0.1 million of unamortized original issue discount and $2.0 million of unamortized debt issuance costs. The April 2021 Notes mature in April 2021 and bear interest at an annual rate of 0.6%. Interest on the April 2021 Notes is payable annually on April 9th each year. The proceeds from the April 2021 Notes were used to pay in full the outstanding balance of our senior unsecured term loan credit facility, and a portion of the outstanding senior unsecured revolving credit facility, and in each case the borrowings were incurred to pay a portion of the purchase price for our acquisition of EUROIMMUN, which closed on December 19, 2017. Prior to the maturity date of the April 2021 Notes, we may redeem them in whole at any time or in part from time to time, at our option, at a redemption price equal to the greater of (i) 100% of the principal amount of the April 2021 Notes to be redeemed, or (ii) the sum of the present values of the remaining scheduled payments of principal and interest in respect to the April 2021 Notes being redeemed, discounted on an annual basis, at the applicable Comparable Government Bond Rate (as defined in the indenture governing the April 2021 Notes) plus 15 basis points; plus, in each case, accrued and unpaid interest. Upon a change of control (as defined in the indenture governing the April 2021 Notes) and a contemporaneous downgrade of the April 2021 Notes below investment grade, we will, in certain circumstances, make an offer to purchase the April 2021 Notes at a price equal to 101% of their principal amount, plus accrued and unpaid interest.

Other Debt Facilities. Our other debt facilities include Euro-denominated bank loans with an aggregate carrying value of $27.4 million (or €24.1 million) and $32.1 million (or €28.0 million) as of June 30, 2019 and December 30, 2018, respectively. These bank loans are primarily utilized for financing fixed assets and are required to be repaid in monthly or quarterly installments with maturity dates extending to 2028. Of these bank loans, loans in the aggregate amount of $27.3 million bear fixed interest rates between 1.1% and 4.5% and a loan in the amount of $0.1 million bears a variable interest rate based on the Euribor rate plus a margin of 1.5%. An aggregate amount of $4.3 million of the bank loans are secured by mortgages on real property and the remaining $23.1 million are unsecured. Certain credit agreements for the unsecured bank loans include financial covenants which are based on an equity ratio or an equity ratio and minimum interest coverage ratio. We were in compliance with all applicable covenants as of June 30, 2019.

In addition, we had secured bank loans in the aggregate amount of $0.3 million as of June 30, 2019, and unsecured revolving credit facilities and a secured bank loan in the amount of $5.8 million and $0.3 million, respectively, as of December 30, 2018. The unsecured revolving debt facilities had fixed interest at a rate of 2.3%. The secured bank loans of $0.3 million bear fixed annual interest rates between 1.95% and 5.0% and are required to be repaid in monthly installments until 2027.

Financing Lease Obligations. In fiscal year 2012, we entered into agreements with the lessors of certain buildings that we are currently occupying and leasing to expand those buildings. We provided a portion of the funds needed for the construction of the additions to the buildings, and as a result we were considered the owner of the buildings during the construction period. At the end of the construction period, we were not reimbursed by the lessors for all of the construction costs. We are therefore deemed to have continuing involvement and the leases qualify as financing leases under sale-leaseback accounting guidance, representing debt obligations for us and non-cash investing and financing activities. As a result, we capitalized $29.3 million in property, plant and equipment, net, representing the fair value of the buildings with a corresponding increase to debt. We have also capitalized $11.5 million in additional construction costs necessary to complete the renovations to the buildings, which were funded by the lessors, with a corresponding increase to debt. At December 30, 2018, we had $34.5 million recorded for these financing lease obligations, of which $1.5 million was recorded as short-term debt and $33.0 million was recorded as long-term debt. Prior to adoption of ASC 842, the buildings were depreciated on a straight-line basis over the terms of the leases to their estimated residual values, which will equal the remaining financing obligation at the end of the lease term. At the end of the lease term, the remaining balances in property, plant and equipment, net and debt will be reversed against each other. Upon adoption of ASC 842, we derecognized the impact of this build-to-suit arrangement.

Dividends

Our Board declared a regular quarterly cash dividend of $0.07 per share for first two quarters of fiscal year 2019 and in each quarter of fiscal year 2018. At June 30, 2019, we had accrued $7.8 million for dividends declared on April 25, 2019 for the second quarter of fiscal year 2019 that will be payable in August 2019. On July 25, 2019, we announced that our Board had declared a quarterly dividend of $0.07 per share for the third quarter of fiscal year 2019 that will be payable in November 2019. In the future, our Board may determine to reduce or eliminate our common stock dividend in order to fund investments for growth, repurchase shares or conserve capital resources.

Contractual Obligations

Our contractual obligations, as described in the contractual obligations table contained in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the 2018 Form 10-K have changed due to new lease agreements for certain operating facilities and adoption of ASC 842. See Note 18, *Leases,* in the Notes to Condensed Consolidated Financial Statements for details.

Effects of Recently Adopted and Issued Accounting Pronouncements

See Note 1, *Basis of Presentation,* in the Notes to Condensed Consolidated Financial Statements for a summary of recently adopted and issued accounting pronouncements.

Item 3. ***Quantitative and Qualitative Disclosures About Market Risk***

Market Risk. We are exposed to market risk, including changes in interest rates and currency exchange rates. To manage the volatility relating to these exposures, we enter into various derivative transactions pursuant to our policies to hedge against known or forecasted market exposures. We briefly describe several of the market risks we face below. The following disclosure is not materially different from the disclosure provided under the heading, Item 7A. *"Quantitative and Qualitative Disclosure About Market Risk,"* in our 2018 Form 10-K.

