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 JULY 1, 2017

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 No. 001-15943

charles river

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**06-1397316**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
251 Ballardvale Street **Wilmington, Massachusetts**	**01887**
(Address of Principal Executive Offices)	(Zip Code)

(Registrant's telephone number, including area code): **(781) 222-6000**

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 and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files. Yes ☑ No ☐

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 ☐ (Do not check if smaller reporting company)
Smaller reporting company ☐	Emerging growth company ☐	

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

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

As of July 28, 2017, there were 47,593,800 shares of the Registrant's common stock outstanding.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED JULY 1, 2017

TABLE OF CONTENTS

Special Note on Factors Affecting Future Results

This Quarterly Report on Form 10-Q contains forward-looking statements regarding future events and the future results of Charles River Laboratories International, Inc. that are based on our current expectations, estimates, forecasts and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as “expect,” “anticipate,” “target,” “goal,” “project,” “intend,” “plan,” “believe,” “seek,” “estimate,” “will,” “likely,” “may,” “designed,” “would,” “future,” “can,” “could,” and other similar expressions that are predictions of or indicate future events and trends or which do not relate to historical matters are intended to identify such forward-looking statements. These statements are based on our current expectations and beliefs and involve a number of risks, uncertainties and assumptions that are difficult to predict. For example, we may use forward-looking statements when addressing topics such as: goodwill and asset impairments still under review; future demand for drug discovery and development products and services, including the outsourcing of these services; our expectations regarding stock repurchases, including the number of shares to be repurchased, expected timing and duration, the amount of capital that may be expended and the treatment of repurchased shares; present spending trends and other cost reduction activities by our clients; future actions by our management; the outcome of contingencies; changes in our business strategy, business practices and methods of generating revenue; the development and performance of our services and products; market and industry conditions, including competitive and pricing trends; our strategic relationships with leading pharmaceutical companies and venture capital investments and opportunities for future similar arrangements; our cost structure; the impact of acquisitions including Agilux and Brains On-Line; our expectations with respect to revenue growth and operating synergies (including the impact of specific actions intended to cause related improvements); the impact of specific actions intended to improve overall operating efficiencies and profitability (and our ability to accommodate future demand with our infrastructure), including gains and losses attributable to businesses we plan to close, consolidate, or divest; changes in our expectations regarding future stock option, restricted stock, performance share units, and other equity grants to employees and directors; expectations with respect to foreign currency exchange; assessing (or changing our assessment of) our tax positions for financial statement purposes; and our liquidity. In addition, these statements include the impact of economic and market conditions on us and our clients; the effects of our cost saving actions and the steps to optimize returns to shareholders on an effective and timely basis; and our ability to withstand the current market conditions. You should not rely on forward-looking statements because they are predictions and are subject to risks, uncertainties, and assumptions that are difficult to predict. Therefore, actual results may differ materially and adversely from those expressed in any forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this document, or in the case of statements incorporated by reference, on the date of the document incorporated by reference. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in our Annual Report on Form 10-K for the year ended December 31, 2016, under the sections entitled “Our Strategy,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” in our press releases, and other financial filings with the Securities and Exchange Commission. We have no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or risks. New information, future events, or risks may cause the forward-looking events we discuss in this report not to occur.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED)
(in thousands, except per share amounts)

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
Service revenue	$ 329,398	$ 292,847	$ 633,929	$ 513,548
Product revenue	139,731	141,208	280,963	275,375
Total revenue	469,129	434,055	914,892	788,923
Costs and expenses:				
Cost of services provided (excluding amortization of intangible assets)	214,716	196,121	421,536	343,470
Cost of products sold (excluding amortization of intangible assets)	68,751	68,187	135,995	134,938
Selling, general and administrative	94,533	100,473	186,023	183,417
Amortization of intangible assets	9,819	11,213	20,556	17,565
Operating income	81,310	58,061	150,782	109,533
Other income (expense):				
Interest income	161	222	363	485
Interest expense	(7,403)	(8,909)	(14,386)	(13,120)
Other income, net	2,848	5,016	18,204	9,042
Income from continuing operations, before income taxes	76,916	54,390	154,963	105,940
Provision for income taxes	22,243	18,845	53,327	32,820
Income from continuing operations, net of income taxes	54,673	35,545	101,636	73,120
Income (loss) from discontinued operations, net of income taxes	(71)	12	(75)	(14)
Net income	54,602	35,557	101,561	73,106
Less: Net income attributable to noncontrolling interests	650	350	831	756
Net income attributable to common shareholders	$ 53,952	$ 35,207	$ 100,730	$ 72,350
Earnings per common share				
Basic:				
Continuing operations attributable to common shareholders	$ 1.14	$ 0.75	$ 2.12	$ 1.54
Discontinued operations	$ —	$ —	$ —	$ —
Net income attributable to common shareholders	$ 1.13	$ 0.75	$ 2.12	$ 1.54
Diluted:				
Continuing operations attributable to common shareholders	$ 1.12	$ 0.73	$ 2.08	$ 1.51
Discontinued operations	$ —	$ —	$ —	$ —
Net income attributable to common shareholders	$ 1.12	$ 0.73	$ 2.08	$ 1.51

See Notes to Unaudited Condensed Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)
(in thousands)

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
Net income	$ 54,602	$ 35,557	$ 101,561	$ 73,106
Other comprehensive income (loss):				
Foreign currency translation adjustment and other	33,451	(8,114)	44,672	(15,910)
Amortization of net loss and prior service benefit included in net periodic cost for pension and other post-retirement benefit plans	901	395	1,755	785
Comprehensive income, before income taxes	88,954	27,838	147,988	57,981
Income tax expense related to items of other comprehensive income (Note 9)	397	142	623	284
Comprehensive income, net of income taxes	88,557	27,696	147,365	57,697
Less: Comprehensive income (loss) related to noncontrolling interests, net of income taxes	900	(136)	1,198	(9)
Comprehensive income attributable to common shareholders, net of income taxes	$ 87,657	$ 27,832	$ 146,167	$ 57,706

See Notes to Unaudited Condensed Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)
(in thousands, except per share amounts)

	July 1, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 116,466	$ 117,626
Trade receivables, net	398,547	364,050
Inventories	104,690	95,833
Prepaid assets	50,671	34,315
Other current assets	67,693	45,008
Total current assets	738,067	656,832
Property, plant and equipment, net	758,724	755,827
Goodwill	776,453	787,517
Client relationships, net	299,348	320,157
Other intangible assets, net	69,446	74,291
Deferred tax assets	30,494	28,746
Other assets	101,132	88,430
Total assets	$ 2,773,664	$ 2,711,800
Liabilities, Redeemable Noncontrolling Interest and Equity		
Current liabilities:		
Current portion of long-term debt and capital leases	$ 27,225	$ 27,313
Accounts payable	64,652	68,485
Accrued compensation	84,732	93,471
Deferred revenue	119,336	127,731
Accrued liabilities	99,128	84,470
Other current liabilities	27,362	26,500
Current liabilities of discontinued operations	1,636	1,623
Total current liabilities	424,071	429,593
Long-term debt, net and capital leases	1,116,278	1,207,696
Deferred tax liabilities	82,956	55,717
Other long-term liabilities	163,799	159,239
Long-term liabilities of discontinued operations	4,849	5,771
Total liabilities	1,791,953	1,858,016
Commitments and contingencies (Note 13)		
Redeemable noncontrolling interest	15,317	14,659
Equity:		
Preferred stock, $0.01 par value; 20,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.01 par value; 120,000 shares authorized; 87,329 shares issued and 47,586 shares outstanding as of July 1, 2017, and 86,301 shares issued and 47,363 shares outstanding as of December 31, 2016	873	863
Additional paid-in capital	2,528,742	2,477,371
Retained earnings	266,033	165,303
Treasury stock, at cost 39,743 shares and 38,938 shares as of July 1, 2017, and December 31, 2016, respectively	(1,623,825)	(1,553,005)
Accumulated other comprehensive loss	(208,327)	(253,764)
Total equity attributable to common shareholders	963,496	836,768
Noncontrolling interests	2,898	2,357
Total equity	966,394	839,125
Total liabilities, redeemable noncontrolling interest and equity	$ 2,773,664	$ 2,711,800

See Notes to Unaudited Condensed Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)
(in thousands)

	Six Months Ended	
	July 1, 2017	**June 25, 2016**
Cash flows relating to operating activities		
Net income	$ 101,561	$ 73,106
Less: Loss from discontinued operations, net of income taxes	(75)	(14)
Income from continuing operations, net of income taxes	101,636	73,120
Adjustments to reconcile net income from continuing operations to net cash provided by operating activities:		
Depreciation and amortization	64,210	57,008
Stock-based compensation	21,376	22,047
Deferred income taxes	22,951	(1,848)
Gain on divestiture	(10,577)	—
Other, net	(1,555)	(7,630)
Changes in assets and liabilities:		
Trade receivables, net	(26,596)	(27,636)
Inventories	(7,746)	(1,685)
Accounts payable	(6,828)	19,723
Accrued compensation	(10,715)	(4,243)
Other assets and liabilities, net	(11,803)	(2,900)
Net cash provided by operating activities	134,353	125,956
Cash flows relating to investing activities		
Acquisition of businesses and assets, net of cash acquired	—	(578,772)
Capital expenditures	(31,917)	(20,041)
Purchases of investments	(29,976)	(18,111)
Proceeds from sale of investments and distributions from venture capital investments	3,479	8,074
Proceeds from divestiture	72,462	—
Other, net	(22)	4,074
Net cash provided by (used in) investing activities	14,026	(604,776)
Cash flows relating to financing activities		
Proceeds from long-term debt and revolving credit facility	136,224	881,975
Proceeds from exercises of stock options	29,955	19,823
Payments on long-term debt, revolving credit facility and capital lease obligations	(249,973)	(375,209)
Purchase of treasury stock	(70,820)	(12,198)
Other, net	(450)	(4,142)
Net cash (used in) provided by financing activities	(155,064)	510,249
Discontinued operations		
Net cash used in operating activities from discontinued operations	(997)	(782)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	6,808	6,299
Net change in cash, cash equivalents, and restricted cash	(874)	36,946
Cash, cash equivalents, and restricted cash, beginning of period	119,894	119,963
Cash, cash equivalents, and restricted cash, end of period	$ 119,020	$ 156,909
Supplemental cash flow information:		
Cash and cash equivalents	$ 116,466	$ 154,585
Restricted cash included in Other current assets	568	561
Restricted cash included in Other assets	1,986	1,763
Cash, cash equivalents, and restricted cash, end of period	$ 119,020	$ 156,909

See Notes to Unaudited Condensed Consolidated Financial Statements.

1. BASIS OF PRESENTATION

The accompanying condensed consolidated financial statements are unaudited and have been prepared by Charles River Laboratories International, Inc. (the Company) in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and pursuant to the rules and regulations of the Securities and Exchange Commission. The year-end condensed consolidated balance sheet data was derived from the Company's audited consolidated financial statements, but does not include all disclosures required by U.S. GAAP. These unaudited condensed consolidated financial statements should be read in conjunction with the Company's Annual Report on Form 10-K for fiscal year 2016. The unaudited condensed consolidated financial statements, in the opinion of management, reflect all normal and recurring adjustments necessary for a fair statement of the Company's financial position and results of operations.

The Company has reclassified certain amounts in the unaudited condensed consolidated statements of cash flow for prior periods to conform to the current year presentation. See "Newly Adopted Accounting Pronouncements" below.

Use of Estimates
The preparation of unaudited condensed consolidated financial statements in accordance with U.S. GAAP requires that the Company make estimates and judgments that may affect the reported amounts of assets, liabilities, redeemable noncontrolling interest, revenues, expenses and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, judgments and methodologies. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. Changes in estimates are reflected in reported results in the period in which they become known.

