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 September 28, 2019

OR

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

FOR THE TRANSITION PERIOD FROM TO

Commission File 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**

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

Title of each class	**Ticker symbol(s)**	**Name of each exchange on which registered**
Common stock, $0.01 par value	CRL	New York Stock Exchange

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

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

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

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

If an emerging growth company, indicate by 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 October 25, 2019, there were 48,838,925 shares of the Registrant’s common stock outstanding.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED SEPTEMBER 28, 2019

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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 which are predictions of, 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. These statements also include statements regarding risks and uncertainties associated with the unauthorized access into our information systems reported on April 30, 2019, including the timing and effectiveness of adding enforced security features and monitoring procedures, and the potential revenue and financial impact related to the incident.

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 investment in, and the development and performance of, our services and products; market and industry conditions, including competitive and pricing trends; our strategic relationships with leading pharmaceutical and biotechnology companies, venture capital investments, and opportunities for future similar arrangements; our cost structure; the impact of acquisitions, including Citoxlab; 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, divest or repurpose; 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 29, 2018, under the sections entitled “Our Strategy,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and in this Quarterly Report on Form 10-Q, under the sections entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors,” 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		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Service revenue	$ 523,169	$ 443,038	$ 1,479,991	$ 1,226,948
Product revenue	144,782	142,257	450,097	437,618
Total revenue	667,951	585,295	1,930,088	1,664,566
Costs and expenses:				
Cost of services provided (excluding amortization of intangible assets)	351,894	298,018	1,014,063	844,130
Cost of products sold (excluding amortization of intangible assets)	69,941	71,077	220,028	206,786
Selling, general and administrative	129,509	113,033	388,024	336,936
Amortization of intangible assets	23,805	18,805	65,611	47,813
Operating income	92,802	84,362	242,362	228,901
Other income (expense):				
Interest income	385	230	838	694
Interest expense	(5,698)	(17,197)	(36,520)	(47,031)
Other (expense) income, net	(14,254)	5,910	(8,161)	24,069
Income from continuing operations, before income taxes	73,235	73,305	198,519	206,633
(Benefit) provision for income taxes	(317)	12,403	24,970	39,613
Income from continuing operations, net of income taxes	73,552	60,902	173,549	167,020
Income from discontinued operations, net of income taxes	—	—	—	1,506
Net income	73,552	60,902	173,549	168,526
Less: Net income attributable to noncontrolling interests	742	534	1,878	1,818
Net income attributable to common shareholders	$ 72,810	$ 60,368	$ 171,671	$ 166,708
Earnings per common share				
Basic:				
Continuing operations attributable to common shareholders	$ 1.49	$ 1.25	$ 3.53	$ 3.43
Discontinued operations	$ —	$ —	$ —	$ 0.03
Net income attributable to common shareholders	$ 1.49	$ 1.25	$ 3.53	$ 3.47
Diluted:				
Continuing operations attributable to common shareholders	$ 1.46	$ 1.22	$ 3.46	$ 3.36
Discontinued operations	$ —	$ —	$ —	$ 0.03
Net income attributable to common shareholders	$ 1.46	$ 1.22	$ 3.46	$ 3.39
Weighted-average number of common shares outstanding:				
Basic	48,818	48,310	48,682	48,098
Diluted	49,715	49,326	49,627	49,118

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		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net income	$ 73,552	$ 60,902	$ 173,549	$ 168,526
Other comprehensive income (loss):				
Foreign currency translation adjustment and other	(15,889)	(6,805)	(9,075)	(14,524)
Amortization of net loss and prior service benefit included in net periodic cost for pension and other post-retirement benefit plans	365	615	1,113	1,864
Comprehensive income, before income taxes	58,028	54,712	165,587	155,866
Less: Income tax expense (benefit) related to items of other comprehensive income	(2,511)	257	(1,381)	(341)
Comprehensive income, net of income taxes	60,539	54,455	166,968	156,207
Less: Comprehensive income (loss) related to noncontrolling interests, net of income taxes	(37)	(74)	1,064	886
Comprehensive income attributable to common shareholders, net of income taxes	$ 60,576	$ 54,529	$ 165,904	$ 155,321