Foreign Exchange Risk. The potential change in foreign currency exchange rates offers a substantial risk to us, as approximately 70% of our business is conducted outside of the United States, generally in foreign currencies. Our risk management strategy currently uses forward contracts to mitigate certain balance sheet foreign currency transaction exposures. The intent of these economic hedges is to offset gains and losses that occur on the underlying exposures, with gains and losses resulting from the forward contracts that hedge these exposures. Moreover, we are able to partially mitigate the impact that fluctuations in currencies have on our net income as a result of our manufacturing facilities located in countries outside the United States, material sourcing and other spending which occur in countries outside the United States, resulting in natural hedges.

We do not enter into derivative contracts for trading or other speculative purposes, nor do we use leveraged financial instruments. Although we attempt to manage our foreign exchange risk through the above activities, when the U.S. dollar weakens against other currencies in which we transact business, sales and net income generally will be positively but not proportionately impacted. Conversely, when the U.S. dollar strengthens against other currencies in which we transact business, sales and net income will generally be negatively but not proportionately impacted.

In the ordinary course of business, we enter into foreign exchange contracts for periods consistent with our committed exposures to mitigate the effect of foreign currency movements on transactions denominated in foreign currencies. The intent of these economic hedges is to offset gains and losses that occur on the underlying exposures from these currencies, with gains and losses resulting from the forward currency contracts that hedge these exposures. Transactions covered by hedge contracts include intercompany and third-party receivables and payables. The contracts are primarily in European and Asian currencies, have maturities that do not exceed 12 months, have no cash requirements until maturity, and are recorded at fair value on our condensed consolidated balance sheets. The unrealized gains and losses on our foreign currency contracts are recognized immediately in interest and other expense, net. The cash flows related to the settlement of these hedges are included in cash flows from operating activities within our condensed consolidated statement of cash flows.

Principal hedged currencies include the Chinese Yuan, Euro, Swedish Krona and Singapore Dollar. We held forward foreign exchange contracts, designated as economic hedges, with U.S. dollar equivalent notional amounts totaling $241.2 million, $223.3 million and $147.6 million at June 30, 2019, December 30, 2018 and July 1, 2018, respectively, and the fair value of these foreign currency derivative contracts was insignificant. The gains and losses realized on these foreign currency derivative contracts are not material. The duration of these contracts was generally 30 days or less during each of the six months ended June 30, 2019 and July 1, 2018.

In addition, in connection with certain intercompany loan agreements utilized to finance our acquisitions and stock repurchase program, we enter into forward foreign exchange contracts intended to hedge movements in foreign exchange rates prior to settlement of such intercompany loans denominated in foreign currencies. We record these hedges at fair value on our condensed consolidated balance sheets. The unrealized gains and losses on these hedges, as well as the gains and losses associated with the remeasurement of the intercompany loans, are recognized immediately in interest and other expense, net. The cash flows related to the settlement of these hedges are included in cash flows from financing activities within our condensed consolidated statement of cash flows.

The outstanding forward exchange contracts designated as economic hedges, which were intended to hedge movements in foreign exchange rates prior to the settlement of certain intercompany loan agreements included combined Euro notional amounts of €15.8 million and combined U.S. Dollar notional amounts of $13.3 million as of June 30, 2019, combined Euro notional amounts of €37.3 million and combined U.S. Dollar notional amounts of $5.7 million as of December 30, 2018, and combined Euro notional amounts of €49.7 million and combined U.S. Dollar notional amounts of $50.8 million as of July 1, 2018. The net gains and losses on these derivatives, combined with the gains and losses on the remeasurement of the hedged intercompany loans were not material for each of the three and six months ended June 30, 2019 and July 1, 2018. We paid $1.7 million and $32.7 million during the six months ended June 30, 2019 and July 1, 2018, respectively, from the settlement of these hedges.

In April 2018, we designated a portion of the 2026 Notes to hedge our investments in certain foreign subsidiaries. Unrealized translation adjustments from a portion of the 2026 Notes were included in the foreign currency translation component of AOCI, which offsets translation adjustments on the underlying net assets of foreign subsidiaries. The cumulative translation gains or losses will remain in AOCI until the foreign subsidiaries are liquidated or sold. As of June 30, 2019, the total notional amount of the 2026 Notes that was designated to hedge investments in foreign subsidiaries was €134.2 million. The unrealized foreign exchange losses (gains) recorded in AOCI related to the net investment hedge was $1.7 million and $(3.1) million for the three and six months ended June 30, 2019, respectively, and $(4.8) million and $(6.9) million for the three and six months ended July 1, 2018, respectively.

During fiscal year 2018, we designated the April 2021 Notes to hedge our investments in certain foreign subsidiaries. Unrealized translation adjustments from the April 2021 Notes were included in the foreign currency translation component of AOCI, which offsets translation adjustments on the underlying net assets of foreign subsidiaries. The cumulative translation gains or losses will remain in AOCI until the foreign subsidiaries are liquidated or sold. As of June 30, 2019, the total notional amount of the April 2021 Notes that was designated to hedge investments in foreign subsidiaries was €299.9 million. The unrealized foreign exchange losses (gains) recorded in AOCI related to the net investment hedge were $4.5 million and $(2.3) million for the three and six months ended June 30, 2019, respectively, and $(20.8) million for the three and six months ended July 1, 2018.