Consolidation
The Company's unaudited condensed consolidated financial statements reflect its financial statements and those of its subsidiaries in which the Company holds a controlling financial interest. For consolidated entities in which the Company owns or is exposed to less than 100% of the economics, the Company records net income (loss) attributable to noncontrolling interests in its consolidated statements of income equal to the percentage of the economic or ownership interest retained in such entities by the respective noncontrolling parties. Intercompany balances and transactions are eliminated in consolidation.

The Company's fiscal year is typically based on a 52-week year, with each quarter composed of 13 weeks ending on the last Saturday on, or closest to, March 31, June 30, September 30, and December 31. A 53rd week was included in the fourth quarter of fiscal year 2016, which is occasionally necessary to align with a December 31 calendar year-end.

Summary of Significant Accounting Policies
The Company's significant accounting policies are described in Note 1, "Description of Business and Summary of Significant Accounting Policies," in the Company's Annual Report on Form 10-K for fiscal year 2016.

Newly Adopted Accounting Pronouncements
In November 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-18, "Restricted Cash." The standard addresses the classification and presentation of restricted cash and restricted cash equivalents within the statement of cash flows. The Company elected to early adopt this standard in fiscal year 2017 and applied the changes retrospectively to all prior periods presented in its unaudited condensed consolidated statements of cash flows.

The Company historically excluded restricted cash balances, recorded in current and long-term other assets, from cash and cash equivalents within the unaudited consolidated statements of cash flows, reflecting transfers between cash, cash equivalents, and restricted cash as a cash flow classified within cash flows relating to operating activities. As a result of the adoption of this standard, the Company combined restricted cash balances of $2.3 million and $2.0 million as of June 25, 2016, and December 26, 2015, respectively, with cash and cash equivalents when reconciling the beginning and ending balances within the unaudited condensed consolidated statements of cash flows for the six months ended June 25, 2016.

In August 2016, the FASB issued ASU 2016-15, "Classification of Certain Cash Receipts and Cash Payments." The standard addresses the classification of certain transactions within the statement of cash flows, including cash payments for debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, and distributions received from equity method investments. The Company elected to early adopt this standard in fiscal year 2017 and applied the changes retrospectively to all prior periods presented within its unaudited condensed consolidated statements of cash flows. The adoption of this standard had no impact within the unaudited condensed consolidated statement of cash flows for the six months ended June 25, 2016.

In March 2016, the FASB issued ASU 2016-09, "Improvements to Employee Share-Based Payment Accounting." The standard reduces complexity in several aspects of the accounting for employee share-based compensation, including the income tax consequences, classification of awards as either equity or liabilities, and classification within the statement of cash flows. The

Company adopted this standard in fiscal year 2017, and applied the changes as required by each amendment to its unaudited condensed consolidated financial statements and related disclosures.

Under ASU 2016-09, the Company adopted the amendment to recognize excess tax benefits and tax deficiencies in the consolidated statement of income on a prospective basis, to present excess tax benefits within operating activities within the unaudited condensed consolidated statements of cash flows on a retrospective basis, and elected to change its accounting policy to account for forfeitures as they occur on a modified retrospective basis.

The adoption to recognize excess tax benefits and tax deficiencies within the unaudited condensed consolidated statements of income on a prospective basis could result in fluctuations in the effective tax rate period-over-period depending on how many awards vest and the volatility of the Company's stock price. During the three months ended July 1, 2017, the impact to the provision for income taxes within the unaudited condensed consolidated statements of income was an excess tax benefit of $1.3 million. During the six months ended July 1, 2017, the impact on the provision for income taxes within the unaudited condensed consolidated statements of income was an excess tax benefit of $8.8 million. Further, for the three and six months ended July 1, 2017, the Company excluded the effect of windfall tax benefits from the hypothetical proceeds used to calculate the repurchase of shares under the treasury stock method for the calculation of diluted earnings per share.

The adoption of the amendment to present excess tax benefits within operating activities within the unaudited condensed consolidated statements of cash flows on a retrospective basis resulted in the reclassification of a cash inflow of $9.1 million from cash provided by financing activities to cash provided by operating activities for the six months ended June 25, 2016. The Company had previously classified cash paid for tax withholding purposes as a financing activity within the unaudited condensed consolidated statements of cash flows; therefore, there was no change related to this requirement under the amendment.

The Company's election to change its accounting policy to account for forfeitures when they occur on a modified retrospective basis resulted in an immaterial impact on its unaudited condensed consolidated financial statements and related disclosures.

Newly Issued Accounting Pronouncements

In March 2017, the FASB issued ASU 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The standard requires an employer to disaggregate the service cost component from the other components of net benefit cost and provides explicit guidance on the presentation of the service cost component and the other components of net benefit cost in the statements of income. The ASU is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years, and should be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost in the statements of income. Early adoption is permitted within the first interim period of the fiscal year. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU 2017-04, "Simplifying the Test for Goodwill Impairment." The standard simplifies the accounting for goodwill impairment by removing Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. This standard is effective for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019, and will be applied on a prospective basis. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures.

In January 2017, the FASB issued ASU 2017-01, "Clarifying the Definition of a Business." The standard clarifies the definition of a business by adding guidance to assist entities in evaluating whether transactions should be accounted for as acquisitions of assets or businesses. This standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted for certain transactions. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU 2016-16, "Intra-Entity Transfers of Assets Other Than Inventory." The standard requires the immediate recognition of tax effects for an intra-entity asset transfer other than inventory. This standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted. The adoption of this standard is not expected to have a material impact on the Company's consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASU 2016-02, "Leases." The standard established the principles that lessees and lessors will apply to report useful information to users of financial statements about the amount, timing and uncertainty of cash flows arising from a lease. This standard is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted. The Company is still evaluating the full impact this standard will have on its consolidated financial statements and related disclosures, but expects to recognize substantially all of its leases on the balance sheet by recording a right-to-use asset and a corresponding lease liability.

In May 2014, the FASB issued ASU 2014-09, “Revenue from Contracts with Customers.” The standard, including subsequently issued amendments, will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective and permits the use of either a modified retrospective or cumulative effect transition method. The standard will require an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The standard will be effective for annual and interim periods beginning after December 15, 2017. The Company formed an implementation team during fiscal year 2016 to oversee adoption of the new standard. The implementation team has completed its initial assessment of the new standard, including a detailed review of the Company’s contract portfolio, revenue streams to identify potential differences in accounting as a result of the new standard, and selected the modified retrospective transition method. The Company continues to assess the impact on the existing revenue accounting policies, newly required financial statement disclosures, and executing on the project plan. Currently, the Company is finalizing contract reviews, working through anticipated changes to systems and business processes, and internal controls to support the adoption of the new standard.

2. BUSINESS ACQUISITIONS AND DIVESTITURE

Brains On-Line

On August 4, 2017, the Company acquired Brains On-Line, a leading contract research organization (CRO) providing critical data that advances novel therapeutics for the treatment of central nervous system (CNS) diseases. Brains On-Line strategically expands the Company’s existing CNS capabilities and establishes the Company as a single-source provider for a broad portfolio of discovery CNS services. The preliminary purchase price for Brains On-Line was approximately €18 million in cash, subject to certain post-closing adjustments. In addition to the initial purchase price, the transaction includes potential additional payments of up to €6.7 million based on future performance. The Brains On-Line business will be reported as part of the Company’s DSA reportable segment. Due to the limited time between the acquisition date and the filing of this Quarterly Report on Form 10-Q, it was not practicable for the Company to disclose the preliminary allocation of purchase price to assets acquired and liabilities assumed.

Agilux

On September 28, 2016, the Company acquired Agilux Laboratories, Inc. (Agilux), a CRO that provides a suite of integrated discovery bioanalytical services for small and large molecules, drug metabolism and pharmacokinetic services, and pharmacology services. The acquisition supports the Company’s strategy to offer clients a broader, integrated portfolio that provides services continuously from the earliest stages of drug research through the non-clinical development process. The purchase price for Agilux was $64.9 million in cash and was funded by borrowings on the Company’s revolving credit facility. The business is reported as part of the Company’s DSA reportable segment.

The purchase price allocation of $62.0 million, net of $2.9 million of cash acquired, was as follows:

	September 28, 2016 (in thousands)
Trade receivables (contractual amount of $4,799)	$ 4,799
Other current assets (excluding cash)	994
Property, plant and equipment	3,907
Other long-term assets	11
Definite-lived intangible assets	21,900
Goodwill	44,317
Current liabilities	(3,812)
Long-term liabilities	(10,091)
Total purchase price allocation	$ 62,025

The purchase price allocations are subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed. Any additional adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition. From the date of the acquisition through July 1, 2017, the Company recorded measurement-period adjustments related to the acquisition that resulted in an immaterial change to the purchase price allocation on a consolidated basis.

The breakout of definite-lived intangible assets acquired was as follows:

	Definite-Lived Intangible Assets	Weighted Average Amortization Life
	(in thousands)	(in years)
Client relationships	$ 16,700	17
Other intangible assets	5,200	4
Total definite-lived intangible assets	$ 21,900	14

The goodwill resulting from the transaction is primarily attributable to the potential growth of the Company's DSA businesses from customers and technology introduced through Agilux and the assembled workforce of the acquired business. The goodwill attributable to Agilux is not deductible for tax purposes.

The Company incurred $0.1 million and $0.3 million in transaction and integration costs in connection with the acquisition during the three and six months ended July 1, 2017, respectively, which were included in selling, general and administrative expenses, within the unaudited condensed consolidated statements of income.

Blue Stream

On June 27, 2016, the Company acquired Blue Stream Laboratories, Inc. (Blue Stream), an analytical CRO supporting the development of complex biologics and biosimilars. Combining Blue Stream with the Company's existing discovery, safety assessment, and biologics capabilities created a leading CRO that has the ability to support biologic and biosimilar development from characterization through clinical testing and commercialization. The purchase price for Blue Stream was $11.7 million, including $3.0 million in contingent consideration, and was subject to certain customary adjustments. The acquisition was funded by borrowings on the Company's revolving credit facility. The business is reported in the Company's Manufacturing reportable segment.

The Company estimated the fair value of this contingent consideration based on a probability-weighted set of outcomes. The contingent consideration is a one-time payment payable based on the achievement of a revenue target. The target was achieved and payment of the contingent consideration will be made in the third quarter of fiscal year 2017.

The purchase price allocation of $11.7 million, net of a non-significant amount of cash acquired, was as follows:

	June 27, 2016
	(in thousands)
Trade receivables (contractual amount of $1,104)	$ 1,104
Other current assets (excluding cash)	15
Property, plant and equipment	912
Other long-term assets	187
Definite-lived intangible assets	1,230
Goodwill	10,334
Current liabilities	(1,132)
Long-term liabilities	(901)
Total purchase price allocation	$ 11,749

From the date of the acquisition through July 1, 2017, the Company recorded measurement-period adjustments related to the acquisition that resulted in an immaterial change to the purchase price allocation on a consolidated basis. No further adjustments will be made to the purchase price allocation.

The breakout of definite-lived intangible assets acquired was as follows:

	Definite-Lived Intangible Assets	Weighted Average Amortization Life
	(in thousands)	(in years)
Client relationships	$ 650	10
Other intangible assets	580	5
Total definite-lived intangible assets	$ 1,230	7

The goodwill resulting from the transaction is primarily attributable to the potential growth of the Company’s Manufacturing segment from customers and technology introduced through Blue Stream, the assembled workforce of the acquired business, expected synergies, and the development of future proprietary processes. The goodwill attributable to Blue Stream is not deductible for tax purposes.

The Company incurred non-significant transaction and integration costs in connection with the acquisition during the three and six months ended July 1, 2017, which were included in selling, general and administrative expenses, within the unaudited condensed consolidated statements of income. The Company incurred $0.4 million of transaction and integration costs during the three and six months ended June 25, 2016, which were included in selling, general and administrative expenses, within the unaudited condensed consolidated statements of income.