On May 31, 2019, we entered into a cross-currency swap designated as a net investment hedge to hedge the Euro currency exposure of our net investment in certain foreign subsidiaries. This agreement is a contract to exchange fixed-rate payments in one currency for fixed-rate payments in another currency. Changes in the fair value of this swap are recorded in equity as a component of AOCI in the same manner as foreign currency translation adjustments. In assessing the effectiveness of this hedge, we use a method based on changes in spot rates to measure the impact of the foreign currency exchange rate fluctuations on both our foreign subsidiary net investment and the related swap. Under this method, changes in the fair value of the hedging instrument other than those due to changes in the spot rate are initially recorded in AOCI as a translation adjustment, and then are amortized into other (income) expense, net in the condensed consolidated statement of operations using a systematic and rational method over the instrument’s term. Changes in the fair value associated with the effective portion (i.e. those changes due to the spot rate) are recorded in AOCI as a translation adjustment and are released and recognized in earnings only upon the sale or liquidation of the hedged net investment. The cross-currency swap has an initial notional value of €197.4 million or $220.0 million and matures on November 15, 2021. Interest on the cross-currency swap is payable semi-annually, in Euro, on May 15th and November 15th of each year based on the Euro notional value and a fixed rate of 2.47%. We receive interest in U.S. dollars on May 15th and November 15th of each year based on the U.S. dollar equivalent of the Euro notional value and a fixed rate of 5.00%. On June 30, 2019, the fair value of the cross-currency swap was a loss of $4.8 million which was recorded in AOCI.

Foreign Currency Exchange Risk—Value-at-Risk Disclosure. We continue to measure foreign currency risk using the Value-at-Risk model described in Item 7A. *“Quantitative and Qualitative Disclosure About Market Risk,”* in our 2018 Form 10-K. The measures for our Value-at-Risk analysis have not changed materially.

Interest Rate Risk. As described above, our debt portfolio includes variable rate instruments. Fluctuations in interest rates can therefore have a direct impact on both our short-term cash flows, as they relate to interest, and our earnings. To manage the volatility relating to these exposures, we periodically enter into various derivative transactions pursuant to our policies to hedge against known or forecasted interest rate exposures.

Interest Rate Risk—Sensitivity. Our 2018 Form 10-K presents sensitivity measures for our interest rate risk. The measures for our sensitivity analysis have not changed materially. More information is available in Item 7A. *“Quantitative and Qualitative Disclosure About Market Risk,”* in our 2018 Form 10-K for our sensitivity disclosure.

Item 4. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of our fiscal quarter ended June 30, 2019. The term “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”), means controls and other procedures of a company that are designed to provide reasonable assurance that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of the end of our fiscal quarter ended June 30, 2019, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting. There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended June 30, 2019 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. ***Legal Proceedings***

We are subject to various claims, legal proceedings and investigations covering a wide range of matters that arise in the ordinary course of our business activities. Although we have established accruals for potential losses that we believe are probable and reasonably estimable, in the opinion of our management, based on its review of the information available at this time, the total cost of resolving these contingencies at June 30, 2019 should not have a material adverse effect on our condensed consolidated financial statements. However, each of these matters is subject to uncertainties, and it is possible that some of these matters may be resolved unfavorably to us.

Item 1A. ***Risk Factors***

The following important factors affect our business and operations generally or affect multiple segments of our business and operations:

If the markets into which we sell our products decline or do not grow as anticipated due to a decline in general economic conditions, or there are uncertainties surrounding the approval of government or industrial funding proposals, or there are unfavorable changes in government regulations, we may see an adverse effect on the results of our business operations.

Our customers include pharmaceutical and biotechnology companies, laboratories, academic and research institutions, public health authorities, private healthcare organizations, doctors and government agencies. Our quarterly revenue and results of operations are highly dependent on the volume and timing of orders received during the quarter. In addition, our revenues and earnings forecasts for future quarters are often based on the expected trends in our markets. However, the markets we serve do not always experience the trends that we may expect. Negative fluctuations in our customers' markets, the inability of our customers to secure credit or funding, restrictions in capital expenditures, general economic conditions, cuts in government funding or unfavorable changes in government regulations would likely result in a reduction in demand for our products and services. In addition, government funding is subject to economic conditions and the political process, which is inherently fluid and unpredictable. Our revenues may be adversely affected if our customers delay or reduce purchases as a result of uncertainties surrounding the approval of government or industrial funding proposals. Such declines could harm our consolidated financial position, results of operations, cash flows and trading price of our common stock, and could limit our ability to sustain profitability.

Our growth is subject to global economic and political conditions, and operational disruptions at our facilities.

Our business is affected by global economic and political conditions as well as the state of the financial markets, particularly as the United States and other countries balance concerns around debt, inflation, growth and budget allocations in their policy initiatives. There can be no assurance that global economic conditions and financial markets will not worsen and that we will not experience any adverse effects that may be material to our consolidated cash flows, results of operations, financial position or our ability to access capital, such as the adverse effects resulting from a prolonged shutdown in government operations both in the United States and internationally. Our business is also affected by local economic environments, including inflation, recession, financial liquidity and currency volatility or devaluation. Political changes, some of which may be disruptive, could interfere with our supply chain, our customers and all of our activities in a particular location.

While we take precautions to prevent production or service interruptions at our global facilities, a major earthquake, fire, flood, power loss or other catastrophic event that results in the destruction or delay of any of our critical business operations could result in our incurring significant liability to customers or other third parties, cause significant reputational damage or have a material adverse effect on our business, operating results or financial condition.

Certain of these risks can be hedged to a limited degree using financial instruments, or other measures, and some of these risks are insurable, but any such mitigation efforts are costly and may not always be fully successful. Our ability to engage in such mitigation efforts has decreased or become even more costly as a result of recent market developments.

If we do not introduce new products in a timely manner, we may lose market share and be unable to achieve revenue growth targets.

We sell many of our products in industries characterized by rapid technological change, frequent new product and service introductions, and evolving customer needs and industry standards. Many of the businesses competing with us in these industries have significant financial and other resources to invest in new technologies, substantial intellectual property portfolios, substantial experience in new product development, regulatory expertise, manufacturing capabilities, and established distribution channels to deliver products to customers. Our products could become technologically obsolete over time, or we may invest in technology that does not lead to revenue growth or continue to sell products for which the demand from our customers is declining, in which case we may lose market share or not achieve our revenue growth targets. The success of our new product offerings will depend upon several factors, including our ability to:

- accurately anticipate customer needs,
- innovate and develop new reliable technologies and applications,
- receive regulatory approvals in a timely manner,
- successfully commercialize new technologies in a timely manner,
- price our products competitively, and manufacture and deliver our products in sufficient volumes and on time, and
- differentiate our offerings from our competitors' offerings.

Many of our products are used by our customers to develop, test and manufacture their products. We must anticipate industry trends and consistently develop new products to meet our customers' expectations. In developing new products, we may be required to make significant investments before we can determine the commercial viability of the new product. If we fail to accurately foresee our customers' needs and future activities, we may invest heavily in research and development of products that do not lead to significant revenue. We may also suffer a loss in market share and potential revenue if we are unable to commercialize our technology in a timely and efficient manner.

In addition, some of our licensed technology is subject to contractual restrictions, which may limit our ability to develop or commercialize products for some applications.

We may not be able to successfully execute acquisitions or divestitures, license technologies, integrate acquired businesses or licensed technologies into our existing businesses, or make acquired businesses or licensed technologies profitable.

We have in the past supplemented, and may in the future supplement, our internal growth by acquiring businesses and licensing technologies that complement or augment our existing product lines, such as our recent acquisition of Cisbio. However, we may be unable to identify or complete promising acquisitions or license transactions for many reasons, such as:

- competition among buyers and licensees,
- the high valuations of businesses and technologies,
- the need for regulatory and other approval, and
- our inability to raise capital to fund these acquisitions.

Some of the businesses we acquire may be unprofitable or marginally profitable, or may increase the variability of our revenue recognition. If, for example, we are unable to successfully commercialize products and services related to significant in-process research and development that we have capitalized, we may have to impair the value of such assets. Accordingly, the earnings or losses of acquired businesses may dilute our earnings. For these acquired businesses to achieve acceptable levels of profitability, we would have to improve their management, operations, products and market penetration. We may not be successful in this regard and may encounter other difficulties in integrating acquired businesses into our existing operations, such as incompatible management, information or other systems, cultural differences, loss of key personnel, unforeseen regulatory requirements, previously undisclosed liabilities or difficulties in predicting financial results. Additionally, if we are not successful in selling businesses we seek to divest, the activity of such businesses may dilute our earnings and we may not be able to achieve the expected benefits of such divestitures. As a result, our financial results may differ from our forecasts or the expectations of the investment community in a given quarter or over the long term.

To finance our acquisitions, we may have to raise additional funds, either through public or private financings. We may be unable to obtain such funds or may be able to do so only on terms unacceptable to us. We may also incur expenses related to completing acquisitions or licensing technologies, or in evaluating potential acquisitions or technologies, which may adversely impact our profitability.

We may not be successful in adequately protecting our intellectual property.

Patent and trade secret protection is important to us because developing new products, processes and technologies gives us a competitive advantage, although it is time-consuming and expensive. We own many United States and foreign patents and intend to apply for additional patents. Patent applications we file, however, may not result in issued patents or, if they do, the claims allowed in the patents may be narrower than what is needed to protect fully our products, processes and technologies.

The expiration of our previously issued patents may cause us to lose a competitive advantage in certain of the products and services we provide. Similarly, applications to register our trademarks may not be granted in all countries in which they are filed. For our intellectual property that is protected by keeping it secret, such as trade secrets and know-how, we may not use adequate measures to protect this intellectual property.

Third parties may also challenge the validity of our issued patents, may circumvent or "design around" our patents and patent applications, or may claim that our products, processes or technologies infringe their patents. In addition, third parties may assert that our product names infringe their trademarks. We may incur significant expense in legal proceedings to protect our intellectual property against infringement by third parties or to defend against claims of infringement by third parties. Claims by third parties in pending or future lawsuits could result in awards of substantial damages against us or court orders that could effectively prevent us from manufacturing, using, importing or selling our products in the United States or other countries.

If we are unable to renew our licenses or otherwise lose our licensed rights, we may have to stop selling products or we may lose competitive advantage.

We may not be able to renew our existing licenses, or licenses we may obtain in the future, on terms acceptable to us, or at all. If we lose the rights to a patented or other proprietary technology, we may need to stop selling products incorporating that technology and possibly other products, redesign our products or lose a competitive advantage. Potential competitors could in-license technologies that we fail to license and potentially erode our market share.

Our licenses typically subject us to various economic and commercialization obligations. If we fail to comply with these obligations, we could lose important rights under a license, such as the right to exclusivity in a market, or incur losses for failing to comply with our contractual obligations. In some cases, we could lose all rights under the license. In addition, rights granted under the license could be lost for reasons out of our control. For example, the licensor could lose patent protection for a number of reasons, including invalidity of the licensed patent, or a third-party could obtain a patent that curtails our freedom to operate under one or more licenses.