WIL Research

On April 4, 2016, the Company acquired WIL Research, a provider of safety assessment and CDMO services to biopharmaceutical, agricultural and industrial chemical companies worldwide. The acquisition enhanced the Company’s position as a leading global early-stage CRO by strengthening its ability to partner with clients across the drug discovery and development continuum. The purchase price for WIL Research was $604.8 million, including assumed liabilities of $0.4 million. The purchase price included payment for actual working capital of the acquired business. The acquisition was funded by cash on hand and borrowings on the Company’s $1.65B Credit Facility. See Note 7, “Long-Term Debt and Capital Lease Obligations.” WIL Research’s safety assessment and CDMO businesses are reported in the Company’s DSA and Manufacturing reportable segments, respectively. On February 10, 2017, the Company divested the CDMO business.

The purchase price allocation of $577.4 million, net of $27.4 million of cash acquired, was as follows:

	April 4, 2016
	(in thousands)
Trade receivables (contractual amount of $48,625)	$ 48,157
Inventories	2,296
Other current assets (excluding cash)	3,814
Property, plant and equipment	129,066
Other long-term assets	1,060
Definite-lived intangible assets	164,800
Goodwill	330,175
Deferred revenue	(39,103)
Other current liabilities	(27,386)
Long-term liabilities	(35,488)
Total purchase price allocation	$ 577,391

The breakout of definite-lived intangible assets acquired was as follows:

		Definite-Lived Intangible Assets	Weighted Average Amortization Life
		(in thousands)	(in years)
Client relationships	$	137,500	15
Developed technology		20,700	3
Backlog		6,600	1
Total definite-lived intangible assets	$	164,800	13

The goodwill resulting from the transaction, $19.0 million of which was deductible for tax purposes due to a prior asset acquisition, was primarily attributed to the potential growth of the Company's DSA and Manufacturing businesses from clients introduced through WIL Research, the assembled workforce of the acquired business, and expected cost synergies. Subsequent to the divestiture of the CDMO business on February 10, 2017, $14.8 million of the goodwill from the transaction is deductible for tax purposes.

The Company incurred transaction and integration costs in connection with the acquisition of $0.7 million and $8.4 million for the three months ended July 1, 2017 and June 25, 2016, respectively, which were included in selling, general and administrative expenses, within the unaudited condensed consolidated statements of income. The Company incurred transaction and integration costs in connection with the acquisition of $1.2 million and $12.4 million for the six months ended July 1, 2017 and June 25, 2016, respectively, which were included in selling, general and administrative expenses, within the unaudited condensed consolidated statements of income.

WIL Research revenue and operating income for each of the three and six months ended June 25, 2016 were $55.2 million and $1.0 million, respectively, since WIL Research was acquired on April 4, 2016.

The following selected *pro forma* consolidated results of operations are presented as if the WIL Research acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition after giving effect to certain adjustments. For the six months ended June 25, 2016, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of $2.7 million, reversal of interest expense on borrowings of $2.6 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	June 25, 2016			
	Three Months Ended		Six Months Ended	
	(in thousands, except per share amounts)			
Revenue	$	434,917	$	849,455
Net income attributable to common shareholders		44,159		89,222
Earnings per common share				
Basic	$	0.94	$	1.90
Diluted	$	0.92	$	1.87

These *pro forma* results of operations have been prepared for comparative purposes only, and they do not purport to be indicative of the results of operations that actually would have resulted had the acquisition occurred on the date indicated or that may result in the future. No effect has been given for synergies, if any, that may have been realized through the acquisition.

Contract Manufacturing

On February 10, 2017, the Company completed the divestiture of its CDMO business to Quotient Clinical Ltd., based in London, England, for $75.0 million in proceeds, net of $0.6 million in cash and cash equivalents transferred in conjunction with the sale and $0.3 million of working capital adjustments.

The CDMO business was acquired in April 2016 as part of the acquisition of WIL Research and was reported in the Company's Manufacturing reportable segment. Following a strategic review that was finalized subsequent to December 31, 2016, the Company determined that the CDMO business was not optimized within the Company's portfolio at its current scale, and that the capital could be better deployed in other long-term growth opportunities.

During the three months ended April 1, 2017, the Company recorded a gain on the divestiture of the CDMO business of $10.6 million, which was included in other income, net within the Company's unaudited condensed consolidated statements of income. As of February 10, 2017, the carrying amounts of the major classes of assets and liabilities associated with the divestiture of the CDMO business were as follows (in thousands):

Assets		
Current assets	$	5,505
Property, plant and equipment, net		11,174
Goodwill		35,857
Long-term assets		17,154
Total assets	$	69,690
Liabilities		
Deferred revenue	$	4,878
Other current liabilities		1,158
Total liabilities	$	6,036

3. SUPPLEMENTAL BALANCE SHEET INFORMATION

The composition of trade receivables, net is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Client receivables	$ 306,238	$ 283,997
Unbilled revenue	94,515	82,203
Total	400,753	366,200
Less: Allowance for doubtful accounts	(2,206)	(2,150)
Trade receivables, net	$ 398,547	$ 364,050

The composition of inventories is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Raw materials and supplies	$ 18,319	$ 18,893
Work in process	14,774	13,681
Finished products	71,597	63,259
Inventories	$ 104,690	$ 95,833

The composition of other current assets is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Investments	$ 23,476	$ 3,771
Prepaid income taxes	43,649	40,705
Restricted cash	568	532
Other current assets	$ 67,693	$ 45,008

The composition of other assets is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Life insurance policies	$ 31,529	$ 29,456
Venture capital investments	54,857	45,331
Restricted cash	1,986	1,736
Other	12,760	11,907
Other assets	$ 101,132	$ 88,430

The composition of other current liabilities is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Accrued income taxes	$ 26,425	$ 25,621
Other	937	879
Other current liabilities	$ 27,362	$ 26,500

The composition of other long-term liabilities is as follows:

	July 1, 2017	December 31, 2016
	(in thousands)	
Long-term pension liability	$ 91,287	$ 89,984
Accrued executive supplemental life insurance retirement plan and deferred compensation plan	33,538	32,880
Other	38,974	36,375
Other long-term liabilities	$ 163,799	$ 159,239

4. VENTURE CAPITAL INVESTMENTS

The Company invests in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. The Company's ownership interest in these funds ranges from 0.7% to 12.0%. The Company accounts for the investments in limited partnerships (LPs), which are variable interest entities, under the equity or cost method of accounting. The Company is not the primary beneficiary because it has no power to direct the activities that most significantly affect the LPs' economic performance. The Company accounts for the investments in limited liability companies, which are not variable interest entities, under the equity method of accounting.

The Company's total commitments to the entities as of July 1, 2017, were $87.7 million, of which the Company funded $45.5 million through that date. During the three and six months ended July 1, 2017, the Company received dividends of zero and $4.4 million, respectively, from the entities. During the three and six months ended June 25, 2016, the Company received no dividends from the entities. The Company recognized gains of $2.5 million and $5.0 million related to these investments for the three months ended July 1, 2017 and June 25, 2016, respectively. The Company recognized gains of $6.7 million and $8.1 million related to these investments for the six months ended July 1, 2017 and June 25, 2016, respectively.

5. FAIR VALUE

The Company has certain assets and liabilities recorded at fair value, which have been classified as Level 1, 2, or 3 within the fair value hierarchy:

- Level 1 - Fair values are determined utilizing prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access,
- Level 2 - Fair values are determined by utilizing quoted prices for identical or similar assets and liabilities in active markets or other market observable inputs such as interest rates, yield curves, and foreign currency spot rates,
- Level 3 - Prices or valuations that require inputs that are both significant to the fair value measurement and unobservable.

The fair value hierarchy level is determined by asset and liability class based on the lowest level of significant input. The observability of inputs may change for certain assets or liabilities. This condition could cause an asset or liability to be reclassified between levels. The Company recognizes transfers between levels within the fair value hierarchy, if any, at the end of each quarter. During the six months ended July 1, 2017 and June 25, 2016, there were no transfers between levels.

Valuation methodologies used for assets and liabilities measured or disclosed at fair value are as follows:

- Cash equivalents - Valued at market prices determined through third-party pricing services;
- Mutual funds - Valued at the unadjusted quoted net asset value of shares held by the Company;
- Foreign currency forward contracts - Valued using market observable inputs, such as forward foreign exchange points and foreign exchanges rates;
- Life insurance policies - Valued at cash surrender value based on the fair value of underlying investments; and
- Contingent consideration - Valued based on a probability weighting of the future cash flows associated with the potential outcomes.

Assets and liabilities measured at fair value on a recurring basis are summarized below:

	July 1, 2017			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 21	$ —	$ 21
Other assets:				
Life insurance policies	—	24,058	—	24,058
Total assets measured at fair value	$ —	$ 24,079	$ —	$ 24,079
Other current liabilities:				
Contingent consideration	$ —	$ —	$ 3,201	$ 3,201
Total liabilities measured at fair value	$ —	$ —	$ 3,201	$ 3,201

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 21	$ —	$ 21
Other assets:				
Life insurance policies	—	22,121	—	22,121
Total assets measured at fair value	$ —	$ 22,142	$ —	$ 22,142
Other current liabilities:				
Contingent consideration	$ —	$ —	$ 3,621	$ 3,621
Total liabilities measured at fair value	$ —	$ —	$ 3,621	$ 3,621

Contingent Consideration

The following table provides a rollforward of the contingent consideration related to the business acquisitions. See Note 2, "Business Acquisitions and Divestiture."

	Six Months Ended	
	July 1, 2017	June 25, 2016
	(in thousands)	
Beginning balance	$ 3,621	$ 1,370
Additions	—	600
Payments	(406)	(674)
Total gains or losses (realized/unrealized):		
Reversal of previously recorded contingent liability and change in fair value	(14)	13
Ending balance	$ 3,201	$ 1,309

The unobservable inputs used in the fair value measurement of the Company's contingent consideration are the probabilities of successful achievement of certain financial targets and a discount rate. Increases or decreases in any of the probabilities of success would result in a higher or lower fair value measurement, respectively. Increases or decreases in the discount rate would result in a lower or higher fair value measurement, respectively.

Debt Instruments

The book value of the Company's term and revolving loans, which are variable rate loans carried at amortized cost, approximates the fair value based on current market pricing of similar debt. As the fair value is based on significant other observable inputs, including current interest and foreign currency exchange rates, it is deemed to be Level 2.

6. GOODWILL AND INTANGIBLE ASSETS

Goodwill

The following table provides a rollforward of the Company's goodwill:

		Adjustments to Goodwill			
	December 31, 2016	Acquisitions / (Divestitures)	Transfers	Foreign Exchange	July 1, 2017
			(in thousands)		
RMS	$ 56,397	$ —	$ —	$ 793	$ 57,190
DSA	563,476	(9)	—	18,125	581,592
Manufacturing	167,644	(36,000)	—	6,027	137,671
Total	$ 787,517	$ (36,009)	$ —	$ 24,945	$ 776,453

The reduction of goodwill during the six months ended July 1, 2017 related primarily to the divestiture of the CDMO business in the Manufacturing reportable segment.

Intangible Assets, Net

The following table displays intangible assets, net by major class:

	July 1, 2017			December 31, 2016		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
	(in thousands)					
Backlog	$ 7,970	$ (7,341)	$ 629	$ 8,370	$ (6,390)	$ 1,980
Technology	74,788	(20,539)	54,249	71,425	(14,314)	57,111
Trademarks and trade names	8,465	(4,311)	4,154	8,177	(4,124)	4,053
Other	16,978	(6,564)	10,414	16,775	(5,628)	11,147
Other intangible assets	108,201	(38,755)	69,446	104,747	(30,456)	74,291
Client relationships	518,555	(219,207)	299,348	519,123	(198,966)	320,157
Intangible assets	$ 626,756	$ (257,962)	$ 368,794	$ 623,870	$ (229,422)	$ 394,448

During the six months ended July 1, 2017, the Company divested the CDMO business, which resulted in a net decrease of $16.8 million and $0.3 million to client relationships and backlog, respectively. During the three months ended March 26, 2016, the Company determined that the carrying values of certain DSA intangible assets were not recoverable and recorded an impairment charge of $1.9 million, which was included in costs of services provided (excluding amortization of intangible assets) within the unaudited condensed consolidated statements of income.

7. LONG-TERM DEBT AND CAPITAL LEASE OBLIGATIONS

Long-Term Debt

Long-term debt, net consists of the following:

	July 1, 2017	December 31, 2016
	(in thousands)	
Term loans	$ 617,500	$ 633,750
Revolving credit facility	498,290	578,759
Other long-term debt	3,705	185
Total debt	1,119,495	1,212,694
Less: current portion of long-term debt	(24,576)	(24,560)
Long-term debt	1,094,919	1,188,134
Debt discount and debt issuance costs	(6,697)	(7,633)
Long-term debt, net	$ 1,088,222	$ 1,180,501

As of July 1, 2017 and December 31, 2016, the weighted average interest rate on the Company’s debt was 2.34% and 1.89%, respectively.

On March 30, 2016, the Company amended and restated its credit facility creating a $1.65 billion credit facility ($1.65B Credit Facility). In connection with the amendment and restatement, the Company expensed $1.4 million of debt issuance costs in the six months ended June 25, 2016.

The $1.65B Credit Facility provides for a $650.0 million term loan and a $1.0 billion multi-currency revolving facility. The term loan facility matures in 19 quarterly installments with the last installment due March 30, 2021. The revolving facility matures on March 30, 2021, and requires no scheduled payment before that date. Under specified circumstances, the Company has the ability to increase the term loan and/or revolving line of credit by up to $500.0 million in the aggregate.

The interest rates applicable to the term loan and revolving loans under the $1.65B Credit Facility are, at the Company’s option, equal to either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1.0%) or the adjusted LIBOR rate, plus an interest rate margin based upon the Company’s leverage ratio.

The $1.65B Credit Facility includes certain customary representations and warranties, events of default, notices of material adverse changes to the Company’s business and negative and affirmative covenants. These covenants include (1) maintenance of a ratio of consolidated earnings before interest, taxes, depreciation and amortization (EBITDA) less capital expenditures to consolidated cash interest expense, for any period of four consecutive fiscal quarters, of no less than 3.50 to 1.0 as well as (2) maintenance of a ratio of consolidated indebtedness to consolidated EBITDA for any period of four consecutive fiscal quarters, of no more than 4.0 to 1.0 with step downs to 3.50 to 1.0 by the last day of the three months ended December 30, 2017. As of July 1, 2017, the Company was compliant with all covenants.

The obligations of the Company under the $1.65B Credit Facility are collateralized by substantially all of the assets of the Company.

Letters of Credit

As of July 1, 2017 and December 31, 2016, the Company had $4.9 million in outstanding letters of credit.

Capital Lease Obligations

The Company's capital lease obligations amounted to $30.7 million and $29.9 million as of July 1, 2017 and December 31, 2016, respectively.

8. EQUITY AND REDEEMABLE NONCONTROLLING INTEREST

Earnings Per Share

The following table reconciles the numerator and denominator in the computations of basic and diluted earnings per share:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Numerator:				
Income from continuing operations, net of income taxes	$ 54,673	$ 35,545	$ 101,636	$ 73,120
Income (loss) from discontinued operations, net of income taxes	(71)	12	(75)	(14)
Less: Net income attributable to noncontrolling interests	650	350	831	756
Net income attributable to common shareholders	$ 53,952	$ 35,207	$ 100,730	$ 72,350
Denominator:				
Weighted-average shares outstanding - Basic	47,591	47,061	47,569	46,852
Effect of dilutive securities:				
Stock options, restricted stock units, performance share units and restricted stock	751	858	835	939
Weighted-average shares outstanding - Diluted	48,342	47,919	48,404	47,791

Options to purchase 0.6 million and 0.8 million shares for the three months ended July 1, 2017 and June 25, 2016, respectively, as well as an insignificant number of restricted shares, restricted stock units (RSUs), and performance share units (PSUs), were not included in computing diluted earnings per share because their inclusion would have been anti-dilutive. Options to purchase 0.6 million and 0.9 million shares for the six months ended July 1, 2017 and June 25, 2016, respectively, as well as an insignificant number of restricted shares, RSUs and PSUs were not included in computing diluted earnings per share because their inclusion would have been anti-dilutive. Basic weighted average shares outstanding for both the six months ended July 1, 2017 and June 25, 2016 excluded the impact of 1.1 million shares of non-vested restricted stock and restricted stock units.

Treasury Shares

During the six months ended July 1, 2017, the Company repurchased 0.6 million shares totaling $54.6 million under its authorized stock repurchase program. No shares were repurchased in the six months ended June 25, 2016. On May 9, 2017, the Company's Board of Directors increased the stock repurchase authorization by $150 million, to an aggregate amount of $1.3 billion. As of July 1, 2017, the Company had $165.1 million remaining on the authorized stock repurchase program. The Company's stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, RSUs and PSUs in order to satisfy individual statutory tax withholding requirements. During the six months ended July 1, 2017 and June 25, 2016, the Company acquired 0.2 million shares for $16.3 million and 0.2 million shares for $12.2 million, respectively, from such netting.

Accumulated Other Comprehensive Income

Changes to each component of accumulated other comprehensive income, net of income taxes, are as follows:

	Foreign Currency Translation Adjustment and Other	Pension and Other Post-Retirement Benefit Plans	Total
		(in thousands)	
December 31, 2016	$ (154,595)	$ (99,169)	$ (253,764)
Other comprehensive loss before reclassifications	44,305	—	44,305
Amounts reclassified from accumulated other comprehensive income (loss)	—	1,755	1,755
Net current period other comprehensive income	44,305	1,755	46,060
Income tax expense	—	623	623
July 1, 2017	$ (110,290)	$ (98,037)	$ (208,327)

Nonredeemable Noncontrolling Interest

The Company has an investment in an entity whose financial results are consolidated in the Company's financial statements, as it has the ability to exercise control over this entity. The interest of the noncontrolling party in this entity has been recorded as noncontrolling interest. The activity within the nonredeemable noncontrolling interest was not significant during the three and six months ended July 1, 2017 and June 25, 2016.

Redeemable Noncontrolling Interest

The Company's redeemable noncontrolling interest resulted from an acquisition of a 75% ownership interest in Vital River in January 2013 and a purchase of an additional 12% equity interest in Vital River in July 2016, totaling an ownership of 87%. Prior to the purchase of an additional 12% equity interest on July 7, 2016, the redeemable noncontrolling interest was reported at fair value.

Concurrent with the purchase of an additional equity interest, the original agreement was amended providing the Company with the right to purchase, and the noncontrolling interest holders with the right to sell, the remaining 13% equity interest at a contractually defined redemption value, subject to a redemption floor (embedded derivative). These rights are exercisable beginning in 2019 and are accelerated in certain events. The redeemable noncontrolling interest is measured at the greater of the amount that would be paid if settlement occurred as of the balance sheet date based on the contractually defined redemption value ($14.6 million as of July 1, 2017) and its carrying amount adjusted for net income (loss) attributable to the noncontrolling interest. As the noncontrolling interest holders have the ability to require the Company to purchase the remaining 13% interest, the noncontrolling interest is classified in the mezzanine section of the condensed consolidated balance sheet, which is presented above the equity section and below liabilities. The agreement does not limit the amount that the Company could be required to pay to purchase the remaining 13% equity interest.

The following table provides a rollforward of the activity related to the Company's redeemable noncontrolling interest:

	Six Months Ended	
	July 1, 2017	June 25, 2016
	(in thousands)	
Beginning balance	$ 14,659	$ 28,008
Total gains or losses (realized/unrealized):		
Net income attributable to noncontrolling interest	291	320
Foreign currency translation	367	(653)
Change in fair value, included in additional paid-in capital	—	(1,851)
Ending balance	$ 15,317	$ 25,824

9. INCOME TAXES

The Company's effective tax rate for the three months ended July 1, 2017 and June 25, 2016 was 28.9% and 34.6%, respectively. The Company's effective tax rate for the six months ended July 1, 2017 and June 25, 2016 was 34.4% and 31.0%, respectively. For the three months ended July 1, 2017, the decrease was primarily attributable to the excess tax benefit associated with stock compensation of $1.3 million as a result of the adoption of ASU 2016-09, and prior year non-deductible transaction costs associated with the purchase of WIL Research. For the six months ended July 1, 2017, the increase was primarily attributable to the tax on the gain on the divestiture of the CDMO business of $18.0 million, offset by the excess tax benefit associated with stock compensation of $8.8 million as a result of the adoption of ASU 2016-09.

During the three months ended July 1, 2017, the Company's unrecognized income tax benefits increased by $0.9 million to $26.0 million, primarily due to an additional quarter of Canadian Scientific Research and Experimental Development credit reserves and unfavorable foreign exchange movement. The amount of unrecognized income tax benefits that would impact the effective tax rate increased by $0.7 million to $22.9 million, for the same reasons noted above. As of July 1, 2017, the amount of accrued interest and penalties on unrecognized tax benefits was $2.4 million. The Company estimates that it is reasonably possible that the unrecognized tax benefits will decrease by up to $5.0 million over the next twelve-month period, primarily as a result of the outcome of a pending tax ruling and competent authority proceedings.

The Company conducts business in a number of tax jurisdictions. As a result, it is subject to tax audits in jurisdictions including the U.S., U.K., China, Japan, France, Germany, and Canada. With few exceptions, the Company is no longer subject to U.S. and international income tax examinations for years before 2013.

The Company and certain of its subsidiaries have ongoing tax controversies with various tax authorities in the U.S., Canada, Germany, and France. The Company does not believe that resolution of these controversies will have a material impact on its financial position or results of operations.

In accordance with the Company's policy, the remaining undistributed earnings of its non-U.S. subsidiaries remain indefinitely reinvested as of July 1, 2017, as they are required to fund needs outside the U.S. and cannot be repatriated in a manner that is substantially tax free.

Income tax expense related to changes in unrecognized pension gains, losses, and prior service costs was $0.4 million and $0.1 million for the three months ended July 1, 2017 and June 25, 2016, respectively. Income tax expense related to changes in unrecognized pension gains, losses, and prior service costs was $0.6 million and $0.3 million for the six months ended July 1, 2017 and June 25, 2016, respectively.

10. PENSION AND OTHER POST-RETIREMENT BENEFIT PLANS

The following table provides the components of net periodic cost for the Company's pension, deferred compensation and executive supplemental life insurance retirement plans:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Service cost	$ 774	$ 639	$ 1,528	$ 1,193
Interest cost	2,939	3,220	5,765	6,584
Expected return on plan assets	(3,485)	(3,998)	(6,935)	(7,990)
Amortization of prior service credit	(139)	(144)	(258)	(288)
Amortization of net loss	1,047	545	2,013	1,091
Net periodic cost	$ 1,136	$ 262	$ 2,113	$ 590

The net periodic cost for the Company's post-retirement benefit plan for the three and six months ended July 1, 2017 and June 25, 2016 was not significant.

11. STOCK-BASED COMPENSATION

The Company has stock-based compensation plans under which employees and non-employee directors may be granted stock-based awards such as stock options, restricted stock, RSUs, and PSUs.