If we do not compete effectively, our business will be harmed.

We encounter aggressive competition from numerous competitors in many areas of our business. We may not be able to compete effectively with all of these competitors. To remain competitive, we must develop new products and periodically enhance our existing products. We anticipate that we may also have to adjust the prices of many of our products to stay competitive. In addition, new competitors, technologies or market trends may emerge to threaten or reduce the value of entire product lines.

Our quarterly operating results could be subject to significant fluctuation, and we may not be able to adjust our operations to effectively address changes we do not anticipate, which could increase the volatility of our stock price and potentially cause losses to our shareholders.

Given the nature of the markets in which we participate, we cannot reliably predict future revenue and profitability. Changes in competitive, market and economic conditions may require us to adjust our operations, and we may not be able to make those adjustments or make them quickly enough to adapt to changing conditions. A high proportion of our costs are fixed in the short term, due in part to our research and development and manufacturing costs. As a result, small declines in sales could disproportionately affect our operating results in a quarter. Factors that may affect our quarterly operating results include:

- demand for and market acceptance of our products,
- competitive pressures resulting in lower selling prices,
- changes in the level of economic activity in regions in which we do business,
- changes in general economic conditions or government funding,
- settlements of income tax audits,
- expenses incurred in connection with claims related to environmental conditions at locations where we conduct or formerly conducted operations,
- contract termination and litigation costs,
- differing tax laws and changes in those laws, or changes in the countries in which we are subject to taxation,
- changes in our effective tax rate,
- changes in industries, such as pharmaceutical and biomedical,

- changes in the portions of our revenue represented by our various products and customers,
- our ability to introduce new products,
- our competitors' announcement or introduction of new products, services or technological innovations,
- costs of raw materials, energy or supplies,
- changes in healthcare or other reimbursement rates paid by government agencies and other third parties for certain of our products and services,
- our ability to realize the benefit of ongoing productivity initiatives,
- changes in the volume or timing of product orders,
- fluctuation in the expense related to the mark-to-market adjustment on postretirement benefit plans,
- changes in our assumptions underlying future funding of pension obligations,
- changes in assumptions used to determine contingent consideration in acquisitions, and
- changes in foreign currency exchange rates.

A significant disruption in third-party package delivery and import/export services, or significant increases in prices for those services, could interfere with our ability to ship products, increase our costs and lower our profitability.

We ship a significant portion of our products to our customers through independent package delivery and import/export companies, including UPS and Federal Express in the United States; TNT, UPS and DHL in Europe; and UPS in Asia. We also ship our products through other carriers, including national trucking firms, overnight carrier services and the United States Postal Service. If one or more of the package delivery or import/export providers experiences a significant disruption in services or institutes a significant price increase, we may have to seek alternative providers and the delivery of our products could be prevented or delayed. Such events could cause us to incur increased shipping costs that could not be passed on to our customers, negatively impacting our profitability and our relationships with certain of our customers.

Disruptions in the supply of raw materials, certain key components and other goods from our limited or single source suppliers could have an adverse effect on the results of our business operations, and could damage our relationships with customers.

The production of our products requires a wide variety of raw materials, key components and other goods that are generally available from alternate sources of supply. However, certain critical raw materials, key components and other goods required for the production and sale of some of our principal products are available from limited or single sources of supply. We generally have multi-year contracts with no minimum purchase requirements with these suppliers, but those contracts may not fully protect us from a failure by certain suppliers to supply critical materials or from the delays inherent in being required to change suppliers and, in some cases, validate new raw materials. Such raw materials, key components and other goods can usually be obtained from alternative sources with the potential for an increase in price, decline in quality or delay in delivery. A prolonged inability to obtain certain raw materials, key components or other goods is possible and could have an adverse effect on our business operations, and could damage our relationships with customers.

We are subject to the rules of the Securities and Exchange Commission requiring disclosure as to whether certain materials known as conflict minerals (tantalum, tin, gold, tungsten and their derivatives) that may be contained in our products are mined from the Democratic Republic of the Congo and adjoining countries. As a result of these rules, we may incur additional costs in complying with the disclosure requirements and in satisfying those customers who require that the components used in our products be certified as conflict-free, and the potential lack of availability of these materials at competitive prices could increase our production costs.

The manufacture and sale of products and services may expose us to product and other liability claims for which we could have substantial liability.

We face an inherent business risk of exposure to product and other liability claims if our products, services or product candidates are alleged or found to have caused injury, damage or loss. We may be unable to obtain insurance with adequate levels of coverage for potential liability on acceptable terms or claims of this nature may be excluded from coverage under the terms of any insurance policy that we obtain. If we are unable to obtain such insurance or the amounts of any claims successfully brought against us substantially exceed our coverage, then our business could be adversely impacted.

If we fail to maintain satisfactory compliance with the regulations of the United States Food and Drug Administration and other governmental agencies in the United States and abroad, we may be forced to recall products and cease their manufacture and distribution, and we could be subject to civil, criminal or monetary penalties.

Our operations are subject to regulation by different state and federal government agencies in the United States and other countries, as well as to the standards established by international standards bodies. If we fail to comply with those regulations or standards, we could be subject to fines, penalties, criminal prosecution or other sanctions. Some of our products are subject to regulation by the United States Food and Drug Administration and similar foreign and domestic agencies. These regulations govern a wide variety of product activities, from design and development to labeling, manufacturing, promotion, sales and distribution. If we fail to comply with those regulations or standards, we may have to recall products, cease their manufacture and distribution, and may be subject to fines or criminal prosecution.