The following table provides stock-based compensation by the financial statement line item in which it is reflected:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Cost of revenue	$ 1,743	$ 1,667	$ 3,289	$ 3,349
Selling, general and administrative	10,147	10,439	18,087	18,698
Stock-based compensation, before income taxes	11,890	12,106	21,376	22,047
Provision for income taxes	(4,276)	(4,354)	(7,584)	(7,868)
Stock-based compensation, net of income taxes	$ 7,614	$ 7,752	$ 13,792	$ 14,179

During the six months ended July 1, 2017, the Company granted stock options as to 0.6 million common shares with a per share weighted average grant date fair value of $18.27, RSUs as to 0.2 million common shares with a per share weighted average grant date fair value of $88.08, and PSUs as to 0.2 million common shares with a per share weighted average grant date fair value of $99.24. The maximum number of common shares to be issued upon vesting of PSUs granted during the six months ended July 1, 2017 is 0.4 million.

12. FOREIGN CURRENCY CONTRACTS

The Company enters into foreign exchange forward contracts to limit its foreign currency exposure related to intercompany loans that are not of a long-term investment nature. These contracts are recorded at fair value in the Company’s unaudited condensed consolidated balance sheet and are not designated as hedging instruments. Any gains or losses on such contracts are immediately recognized in other income, net, and are largely offset by the remeasurement of the underlying intercompany loan balances.

The Company did not have any foreign currency contracts open as of July 1, 2017 and December 31, 2016.

The following table summarizes gains recognized on foreign exchange forward contracts related to intercompany loans denominated in Euros on the Company’s unaudited condensed consolidated statements of income:

	Three Months Ended		Six Months Ended	
Location of Gain	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Other income, net	$ —	$ 1,130	$ —	$ 3,373

13. COMMITMENTS AND CONTINGENCIES

Litigation

Various lawsuits, claims and proceedings of a nature considered normal to its business are pending against the Company. While the outcome of any of these proceedings cannot be accurately predicted, the Company does not believe the ultimate resolution of any of these existing matters would have a material adverse effect on the Company’s business or financial condition.

Lease Commitments

During the six months ended July 1, 2017, the Company assumed or entered into new lease agreements or exercised options to extend the lease terms for certain existing leases. As a result, the Company’s lease obligations through 2027 increased by $20.4 million.

14. RESTRUCTURING AND ASSET IMPAIRMENTS

Workforce Reductions

In recent fiscal years, the Company has been undertaking productivity improvement initiatives at various facilities. The following table provides a rollforward of the Company’s severance and transition costs liabilities related to those initiatives:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Beginning balance	$ 3,451	$ 2,521	$ 3,680	$ 2,969
Expense	1,193	4,099	2,210	4,120
Payments / utilization	(820)	(2,940)	(2,093)	(3,353)
Foreign currency adjustments	180	(2)	207	(58)
Ending balance	$ 4,004	$ 3,678	$ 4,004	$ 3,678

As of July 1, 2017, $4.0 million of severance and other personnel related costs liabilities were included in accrued compensation within the Company's unaudited condensed consolidated balance sheet.

The following table presents severance and transition costs by classification within the unaudited condensed consolidated statements of income:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 554	$ 367	$ 1,477	$ 388
Selling, general and administrative	639	3,732	733	3,732
Total severance and transition costs	$ 1,193	$ 4,099	$ 2,210	$ 4,120

The following presents severance and transition related costs by reportable segment:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
RMS	$ 183	$ —	$ 183	$ —
DSA	344	4,099	540	4,120
Manufacturing	506	—	1,327	—
Corporate	160	—	160	—
Total severance and transition costs	$ 1,193	$ 4,099	$ 2,210	$ 4,120

Facilities

During the three months ended July 1, 2017, the Company continued the consolidation of certain DSA facilities in the U.S., Ireland, and the U.K. As a result, the company recorded $0.1 million and an insignificant amount to other costs, related to the consolidation plans. During the three months ended June 25, 2016, the consolidation of certain RMS and DSA facilities in the U.S. and the U.K. resulted in the Company recording $0.2 million of accelerated depreciation related to these activities.

During the six months ended July 1, 2017, the Company continued the consolidation of certain DSA facilities in the U.S., Ireland, and the U.K. As a result, an asset impairment charge of $0.2 million and other costs of $0.4 million were recorded related to the consolidation plans. During the six months ended June 25, 2016, the consolidation of certain RMS and DSA facilities in the U.S. and the U.K. resulted in the Company recording $0.4 million of accelerated depreciation related to these activities.

15. SEGMENT INFORMATION

The following table presents revenue and other financial information by reportable segment:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
RMS				
Revenue	$ 124,002	$ 125,058	$ 251,163	$ 248,397
Operating income	33,579	35,445	71,290	71,831
Depreciation and amortization	4,945	5,118	10,037	10,368
Capital expenditures	4,404	2,381	7,007	3,434
DSA				
Revenue	$ 252,092	$ 221,059	$ 479,850	$ 379,042
Operating income	51,690	32,381	90,350	63,211
Depreciation and amortization	18,965	18,600	38,334	30,557
Capital expenditures	7,102	4,644	15,425	9,351
Manufacturing				
Revenue	$ 93,035	$ 87,938	$ 183,879	$ 161,484
Operating income	29,041	27,121	55,642	46,736
Depreciation and amortization	5,787	6,525	11,749	12,501
Capital expenditures	1,939	4,256	4,231	6,385

For the three months ended July 1, 2017 and June 25, 2016, reconciliations of segment operating income, depreciation and amortization, and capital expenditures to the respective consolidated amounts are as follows:

	Operating Income		Depreciation and Amortization		Capital Expenditures	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)					
Total reportable segments	$ 114,310	$ 94,947	$ 29,697	$ 30,243	$ 13,445	$ 11,281
Unallocated corporate	(33,000)	(36,886)	2,102	2,110	2,552	510
Total consolidated	$ 81,310	$ 58,061	$ 31,799	$ 32,353	$ 15,997	$ 11,791

For the six months ended July 1, 2017 and June 25, 2016, reconciliations of segment operating income, depreciation and amortization, and capital expenditures to the respective consolidated amounts are as follows:

	Operating Income		Depreciation and Amortization		Capital Expenditures	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)					
Total reportable segments	$ 217,282	$ 181,778	$ 60,120	$ 53,426	$ 26,663	$ 19,170
Unallocated corporate	(66,500)	(72,245)	4,090	3,582	5,254	871
Total consolidated	$ 150,782	$ 109,533	$ 64,210	$ 57,008	$ 31,917	$ 20,041

Revenue for each significant product or service offering is as follows:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
RMS	$ 124,002	$ 125,058	$ 251,163	$ 248,397
DSA	252,092	221,059	479,850	379,042
Manufacturing	93,035	87,938	183,879	161,484
Total revenue	$ 469,129	$ 434,055	$ 914,892	$ 788,923

A summary of unallocated corporate expense consists of the following:

	Three Months Ended		Six Months Ended	
	July 1, 2017	June 25, 2016	July 1, 2017	June 25, 2016
	(in thousands)			
Stock-based compensation	$ 7,421	$ 7,746	$ 13,004	$ 13,854
Compensation, benefits, and other employee-related expenses	11,079	7,738	26,041	20,279
External consulting and other service expenses	4,085	6,656	9,852	11,832
Information technology	3,617	2,364	6,010	5,496
Depreciation	2,102	2,111	4,090	3,583
Acquisition and integration	1,191	7,260	1,212	11,023
Other general unallocated corporate	3,505	3,011	6,291	6,178
Total unallocated corporate expense	$ 33,000	$ 36,886	$ 66,500	$ 72,245

Other general unallocated corporate expense consists of various departmental costs including those associated with departments such as senior executives, corporate accounting, legal, tax, human resources, treasury, and investor relations.

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

The following discussion should be read in conjunction with our unaudited condensed consolidated financial statements and accompanying notes of this Quarterly Report on Form 10-Q and our audited consolidated financial statements and related notes included in our Annual Report on Form 10-K for fiscal year 2016. The following discussion contains forward-looking statements. Actual results may differ significantly from those projected in the forward-looking statements. Factors that might cause future results to differ materially from those projected in the forward-looking statements include, but are not limited to, those discussed in "Risk Factors" in our Annual Report on Form 10-K for fiscal year 2016. Certain percentage changes may not recalculate due to rounding.

Overview

We are a full service, early-stage contract research organization (CRO). For 70 years, we have been in the business of providing the research models required in research and development of new drugs, devices, and therapies. Over this time, we have built upon our original core competency of laboratory animal medicine and science (research model technologies) to develop a diverse portfolio of discovery and safety assessment services, both Good Laboratory Practice (GLP) and non-GLP, that enable us to support our clients from target identification through non-clinical development. We also provide a suite of products and services to support our clients' manufacturing activities. Utilizing our broad portfolio of products and services enables our clients to create a more flexible drug development model, which reduces their costs, enhances their productivity and effectiveness, and increases speed to market.

Our client base includes all major global biopharmaceutical companies, many biotechnology companies, CROs, agricultural and industrial chemical companies, life science companies, veterinary medicine companies, contract manufacturing companies, medical device companies, and diagnostic and other commercial entities, as well as leading hospitals, academic institutions, and government agencies around the world.

Recent Acquisitions and Divestiture

Our strategy is to augment internal growth of existing businesses with complementary acquisitions. Our principal recent acquisitions and divestiture are described below.

On April 4, 2016, we acquired WIL Research, a provider of safety assessment and contract development and manufacturing (CDMO) services to biopharmaceutical, agricultural, and industrial chemical companies worldwide. The acquisition enhanced our position as a leading, global early-stage CRO by strengthening our ability to partner with clients across the drug discovery and development continuum. The purchase price for WIL Research was $604.8 million, including assumed liabilities of $0.4 million. The purchase price included payment for actual working capital of the acquired business. The acquisition was funded by cash on hand and borrowings on our $1.65B Credit Facility. WIL Research’s safety assessment and CDMO businesses are reported in our DSA and Manufacturing reportable segments, respectively. On February 10, 2017, we divested the CDMO business.

On June 27, 2016, we acquired Blue Stream Laboratories, Inc. (Blue Stream), an analytical CRO supporting the development of complex biologics and biosimilars. Combining Blue Stream with our existing discovery, safety assessment, and biologics capabilities created a leading CRO that has the ability to support biologic and biosimilar development from characterization through clinical testing and commercialization. The purchase price for Blue Stream was $11.7 million, including $3.0 million in contingent consideration, and was subject to certain customary adjustments. The acquisition was funded by borrowings on our revolving credit facility. The business is reported in our Manufacturing reportable segment.

On September 28, 2016, we acquired Agilux Laboratories, Inc. (Agilux), a CRO that provides a suite of integrated discovery bioanalytical services for small and large molecules, drug metabolism and pharmacokinetic services, and pharmacology services. The acquisition supports our strategy to offer clients a broader, integrated portfolio that provides services continuously from the earliest stages of drug research through the non-clinical development process. The purchase price for Agilux was $64.9 million in cash and was funded by borrowings on our revolving credit facility. The business is reported in our DSA reportable segment.

On February 10, 2017, we completed the divestiture of our CDMO business to Quotient Clinical Ltd., based in London, England, for $75.0 million in proceeds, net of $0.6 million in cash and cash equivalents transferred in conjunction with the sale and $0.3 million of working capital adjustments. The CDMO business was acquired in April 2016 as part of the acquisition of WIL Research and was reported in our Manufacturing reportable segment. Following a strategic review that was finalized subsequent to our December 31, 2016 year end, we determined that the CDMO business was not optimized within our portfolio at its current scale, and that the capital could be better deployed in other long-term growth opportunities.

On August 4, 2017, we acquired Brains On-Line, a leading CRO providing critical data that advances novel therapeutics for the treatment of central nervous system (CNS) diseases. Brains On-Line strategically expands our existing CNS capabilities and establishes us as a single-source provider for a broad portfolio of discovery CNS services. The preliminary purchase price for Brains On-Line was approximately €18 million in cash, subject to certain post-closing adjustments. In addition to the initial purchase price, the transaction includes potential additional payments of up to €6.7 million based on future performance. The Brains On-Line business will be reported as part of our DSA reportable segment.

Segment Reporting

Our RMS reportable segment includes the commercial production and sale of small research models, as well as the supply of large research models. RMS services includes: Genetically Engineered Models and Services (GEMS), which performs contract breeding and other services associated with genetically engineered models; Research Animal Diagnostic Services (RADS), which provides health monitoring and diagnostics services related to research models; and Insourcing Solutions (IS), which provides colony management of our clients’ research operations (including recruitment, training, staffing, and management services). Our DSA reportable segment includes services required to take a drug through the early development process including discovery services, which are non-regulated services to assist clients with the identification, screening, and selection of a lead compound for drug development, and regulated and non-regulated (GLP and non-GLP) safety assessment services. Our Manufacturing reportable segment includes Microbial Solutions, which provides *in vitro* (non-animal) lot-release testing products, microbial detection products, and species identification services; Biologics Testing Services (Biologics), which performs specialized testing of biologics; Avian Vaccine Services (Avian), which supplies specific-pathogen-free chicken eggs and chickens; and CDMO services, which, until we divested this business on February 10, 2017, allowed us to provide formulation design and development, manufacturing, and analytical and stability testing for small molecules.

Results of Operations

Three Months Ended July 1, 2017 Compared to the Three Months Ended June 25, 2016

Revenue

The following tables present consolidated revenue by type and by reportable segment:

	Three Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
	(in millions, except percentages)			
Service revenue	$ 329.4	$ 292.9	$ 36.5	12.5 %
Product revenue	139.7	141.2	(1.5)	(1.0)%
Total revenue	$ 469.1	$ 434.1	$ 35.0	8.1 %

	Three Months Ended				
	July 1, 2017	June 25, 2016	$ change	% change	Impact of FX
	(in millions, except percentages)				
RMS	$ 124.0	$ 125.1	$ (1.1)	(0.8)%	(1.8)%
DSA	252.1	221.0	31.1	14.0 %	(2.2)%
Manufacturing	93.0	88.0	5.0	5.8 %	(1.4)%
Total revenue	$ 469.1	$ 434.1	$ 35.0	8.1 %	(1.9)%

Revenue for the three months ended July 1, 2017 increased $35.0 million, or 8.1%, compared to the corresponding period in 2016. The negative effect of changes in foreign currency exchange rates decreased revenue by $8.4 million, or 1.9%, when compared to the corresponding period in 2016.

RMS revenue decreased by $1.1 million due primarily to the negative effect of changes in foreign currency exchange rates, lower research model product revenue in North America and Europe, and lower service revenue in the RADS business; partially offset by higher research model product revenue in China, and higher research model services revenue attributable to the IS and GEMS businesses.

DSA revenue increased $31.1 million due primarily to increased demand from mid-tier biotechnology clients and global biopharmaceuticals clients. The Safety Assessment business had higher service revenue as a result of increased study volume in our legacy business; and the Discovery Services business had higher service revenue, primarily as a result of the acquisition of Agilux that contributed $10.3 million to service revenue growth. In addition, WIL Research contributed an additional week of revenue, or $5.0 million, in the three months ended July 1, 2017, due to the fact that the acquisition closed on April 4, 2016, at the beginning of the second quarter. The increase in DSA revenue was partially offset by the negative effect of changes in foreign currency exchange rates.

Manufacturing revenue increased $5.0 million due primarily to higher endotoxin product sales in the Microbial Solutions business; increased demand in the Biologics business, which includes the acquisition of Blue Stream that contributed $1.6 million to service revenue growth; partially offset due to the absence of revenue related to the CDMO business of WIL Research, which was divested on February 10, 2017, that contributed $3.8 million of service revenue in the corresponding period in 2016; lower product revenue in the Avian business; and by the negative effect of changes in foreign currency exchange rates.

Cost of Services Provided and Products Sold (Excluding Amortization of Intangible Assets)

The following tables present consolidated cost of services provided and products sold (excluding amortization of intangible assets) (Costs) by type and by reportable segment:

	Three Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
	(in millions, except percentages)			
Cost of services provided	$ 214.7	$ 196.1	$ 18.6	9.5%
Cost of products sold	68.8	68.2	0.6	0.8%
Total cost of services provided and products sold (excluding amortization of intangible assets)	$ 283.5	$ 264.3	$ 19.2	7.2%

	Three Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
	(in millions, except percentages)			
RMS	$ 74.8	$ 73.2	$ 1.6	2.2%
DSA	165.5	150.4	15.1	10.0%
Manufacturing	43.2	40.7	2.5	6.1%
Total cost of services provided and products sold (excluding amortization of intangible assets)	$ 283.5	$ 264.3	$ 19.2	7.2%

Costs for the three months ended July 1, 2017 increased $19.2 million, or 7.2%, compared to the corresponding period in 2016. Costs as a percentage of revenue for the three months ended July 1, 2017 were 60.4%, a decrease of 0.5%, from 60.9% for the corresponding period in 2016.

RMS Costs increased $1.6 million due primarily to increased employee compensation costs, and increased facility investments in China, partially offset by the favorable effect of changes in foreign currency exchange rates. RMS Costs as a percentage of revenue for the three months ended July 1, 2017 were 60.3%, an increase of 1.8%, from 58.5% for the corresponding period in 2016.

DSA Costs increased $15.1 million due primarily to an increase in Safety Assessment Costs, which included a higher service cost base due to the acquisition of WIL Research and the growth of the legacy business; an increase in Discovery Services Costs, which included a higher service cost base due to the acquisition of Agilux as well as increased compensation costs; partially offset by the favorable effect of changes in foreign currency exchange rates. DSA Costs as a percentage of revenue for the three months ended July 1, 2017 were 65.6%, a decrease of 2.4%, from 68.0% for the corresponding period in 2016.

Manufacturing Costs increased $2.5 million due primarily to an increase in Biologics Costs resulting from growth of the business and the acquisition of Blue Stream; and an increase in Avian Costs; partially offset by a decrease in CDMO Costs related to the divestiture of the CDMO business, which occurred in February 2017; and by the favorable effect of changes in foreign currency exchange rates. Manufacturing Costs as a percentage of revenue remained relatively consistent for the three months ended July 1, 2017 at 46.5%, an increase of 0.1%, from 46.4% for the corresponding period in 2016.

Selling, General and Administrative Expenses

	Three Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
	(in millions, except percentages)			
RMS	$ 15.3	$ 15.9	$ (0.6)	(3.7)%
DSA	28.0	31.0	(3.0)	(9.4)%
Manufacturing	18.2	16.8	1.4	8.6 %
Unallocated corporate	33.0	36.8	(3.8)	(10.5)%
Total selling, general and administrative	$ 94.5	$ 100.5	$ (6.0)	(5.9)%

Selling, general and administrative expenses (SG&A) for the three months ended July 1, 2017 decreased $6.0 million, or 5.9%, compared to the corresponding period in 2016. SG&A as a percentage of revenue for the three months ended July 1, 2017 was 20.2%, a decrease of 2.9%, from 23.1% for the corresponding period in 2016.

The decrease in RMS SG&A of $0.6 million was related to a decrease of $0.6 million in operating expenses, including information technology infrastructure and facility expenses; and a decrease of $0.3 million in bad debt reserves; partially offset by an increase of $0.3 million in compensation, benefits, and other employee-related expenses. RMS SG&A as a percentage of revenue for the three months ended July 1, 2017 was 12.3%, a decrease of 0.4%, from 12.7% for the corresponding period in 2016.

The decrease in DSA SG&A of $3.0 million was related to a decrease in severance expense of $3.6 million, a decrease of $2.0 million in costs associated with the evaluation and integration of acquisitions; a decrease of $0.6 million in operating expenses, including information technology infrastructure and facility expenses; and a decrease of $0.3 million in depreciation expense; partially offset by an increase of $2.1 million in compensation, benefits, and other employee-related expenses; and an increase of $1.1 million in external consulting and other service expenses. DSA SG&A as a percentage of revenue for the three months ended July 1, 2017 was 11.1%, a decrease of 2.9%, from 14.0% for the corresponding period in 2016.

The increase in Manufacturing SG&A of $1.4 million was related to an increase of $0.7 million in compensation, benefits, and other employee-related expenses; an increase of $0.5 million in external consulting and other service expenses; and an increase of $0.3 million in severance expense; partially offset by a decrease of $0.5 million in costs associated with the evaluation and integration of acquisitions. Manufacturing SG&A as a percentage of revenue for the three months ended July 1, 2017 was 19.6%, an increase of 0.5%, from 19.1% for the corresponding period in 2016.

The decrease in unallocated corporate SG&A of $3.8 million was related to a decrease of $6.2 million in costs associated with the evaluation and integration of acquisitions; a decrease of $2.6 million in external consulting and other service expenses; and a decrease of $0.3 million in stock-based compensation expense; partially offset by an increase of $3.3 million in compensation, benefits, and other employee-related expenses; an increase of $1.3 million in information technology expenses; and an increase of $0.5 million in other expenses.

Amortization of Intangible Assets

Amortization of intangible assets for the three months ended July 1, 2017 was $9.8 million, a decrease of $1.4 million, or 12.4%, from $11.2 million for the corresponding period in 2016, due primarily to certain intangible assets becoming fully amortized and the disposal of certain amortizable intangible assets in connection with the CDMO business divestiture, which occurred in February 2017; partially offset by certain intangible assets acquired in connection with the Agilux and Blue Stream acquisitions.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits, was $0.2 million for both the three months ended July 1, 2017 and the corresponding period in 2016.

Interest Expense

Interest expense for the three months ended July 1, 2017 was $7.4 million, a decrease of $1.5 million, or 16.9%, compared to $8.9 million for the corresponding period in 2016. The decrease was due primarily to a one-time charge for a write-off of a portion of debt issuance costs in the corresponding period in 2016 in connection with the modification of our prior $1.3B Credit Facility; and lower average balances outstanding under our $1.65B Credit Facility compared to the corresponding period in 2016; partially offset by higher interest rates in the current period.

Other Income, Net

Other income, net, was $2.8 million for the three months ended July 1, 2017, a decrease of $2.2 million, or 43.2%, compared to $5.0 million for the corresponding period in 2016. The decrease in other income, net, was driven by lower gains recognized related to our venture capital investments of $2.4 million in 2017 compared to the corresponding period in 2016; partially offset by higher net gains on life insurance policy investments in 2017 compared to the corresponding period in 2016.

Income Taxes

Income tax expense for the three months ended July 1, 2017 was $22.2 million, an increase of $3.4 million compared to $18.8 million for the corresponding period in 2016. Our effective tax rate was 28.9% for the three months ended July 1, 2017, compared to 34.6% for the corresponding period in 2016. The decrease in our effective tax rate was primarily attributable to the excess tax benefit associated with stock compensation of $1.3 million as a result of the adoption of Accounting Standards Update (ASU) 2016-09, “Improvements to Employee Share-Based Payment Accounting” and prior year non-deductible transaction costs associated with the purchase of WIL Research.

Six Months Ended July 1, 2017 Compared to the Six Months Ended June 25, 2016

Revenue

The following tables present consolidated revenue by type and by reportable segment:

	Six Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
		(in millions, except percentages)		
Service revenue	$ 633.9	$ 513.5	$ 120.4	23.4%
Product revenue	281.0	275.4	5.6	2.0%
Total revenue	$ 914.9	$ 788.9	$ 126.0	16.0%

	Six Months Ended				
	July 1, 2017	June 25, 2016	$ change	% change	Impact of FX
			(in millions, except percentages)		
RMS	$ 251.2	$ 248.4	$ 2.8	1.1%	(1.8)%
DSA	479.8	379.0	100.8	26.6%	(2.3)%
Manufacturing	183.9	161.5	22.4	13.9%	(1.6)%
Total revenue	$ 914.9	$ 788.9	$ 126.0	16.0%	(2.0)%

Revenue for the six months ended July 1, 2017 increased $126.0 million, or 16.0%, compared to the corresponding period in 2016. The negative effect of changes in foreign currency exchange rates decreased revenue by $15.9 million, or 2.0%, when compared to the corresponding period in 2016.