We are also subject to a variety of laws, regulations and standards that govern, among other things, the importation and exportation of products, the handling, transportation and manufacture of toxic or hazardous substances, and our business practices in the United States and abroad such as anti-bribery, anti-corruption and competition laws. This requires that we devote substantial resources to maintaining our compliance with those laws, regulations and standards. A failure to do so could result in the imposition of civil, criminal or monetary penalties having a material adverse effect on our operations.

Changes in governmental regulations may reduce demand for our products or increase our expenses.

We compete in markets in which we or our customers must comply with federal, state, local and foreign regulations, such as environmental, health and safety, and food and drug regulations. We develop, configure and market our products to meet customer needs created by these regulations. Any significant change in these regulations could reduce demand for our products or increase our costs of producing these products.

The healthcare industry is highly regulated and if we fail to comply with its extensive system of laws and regulations, we could suffer fines and penalties or be required to make significant changes to our operations which could have a significant adverse effect on the results of our business operations.

The healthcare industry, including the genetic screening market, is subject to extensive and frequently changing international and United States federal, state and local laws and regulations. In addition, legislative provisions relating to healthcare fraud and abuse, patient privacy violations and misconduct involving government insurance programs provide federal enforcement personnel with substantial powers and remedies to pursue suspected violations. We believe that our business will continue to be subject to increasing regulation as the federal government continues to strengthen its position on healthcare matters, the scope and effect of which we cannot predict. If we fail to comply with applicable laws and regulations, we could suffer civil and criminal damages, fines and penalties, exclusion from participation in governmental healthcare programs, and the loss of various licenses, certificates and authorizations necessary to operate our business, as well as incur liabilities from third-party claims, all of which could have a significant adverse effect on our business.

Economic, political and other risks associated with foreign operations could adversely affect our international sales and profitability.

Because we sell our products worldwide, our businesses are subject to risks associated with doing business internationally. Our sales originating outside the United States represented the majority of our total revenue in fiscal year 2018. We anticipate that sales from international operations will continue to represent a substantial portion of our total revenue. In addition, many of our manufacturing facilities, employees and suppliers are located outside the United States. Accordingly, our future results of operations could be harmed by a variety of factors, including:

- changes in actual, or from projected, foreign currency exchange rates,
- changes in a country’s or region’s political or economic conditions, particularly in developing or emerging markets,
- longer payment cycles of foreign customers and timing of collections in foreign jurisdictions,
- trade protection measures including embargoes and tariffs, such as the tariffs recently implemented by the U.S. government on certain imports from China and by the Chinese government on certain imports from the U.S., the extent and impact of which have yet to be fully determined,
- import or export licensing requirements and the associated potential for delays or restrictions in the shipment of our products or the receipt of products from our suppliers,
- policies in foreign countries benefiting domestic manufacturers or other policies detrimental to companies headquartered in the United States,

- differing tax laws and changes in those laws, or changes in the countries in which we are subject to tax,
- adverse income tax audit settlements or loss of previously negotiated tax incentives,
- differing business practices associated with foreign operations,
- difficulty in transferring cash between international operations and the United States,
- difficulty in staffing and managing widespread operations,
- differing labor laws and changes in those laws,
- differing protection of intellectual property and changes in that protection,
- expanded enforcement of laws related to data protection and personal privacy,
- increasing global enforcement of anti-bribery and anti-corruption laws, and
- differing regulatory requirements and changes in those requirements.

If we do not retain our key personnel, our ability to execute our business strategy will be limited.

Our success depends to a significant extent upon the continued service of our executive officers and key management and technical personnel, particularly our experienced engineers and scientists, and on our ability to continue to attract, retain, and motivate qualified personnel. The competition for these employees is intense. The loss of the services of key personnel could have a material adverse effect on our operating results. In addition, there could be a material adverse effect on us should the turnover rates for key personnel increase significantly or if we are unable to continue to attract qualified personnel. We do not maintain any key person life insurance policies on any of our officers or employees.

Our success also depends on our ability to execute leadership succession plans. The inability to successfully transition key management roles could have a material adverse effect on our operating results.

If we experience a significant disruption in, or breach in security of, our information technology systems or those of our customers, suppliers or other third parties, or cybercrime, resulting in inappropriate access to or inadvertent transfer of information or assets, or if we fail to implement new systems, software and technologies successfully, our business could be adversely affected.

We rely on several centralized information technology systems throughout our company to develop, manufacture and provide products and services, keep financial records, process orders, manage inventory, process shipments to customers and operate other critical functions. Our information technology systems may be susceptible to damage, disruptions or shutdowns due to power outages, hardware failures, computer viruses, attacks by computer hackers, telecommunication failures, user errors, catastrophes or other unforeseen events. If we were to experience a prolonged system disruption in the information technology systems that involve our interactions with customers, suppliers or other third parties, it could result in the loss of sales and customers and significant incremental costs, which could adversely affect our business. In addition, security breaches of our information technology systems or cybercrime, resulting in inappropriate access to or inadvertent transfer of information or assets, could result in losses or misappropriation of assets or unauthorized disclosure of confidential information belonging to us or to our employees, partners, customers or suppliers, which could result in our suffering significant financial or reputational damage.

We have a substantial amount of outstanding debt, which could impact our ability to obtain future financing and limit our ability to make other expenditures in the conduct of our business.