RMS revenue increased by $2.8 million due to higher research model product revenue in North America and China, and higher research model services revenue attributable to the IS and GEMS businesses; partially offset by the negative effect of changes in foreign currency exchange rates and lower service revenue in the RADS business.

DSA revenue increased $100.8 million due primarily to higher service revenue in the Safety Assessment business, as a result of the WIL Research acquisition that contributed $62.5 million to service revenue, as well as increased study volume in our legacy business; higher service revenue in the Discovery Services business, primarily as a result of the acquisition of Agilux that contributed $18.6 million to service revenue; partially offset by the negative effect of changes in foreign currency exchange rates. Revenue growth overall was driven by increased demand from mid-tier biotechnology clients and global biopharmaceuticals clients.

Manufacturing revenue increased $22.4 million due primarily to higher endotoxin product sales in the Microbial Solutions business; increased demand in the Biologics business, which included the acquisition of Blue Stream that contributed $3.5 million to service revenue; partially offset by the absence of $2.1 million of service revenue related to the CDMO business, which was divested in February 2017; lower product revenue in the Avian business; and by the negative effect of changes in foreign currency exchange rates.

Cost of Services Provided and Products Sold (Excluding Amortization of Intangible Assets)

The following tables present consolidated costs of services provided and products sold (excluding amortization of intangible assets) by type and by reportable segment:

	Six Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
			(in millions, except percentages)	
Cost of services provided	$ 421.5	$ 343.5	$ 78.0	22.7%
Cost of products sold	136.0	134.9	1.1	0.8%
Total cost of services provided and products sold (excluding amortization of intangible assets)	$ 557.5	$ 478.4	$ 79.1	16.5%

	Six Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
			(in millions, except percentages)	
RMS	$ 149.1	$ 144.3	$ 4.8	3.3%
DSA	321.2	257.3	63.9	24.8%
Manufacturing	87.2	76.8	10.4	13.5%
Total cost of services provided and products sold (excluding amortization of intangible assets)	$ 557.5	$ 478.4	$ 79.1	16.5%

Costs for the six months ended July 1, 2017 increased $79.1 million, or 16.5%, compared to the corresponding period in 2016. Costs as a percentage of revenue for the six months ended July 1, 2017 remained relatively consistent at 60.9%, an increase of 0.3%, from 60.6% for the corresponding period in 2016.

RMS Costs increased $4.8 million due primarily to the growth of the business, increased employee compensation costs, and increased facility investments in China; partially offset by the favorable effect of changes in foreign currency exchange rates.

RMS Costs as a percentage of revenue for the six months ended July 1, 2017 were 59.4%, an increase of 1.3%, from 58.1% for the corresponding period in 2016.

DSA Costs increased $63.9 million due primarily to an increase in Safety Assessment Costs, which included a higher service cost base due to the acquisition of WIL Research and the growth of the legacy service business; an increase in Discovery Services Costs, which included a higher service cost base due to the acquisition of Agilux and higher compensation costs; partially offset by the favorable effect of changes in foreign currency exchange rates. DSA Costs as a percentage of revenue for the six months ended July 1, 2017 were 66.9%, a decrease of 1.0%, from 67.9% for the corresponding period in 2016.

Manufacturing Costs increased $10.4 million due primarily to an increase in Biologics Costs resulting from the growth of the business and the acquisition of Blue Stream; and an increase in Avian Costs; partially offset by a decrease in CDMO Costs related to the divestiture of the CDMO business, which occurred in February 2017; and by the favorable effect of changes in foreign currency exchange rates. Manufacturing Costs as a percentage of revenue for the six months ended July 1, 2017 remained relatively consistent at 47.5%, a decrease of 0.1%, from 47.6% for the corresponding period in 2016.

Selling, General and Administrative Expenses

	Six Months Ended			
	July 1, 2017	June 25, 2016	$ change	% change
	(in millions, except percentages)			
RMS	$ 30.0	$ 31.1	$ (1.1)	(3.7)%
DSA	53.8	48.1	5.7	12.0 %
Manufacturing	35.7	32.0	3.7	11.7 %
Unallocated corporate	66.5	72.2	(5.7)	(8.0)%
Total selling, general and administrative	$ 186.0	$ 183.4	$ 2.6	1.4 %

SG&A for the six months ended July 1, 2017 increased $2.6 million, or 1.4%, compared to the corresponding period in 2016. SG&A as a percentage of revenue for the six months ended July 1, 2017 was 20.3%, a decrease of 2.9%, from 23.2% for the corresponding period in 2016, which was driven by the DSA segment as discussed below.

The decrease in RMS SG&A of $1.1 million was related to a decrease of $1.3 million in operating expenses, including information technology infrastructure and facility expenses; and a decrease of $0.3 million in depreciation expense; partially offset by an increase of $0.4 million in other expenses. RMS SG&A as a percentage of revenue for the six months ended July 1, 2017 was 11.9%, a decrease of 0.6%, from 12.5% for the corresponding period in 2016.

The increase in DSA SG&A of $5.7 million was related to an increase of $8.3 million in compensation, benefits, and other employee-related expenses; an increase of $1.4 million in external consulting and other service expenses; an increase of $1.3 million in bad debt reserves; an increase of $1.1 million in other expenses; and an increase of $0.3 million in operating expenses, including information technology infrastructure and facility expenses; partially offset by a decrease of $3.5 million in severance expense; a decrease of $2.1 million in costs associated with the evaluation and integration of acquisitions; and a decrease of $0.8 million in depreciation expense. DSA SG&A as a percentage of revenue for the six months ended July 1, 2017 was 11.2%, a decrease of 1.5%, from 12.7% for the corresponding period in 2016.

The increase in Manufacturing SG&A of $3.7 million was related to an increase of $2.2 million in compensation, benefits, and other employee-related expenses; an increase of $0.7 million in external consulting and other service expenses; an increase of $0.4 million in operating expenses, including information technology infrastructure and facility expenses; an increase of $0.4 million in bad debt reserves; an increase of $0.4 million in stock-based compensation expense; an increase of $0.4 million in severance expense; and an increase of $0.4 million in other expenses; partially offset by a decrease of $0.6 million in costs associated with the evaluation and integration of acquisitions; and a decrease of $0.5 million in depreciation expense. Manufacturing SG&A as a percentage of revenue for the six months ended July 1, 2017 was 19.4%, a decrease of 0.4%, from 19.8% for the corresponding period in 2016.

The decrease in unallocated corporate SG&A of $5.7 million was related to a decrease of $9.8 million in costs associated with the evaluation and integration of acquisitions; a decrease of $2.0 million in external consulting and other service expenses; and a decrease of $0.9 million in stock-based compensation expense; partially offset by an increase of $5.8 million in compensation, benefits, and other employee-related expenses; an increase of $0.5 million in depreciation expense; and an increase of $0.5 million in information technology expenses.

Amortization of Intangible Assets

Amortization of intangible assets for the six months ended July 1, 2017 was $20.6 million, an increase of $3.0 million, or 17.0%, from $17.6 million for the corresponding period in 2016, due primarily to certain intangible assets acquired in connection with the WIL Research, Agilux, and Blue Stream acquisitions.

Interest Income
Interest income, which represents earnings on cash, cash equivalents, and time deposits, was $0.4 million for the six months ended July 1, 2017, a decrease of $0.1 million, or 25.2%, compared to $0.5 million for the corresponding period in 2016.

Interest Expense
Interest expense for the six months ended July 1, 2017 was $14.4 million, an increase of $1.3 million, or 9.6%, compared to $13.1 million for the corresponding period in 2016. The increase was due primarily to higher average balances outstanding and higher average interest rates under our $1.65B Credit Facility as a result of a higher leverage ratio; partially offset by the increase in the corresponding period in 2016 attributed to the write-off of a portion of debt issuance costs in connection with the modification of our prior $1.3B Credit Facility.

Other Income, Net
Other income, net was $18.2 million for the six months ended July 1, 2017, an increase of $9.2 million, or 101.3%, compared to $9.0 million for the corresponding period in 2016. The increase in other income, net was driven by a $10.6 million gain recognized as a result of the divestiture of the CDMO business; a higher net gain of $1.8 million on life insurance policy investments; partially offset by a decrease of $2.0 million from changes in foreign currency exchange rates; and a decrease of $1.4 million in gains recognized related to our venture capital investments.

Income Taxes
Income tax expense for the six months ended July 1, 2017 was $53.3 million, an increase of $20.5 million compared to $32.8 million for the corresponding period in 2016. Our effective tax rate was 34.4% for the six months ended July 1, 2017, compared to 31.0% for the corresponding period in 2016. The increase was primarily attributable to the tax on the gain on the divestiture of the CDMO business of $18.0 million, offset by the excess tax benefit associated with stock compensation of $8.8 million as a result of the adoption of ASU 2016-09.

Liquidity and Capital Resources

We currently require cash to fund our working capital needs, capital expansion, acquisitions, to pay our debt and pension obligations. Our principal sources of liquidity have been our cash flows from operations, supplemented by long-term borrowings. Based on our current business plan, we believe that our existing funds, when combined with cash generated from operations and our access to financing resources, are sufficient to fund our operations for the foreseeable future.

The following table presents our cash, cash equivalents and investments:

	July 1, 2017	December 31, 2016
	(in millions)	
Cash and cash equivalents:		
Held in the U.S. entities	$ 6.9	$ 10.6
Held in non-U.S. entities	109.6	107.0
Total cash and cash equivalents	116.5	117.6
Investments:		
Held in non-U.S. entities	23.5	3.8
Total cash, cash equivalents and investments	$ 140.0	$ 121.4

Borrowings
On March 30, 2016, we amended and restated our $1.3 billion credit facility, creating a $1.65 billion credit facility ($1.65B Credit Facility) which (1) extends the maturity date for the credit facility, and (2) makes certain other amendments in connection with our acquisition of WIL Research. The $1.65B Credit Facility provides for up to $1.65 billion in financing, including a $650.0 million term loan facility and a $1.0 billion multi-currency revolving credit facility. The term loan facility matures in 19 quarterly installments, with the last installment due March 30, 2021. The revolving credit facility matures on March 30, 2021, and requires no scheduled payment before that date.

Amounts outstanding under the $1.65B Credit Facility were as follows:

	July 1, 2017	December 31, 2016
	(in millions)	
Term loans	$ 617.5	$ 633.8
Revolving credit facility	498.3	578.8
Total	$ 1,115.8	$ 1,212.6

Under specified circumstances, we have the ability to increase the term loans and/or revolving line of credit by up to $500.0 million in the aggregate. The interest rates applicable to the term loan and revolving loans under the $1.65B Credit Facility are, at our option, equal to either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1%) or the adjusted LIBOR rate, plus an interest rate margin based upon our leverage ratio.

Repurchases of Common Stock

During the six months ended July 1, 2017, we repurchased 0.6 million shares for $54.6 million under our authorized stock repurchase program. On May 9, 2017, our Board of Directors increased the stock repurchase authorization by $150 million, to an aggregate amount of $1.3 billion. As of July 1, 2017, we had $165.1 million remaining on the authorized stock repurchase program. Our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements. During the six months ended July 1, 2017, we acquired 0.2 million shares for $16.3 million through such netting.