We have a substantial amount of debt and other financial obligations. Our debt level and related debt service obligations could have negative consequences, including:

- requiring us to dedicate significant cash flow from operations to the payment of principal and interest on our debt, which reduces the funds we have available for other purposes, such as acquisitions and stock repurchases;
- reducing our flexibility in planning for or reacting to changes in our business and market conditions;
- exposing us to interest rate risk as a portion of our debt obligations are at variable rates;
- increasing our foreign currency risk as a portion of our debt obligations are in denominations other than the US dollar; and

- increasing the chances of a downgrade of our debt ratings due to the amount or intended purpose of our debt obligations.

In addition, we may incur additional indebtedness in the future to meet future financing needs. If we add new debt, the risks described above could increase.

Restrictions in our senior unsecured revolving credit facility and other debt instruments may limit our activities.

Our senior unsecured revolving credit facility, senior unsecured notes due in April 2021 ("April 2021 Notes"), senior unsecured notes due in November 2021 ("November 2021 Notes") and senior unsecured notes due in 2026 ("2026 Notes") include restrictive covenants that limit our ability to engage in activities that could otherwise benefit our company. These include restrictions on our ability and the ability of our subsidiaries to:

- pay dividends on, redeem or repurchase our capital stock,
- sell assets,
- incur obligations that restrict our subsidiaries' ability to make dividend or other payments to us,
- guarantee or secure indebtedness,
- enter into transactions with affiliates, and
- consolidate, merge or transfer all, or substantially all, of our assets and the assets of our subsidiaries on a consolidated basis.

We are also required to meet specified financial ratios under the terms of certain of our existing debt instruments. Our ability to comply with these financial restrictions and covenants is dependent on our future performance, which is subject to prevailing economic conditions and other factors, including factors that are beyond our control, such as foreign exchange rates, interest rates, changes in technology and changes in the level of competition. In addition, if we are unable to maintain our investment grade credit rating, our borrowing costs would increase and we would be subject to different and potentially more restrictive financial covenants under some of our existing debt instruments.

Any future indebtedness that we incur may include similar or more restrictive covenants. Our failure to comply with any of the restrictions in our senior unsecured revolving credit facility, the April 2021 Notes, the November 2021 Notes, the 2026 Notes or any future indebtedness may result in an event of default under those debt instruments, which could permit acceleration of the debt under those debt instruments, and require us to prepay that debt before its scheduled due date under certain circumstances.

The United Kingdom's vote in favor of withdrawing from the European Union could adversely impact our results of operations.

Nearly 3% of our net sales from continuing operations in fiscal year 2018 came from the United Kingdom. Following the referendum vote in the United Kingdom in June 2016 in favor of leaving the European Union (commonly referred to as "Brexit"), on March 29, 2017, the country formally notified the European Union of its intention to withdraw. Brexit has involved a process of lengthy negotiations between the United Kingdom and European Union member states to determine the future terms of the United Kingdom's relationship with the European Union. The potential effects of Brexit remain uncertain. Brexit has caused, and may continue to create, volatility in global stock markets and regional and global economic uncertainty particularly in the United Kingdom financial and banking markets. Weakening of economic conditions or economic uncertainties tend to harm our business, and if such conditions worsen in the United Kingdom or in the rest of Europe, it may have a material adverse effect on our operations and sales.

Any significant weakening of the Great Britain Pound to the U.S. dollar will have an adverse impact on our European revenues due to the importance of our sales in the United Kingdom. Currency exchange rates in the pound sterling and the euro with respect to each other and the U.S. dollar have already been adversely affected by Brexit and that may continue to be the case. In addition, depending on the terms of Brexit, the United Kingdom could lose the benefits of global trade agreements negotiated by the European Union on behalf of its members, which may result in increased trade barriers which could make our doing business in Europe more difficult.

Our results of operations will be adversely affected if we fail to realize the full value of our intangible assets.

As of June 30, 2019, our total assets included $4.3 billion of net intangible assets. Net intangible assets consist principally of goodwill associated with acquisitions and costs associated with securing patent rights, trademark rights, customer relationships, core technology and technology licenses and in-process research and development, net of accumulated amortization. We test certain of these items—specifically all of those that are considered "non-amortizing"—at least annually for potential impairment by comparing the carrying value to the fair market value of the reporting unit to which they are assigned. All of our amortizing intangible assets are also evaluated for impairment should events occur that call into question the value of the intangible assets.

Adverse changes in our business, adverse changes in the assumptions used to determine the fair value of our reporting units, or the failure to grow our Discovery & Analytical Solutions and Diagnostics segments may result in impairment of our intangible assets, which could adversely affect our results of operations.

Our share price will fluctuate.

Over the last several years, stock markets in general and our common stock in particular have experienced significant price and volume volatility. Both the market price and the daily trading volume of our common stock may continue to be subject to significant fluctuations due not only to general stock market conditions but also to a change in sentiment in the market regarding our operations and business prospects. In addition to the risk factors discussed above, the price and volume volatility of our common stock may be affected by:

- operating results that vary from our financial guidance or the expectations of securities analysts and investors,
- the financial performance of the major end markets that we target,
- the operating and securities price performance of companies that investors consider to be comparable to us,
- announcements of strategic developments, acquisitions and other material events by us or our competitors, and
- changes in global financial markets and global economies and general market conditions, such as interest or foreign exchange rates, commodity and equity prices and the value of financial assets.

Dividends on our common stock could be reduced or eliminated in the future.