Cash Flows

The following table presents our net cash provided by operating activities:

	Six Months Ended	
	July 1, 2017	June 25, 2016
	(in millions)	
Income from continuing operations	$ 101.6	$ 73.1
Adjustments to reconcile net income from continuing operations to net cash provided by operating activities	96.4	69.6
Changes in operating assets and liabilities	(63.6)	(16.7)
Net cash provided by operating activities	$ 134.4	$ 126.0

Net cash provided by cash flows from operating activities represents the cash receipts and disbursements related to all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting our income from continuing operations for (1) non-cash operating items such as depreciation and amortization, stock-based compensation, deferred income taxes, and gains on divestitures, as well as (2) changes in operating assets and liabilities, which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in our results of operations. For the six months ended July 1, 2017, compared to the six months ended June 25, 2016, the increase in cash provided by operating activities was primarily driven by an increase in income from continuing operations, offset by negative changes in operating assets and liabilities and a gain on divestiture. Our days sales outstanding, which includes deferred revenue as an offset to accounts receivable but is not adjusted for an allowance for doubtful accounts in the calculation, was 54 days as of July 1, 2017, and 52 days as of December 31, 2016.

The following table presents our net cash provided by (used in) investing activities:

	Six Months Ended	
	July 1, 2017	June 25, 2016
	(in millions)	
Acquisition of businesses and assets, net of cash acquired	$ —	$ (578.8)
Capital expenditures	(31.9)	(20.0)
Investments, net	(26.6)	(10.1)
Proceeds from divestiture	72.5	—
Other, net	—	4.1
Net cash provided by (used in) investing activities	$ 14.0	$ (604.8)

For the six months ended July 1, 2017, the primary source of net cash provided by investing activities related to the proceeds from the divestiture of the CDMO business. The primary use of cash used in investing activities in the six months ended June 25, 2016 was related to our acquisition of WIL Research in April 2016.

The following table presents our net cash (used in) provided by financing activities:

	Six Months Ended	
	July 1, 2017	June 25, 2016
	(in millions)	
Proceeds from long-term debt and revolving credit facility	$ 136.2	$ 882.0
Proceeds from exercises of stock options	30.0	19.8
Payments on long-term debt, revolving credit facility and capital lease obligations	(250.0)	(375.2)
Purchase of treasury stock	(70.8)	(12.2)
Other, net	(0.5)	(4.2)
Net cash (used in) provided by financing activities	$ (155.1)	$ 510.2

For the six months ended July 1, 2017, net cash used in financing activities reflected treasury stock purchases of $70.8 million made pursuant to our authorized stock repurchase program and the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements; and net payments of $113.8 million on long-term debt, revolving credit facility and capital lease obligations; partially offset by proceeds from exercises of employee stock options of $30.0 million. For the six months ended June 25, 2016, cash provided by financing activities reflected net borrowings on long-term debt, revolving credit facility and capital lease obligations of $506.8 million; and proceeds from exercises of employee stock options of $19.8 million; partially offset by treasury stock purchases of $12.2 million due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements.

Contractual Commitments and Obligations

The disclosure of our contractual obligations and commitments was reported in our Annual Report on Form 10-K for fiscal 2016. There have been no material changes from the contractual commitments and obligations previously disclosed in our Annual Report on Form 10-K for fiscal 2016 other than the changes described in Note 5, “Fair Value,” Note 7, “Long-Term Debt and Capital Lease Obligations,” and Note 13, “Commitments and Contingencies” in our notes to unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q.

Off-Balance Sheet Arrangements

As of July 1, 2017, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K promulgated under the Exchange Act, except as disclosed below.

Venture Capital Investments

We invest in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. Our total commitment to the funds as of July 1, 2017, was $87.7 million, of which we funded $45.5 million through July 1, 2017. Refer to Note 4, “Venture Capital Investments” in our notes to unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q for additional information.

Letters of Credit
Our off-balance sheet commitments related to our outstanding letters of credit as of July 1, 2017 were $4.9 million.

Critical Accounting Policies and Estimates

Our discussion and analysis of our liquidity, capital resources and results of operations is based upon our unaudited condensed consolidated financial statements prepared in accordance with generally accepted accounting principles in the U.S. The preparation of these financial statements requires us to make certain estimates and assumptions that may affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses during the reported periods and related disclosures. These estimates and assumptions are monitored and analyzed by us for changes in facts and circumstances, and material changes in these estimates could occur in the future. We base our estimates on our historical experience, trends in the industry and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from our estimates under different assumptions or conditions.

We believe that our application of the following accounting policies, each of which require significant judgments and estimates on the part of management, is the most critical to aid in fully understanding and evaluating our reported financial results: (1) revenue recognition, (2) income taxes, (3) goodwill and intangible assets, (4) valuation and impairment of long-lived assets, (5) pension and other retirement benefit plans, and (6) stock-based compensation. Our critical accounting policies are described in our Annual Report on Form 10-K for fiscal year 2016.

Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements please refer to Note 1, “Basis of Presentation,” in our notes to unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q. Other than ASU 2016-15, 2016-18 and 2016-09 discussed in Note 1, “Basis of Presentation,” we did not adopt any other new accounting pronouncements during the six months ended July 1, 2017 that had a significant effect on our unaudited condensed consolidated financial statements included in this report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risk from changes in interest rates and currency exchange rates, which could affect our future results of operations and financial condition. We manage our exposure to these risks through our regular operating and financing activities.

Interest Rate Risk

We are exposed to changes in interest rates while conducting normal business operations as a result of ongoing financing activities. As of July 1, 2017, our debt portfolio was comprised primarily of floating interest rate borrowings. A 100-basis point increase in interest rates would increase our annual pre-tax interest expense by $11.2 million.

Foreign Currency Exchange Rate Risk

We operate on a global basis and have exposure to some foreign currency exchange rate fluctuations for our financial position, results of operations, and cash flows.

While the financial results of our global activities are reported in U.S. dollars, our foreign subsidiaries typically conduct their operations in their respective local currencies. The principal functional currencies of the Company’s foreign subsidiaries are the Euro, British Pound, Canadian Dollar, Chinese Yuan Renminbi, and Japanese Yen. During the six months ended July 1, 2017, the most significant drivers of foreign currency translation adjustment the Company recorded as part of other comprehensive income (loss) were the Euro, British Pound, Japanese Yen, and Canadian Dollar.

Fluctuations in the foreign currency exchange rates of the countries in which we do business will affect our financial position, results of operations, and cash flows. As the U.S. dollar strengthens against other currencies, the value of our non-U.S. revenue, expenses, assets, liabilities, and cash flows will generally decline when reported in U.S. dollars. The impact to net income as a result of a U.S. dollar strengthening will be partially mitigated by the value of non-U.S. expense, which will decline when reported in U.S. dollars. As the U.S. dollar weakens versus other currencies, the value of the non-U.S. revenue and expenses, assets, liabilities, and cash flows will generally increase when reported in U.S. dollars. For the six months ended July 1, 2017, our revenue would have decreased by approximately $34.9 million and our operating income would have decreased by approximately $2.8 million, if the U.S. dollar exchange rate had strengthened by 10.0%, with all other variables held constant.

We attempt to minimize this exposure by using certain financial instruments in accordance with our overall risk management and our hedge policies. We do not enter into speculative derivative agreements.

During the six months ended July 1, 2017, we utilized foreign exchange contracts, principally to hedge certain balance sheet exposures resulting from foreign currency fluctuations. No foreign currency contracts were open as of July 1, 2017.

Item 4. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

Based on their evaluation, required by paragraph (b) of Rules 13a-15 or 15d-15, promulgated by the Securities Exchange Act of 1934, as amended (Exchange Act), the Company’s principal executive officer and principal financial officer have concluded that the Company’s disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act, are effective, at a reasonable assurance level to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms, as of July 1, 2017. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by the 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, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurances of achieving the desired control objectives, and management necessarily was required to apply its judgment in designing and evaluating the controls and procedures.

(b) Changes in Internal Controls

The Company continued to execute a plan to centralize certain accounting transaction processing functions to internal shared service centers during the three months ended July 1, 2017. There were no other material changes in the Company’s internal control over financial reporting identified in connection with the evaluation required by paragraph (d) of the Exchange Act Rules 13a-15 or 15d-15 that occurred during the quarter ended July 1, 2017 that materially affected, or were reasonably likely to materially affect, the Company’s internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

Please refer to Note 13, “Commitments and Contingencies” in our notes to unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I, “Item 1A. Risk Factors” in our Annual Report on Form 10-K for fiscal year 2016, which could materially affect our business, financial condition, and/or future results. The risks described in our Annual Report on Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition, and/or operating results. There have been no material changes to the risk factors set forth in our Annual Report on Form 10-K for fiscal year 2016.

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

The following table provides information relating to the purchases of shares of our common stock during the three months ended July 1, 2017.

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
				(in thousands)
April 2, 2017 to April 29, 2017	—	$ —	—	$ 37,638
April 30, 2017 to May 27, 2017	118,075	90.63	116,926	177,038
May 28, 2017 to July 1, 2017	127,846	93.46	127,366	165,138
Total	245,921		244,292	

On May 9, 2017, our Board of Directors increased the stock repurchase authorization by $150 million, to an aggregate amount of $1.3 billion. As of July 1, 2017, we had $165.1 million remaining on the authorized stock repurchase program.

Additionally, our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements.

Item 6. Exhibits

(a) Exhibits Description of Exhibits

31.1 Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.

31.2 Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.

32.1+Certification of the Principal Executive Officer and the Principal Financial Officer required by Rule 13a-14(a) of 15d-14(a) of the Exchange Act.

101.INS eXtensible Business Reporting Language (XBRL) Instance Document.

101.SCH XBRL Taxonomy Extension Schema Document.

101.CAL XBRL Taxonomy Calculation Linkbase Document.

101.DEF XBRL Taxonomy Definition Linkbase Document.

101.LAB XBRL Taxonomy Label Linkbase Document.

101.PRE XBRL Taxonomy Presentation Linkbase Document.

\+ Furnished herein.

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.

	CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
August 9, 2017	/s/ JAMES C. FOSTER
	James C. Foster *Chairman, President and Chief Executive Officer*
August 9, 2017	/s/ DAVID R. SMITH
	David R. Smith *Corporate Executive Vice President and Chief Financial Officer*

Exhibit 31.1

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002
AND RULE 13a-14(a)/15d-14(a) OF THE EXCHANGE ACT OF 1934**

I, James C. Foster, Chairman, President and Chief Executive Officer of Charles River Laboratories International, Inc. (the registrant) certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended July 1, 2017 of the registrant;

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 officers 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 officers 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.

/s/ James C. Foster

James C. Foster
Chairman, President and Chief Executive Officer
Charles River Laboratories International, Inc.

August 9, 2017

Exhibit 31.2

**CERTIFICATION PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002
AND RULE 13a-14(a)/15d-14(a) OF THE EXCHANGE ACT OF 1934**

I, David R. Smith, Corporate Executive Vice President, Chief Financial Officer and Chief Accounting Officer of Charles River Laboratories International, Inc. (the registrant) certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended July 1, 2017 of the registrant;

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 officers 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 officers 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.

/s/ David R. Smith

David R. Smith
Corporate Executive Vice President and Chief Financial Officer
Charles River Laboratories International, Inc.

August 9, 2017

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 for the quarter ended July 1, 2017 of Charles River Laboratories International, Inc. (the “Company”) as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned, James C. Foster, Chairman, Chief Executive Officer and President of the Company, and David R. Smith, Corporate Executive Vice President, Chief Financial Officer and Chief Accounting Officer of the Company, each hereby certifies, to the best of his knowledge and pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the “Exchange Act”); and

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

	/s/ James C. Foster
August 9, 2017	James C. Foster *Chairman, President and Chief Executive Officer* Charles River Laboratories International, Inc.
	/s/ David R. Smith
August 9, 2017	David R. Smith *Corporate Executive Vice President and Chief Financial Officer* Charles River Laboratories International, Inc.

This certification shall not be deemed "filed" for any purpose, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Exchange Act.