On April 25, 2019, we announced that our Board had declared a quarterly dividend of $0.07 per share for the second quarter of fiscal year 2019 that will be payable in August 2019. On July 25, 2019, we announced that our Board had declared a quarterly dividend of $0.07 per share for the third quarter of fiscal year 2019 that will be payable in November 2019. In the future, our Board may determine to reduce or eliminate our common stock dividend in order to fund investments for growth, repurchase shares or conserve capital resources.

Item 2. *Unregistered Sales of Equity Securities and Use of Proceeds*

Stock Repurchases

The following table provides information with respect to the shares of common stock repurchased by us for the periods indicated.

	Issuer Repurchases of Equity Securities			
Period	Total Number of Shares Purchased(1)	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(2)	Maximum Number (or Approximate Dollar Value) Shares that May Yet Be Purchased Under the Plans or Programs
April 1, 2019—April 28, 2019	505	$ 97.78	—	$ 197,803,699
April 29, 2019—May 26, 2019	7,678	91.95	—	197,803,699
May 27 2019—June 30, 2019	96	92.94	—	197,803,699
Activity for quarter ended June 30, 2019	8,279	$ 92.32	—	$ 197,803,699

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(1) Our Board of Directors (our "Board") has authorized us to repurchase shares of common stock to satisfy minimum statutory tax withholding obligations in connection with the vesting of restricted stock awards and restricted stock unit awards granted pursuant to our equity incentive plans and to satisfy obligations related to the exercise of stock options made pursuant to our equity incentive plans. During the three months ended June 30, 2019, we repurchased 8,279 shares of common stock for this purpose at an aggregate cost of $0.8 million. During the six months ended June 30, 2019, we repurchased 65,568 shares of common stock for this purpose at an aggregate cost of $6.1 million. The repurchased shares have been reflected as additional authorized but unissued shares, with the payments reflected in common stock and capital in excess of par value.

(2) On July 23, 2018, our Board authorized us to repurchase shares of common stock for an aggregate amount up to $250.0 million under a stock repurchase program (the "Repurchase Program"). The Repurchase Program will expire on July 23, 2020 unless terminated earlier by our Board and may be suspended or discontinued at any time. During the three and six months ended June 30, 2019, we had no stock repurchases under the Repurchase Program. As of June 30, 2019, $197.8 million remained available for aggregate repurchases of shares under the Repurchase Program.

Item 6. ***Exhibits***

Exhibit Number	Exhibit Name
10.1	PerkinElmer, Inc. 2019 Incentive Plan, filed with the Securities and Exchange Commission on March 13, 2019 as Appendix B to our definitive proxy statement on Schedule 14A (File No. 001-05075) and incorporated herein by reference.
10.2	Form of Restricted Stock Unit Agreement for grants to non-employee directors under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.2 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.3	Form of Restricted Stock Unit Agreement (Performance-based vesting) with single-trigger vesting acceleration upon a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.3 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.4	Form of Restricted Stock Unit Agreement (Performance-based vesting) with double-trigger vesting acceleration following a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.4 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.5	Form of Stock Option Agreement with single-trigger vesting acceleration upon a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.5 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.6	Form of Stock Option Agreement with double-trigger vesting acceleration following a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.6 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.7	Form of Restricted Stock Agreement with single-trigger vesting acceleration upon a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.7 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
10.8	Form of Restricted Stock Agreement with double-trigger vesting acceleration following a change of control for grants to executive officers under the 2019 Incentive Plan, filed with the Securities and Exchange Commission on April 24, 2019 as Exhibit 99.8 to our current report on Form 8-K (File No. 001-05075) and herein incorporated by reference.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101).

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Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language):

(i) Cover Page, Form 10-Q, Quarterly Report for the quarterly period ended June 30, 2019 (ii) Condensed Consolidated Statements of Operations for the three and six months ended June 30, 2019 and July 1, 2018, (iii) Condensed Consolidated Statements of Comprehensive Income for the three and six months ended June 30, 2019 and July 1, 2018, (iv) Condensed Consolidated Balance Sheets at June 30, 2019 and December 30, 2018, (v) Condensed Consolidated Statements of Stockholders' Equity for the six months ended June 30, 2019 and July 1, 2018, (vi) Condensed Consolidated Statements of Cash Flows for the six months ended June 30, 2019 and July 1, 2018, and (vii) Notes to Condensed Consolidated Financial Statements.

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.

	PERKINELMER, INC.	
August 6, 2019	By:	/s/ JAMES M. MOCK
		James M. Mock **Senior Vice President and** **Chief Financial Officer** **(Principal Financial Officer)**
	PERKINELMER, INC.	
August 6, 2019	By:	/s/ ANDREW OKUN
		Andrew Okun **Vice President and Chief Accounting Officer** **(Principal Accounting Officer)**

EXHIBIT 31.1

CERTIFICATION

I, Robert F. Friel, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of PerkinElmer, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 6, 2019

/s/ ROBERT F. FRIEL

Robert F. Friel
Chairman and Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, James M. Mock, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of PerkinElmer, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 6, 2019

/s/ JAMES M. MOCK

James M. Mock
Senior Vice President and
Chief Financial Officer

EXHIBIT 32.1

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of PerkinElmer, Inc. (the "Company") for the period ended June 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Robert F. Friel, Chairman and Chief Executive Officer of the Company, and James M. Mock, Senior Vice President and Chief Financial Officer of the Company, each hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) Based on my knowledge, the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) Based on my knowledge, the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 6, 2019

/s/ ROBERT F. FRIEL

Robert F. Friel
Chairman and Chief Executive Officer

Dated: August 6, 2019

/s/ JAMES M. MOCK

James M. Mock
Senior Vice President and
Chief Financial Officer