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	September 28, 2019	December 29, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 164,759	$ 195,442
Trade receivables, net	524,074	472,248
Inventories	155,526	127,892
Prepaid assets	51,274	53,447
Other current assets	76,774	48,807
Total current assets	972,407	897,836
Property, plant and equipment, net	1,008,047	932,877
Operating lease right-of-use assets, net	140,359	—
Goodwill	1,521,619	1,247,133
Client relationships, net	620,868	537,945
Other intangible assets, net	81,257	72,943
Deferred tax assets	44,831	23,386
Other assets	193,174	143,759
Total assets	$ 4,582,562	$ 3,855,879
Liabilities, Redeemable Noncontrolling Interests and Equity		
Current liabilities:		
Current portion of long-term debt and finance leases	$ 33,611	$ 31,416
Accounts payable	107,231	66,250
Accrued compensation	130,292	137,212
Deferred revenue	166,095	145,139
Accrued liabilities	130,015	106,925
Other current liabilities	114,402	71,280
Total current liabilities	681,646	558,222
Long-term debt, net and finance leases	1,882,593	1,636,598
Operating lease right-of-use liabilities	116,868	—
Deferred tax liabilities	165,480	143,635
Other long-term liabilities	171,243	179,121
Total liabilities	3,017,830	2,517,576
Commitments and contingencies (Note 17)		
Redeemable noncontrolling interests	28,345	18,525
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; 48,976 shares issued and 48,837 shares outstanding as of September 28, 2019, and 48,210 shares issued and 48,209 shares outstanding as of December 29, 2018	490	482
Additional paid-in capital	1,514,620	1,447,512
Retained earnings	213,767	42,096
Treasury stock, at cost, 139 and 1 shares, as of September 28, 2019 and December 29, 2018, respectively	(18,094)	(55)
Accumulated other comprehensive loss	(178,470)	(172,703)
Total equity attributable to common shareholders	1,532,313	1,317,332
Noncontrolling interest	4,074	2,446
Total equity	1,536,387	1,319,778
Total liabilities, redeemable noncontrolling interests, and equity	$ 4,582,562	$ 3,855,879

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Nine Months Ended	
	September 28, 2019	September 29, 2018
Cash flows relating to operating activities		
Net income	$ 173,549	$ 168,526
Less: Income from discontinued operations, net of income taxes	—	1,506
Income from continuing operations, net of income taxes	173,549	167,020
Adjustments to reconcile net income from continuing operations to net cash provided by operating activities:		
Depreciation and amortization	146,262	120,198
Stock-based compensation	43,429	35,908
Deferred income taxes	(25,092)	(10,385)
Gain on venture capital investments	(5,724)	(22,760)
Other, net	4,865	10,036
Changes in assets and liabilities:		
Trade receivables, net	(24,491)	(30,318)
Inventories	(12,981)	(10,340)
Accounts payable	24,481	(5,322)
Accrued compensation	(23,320)	6,088
Deferred revenue	(1,556)	33,491
Customer contract deposits	(7,586)	34,455
Other assets and liabilities, net	8,423	(26,904)
Net cash provided by operating activities	300,259	301,167
Cash flows relating to investing activities		
Acquisition of businesses and assets, net of cash acquired	(515,647)	(822,611)
Capital expenditures	(76,675)	(71,378)
Purchases of investments and contributions to venture capital investments	(17,664)	(20,535)
Proceeds from sale of investments	15	30,595
Other, net	(660)	(118)
Net cash used in investing activities	(610,631)	(884,047)
Cash flows relating to financing activities		
Proceeds from long-term debt and revolving credit facility	2,071,175	2,392,201
Proceeds from exercises of stock options	26,982	30,228
Payments on long-term debt, revolving credit facility, and finance lease obligations	(1,798,620)	(1,832,805)
Payment of debt financing costs	—	(18,337)
Purchase of treasury stock	(18,040)	(13,791)
Other, net	(10,516)	—
Net cash provided by financing activities	270,981	557,496
Discontinued operations		
Net cash used in operating activities from discontinued operations	—	(3,735)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	8,793	4,664
Net change in cash, cash equivalents, and restricted cash	(30,598)	(24,455)
Cash, cash equivalents, and restricted cash, beginning of period	197,318	166,331
Cash, cash equivalents, and restricted cash, end of period	$ 166,720	$ 141,876

	Nine Months Ended	
	September 28, 2019	September 29, 2018
Supplemental cash flow information:		
Cash and cash equivalents	$ 164,759	$ 138,866
Restricted cash included in Other current assets	534	426
Restricted cash included in Other assets	1,427	2,584
Cash, cash equivalents, and restricted cash, end of period	$ 166,720	$ 141,876

See Notes to Unaudited Condensed Consolidated Financial Statements.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY (UNAUDITED)
(in thousands)

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Total Equity Attributable to Common Shareholders	Noncontrolling Interest	Total Equity
	Shares	Amount				Shares	Amount			
December 29, 2018	48,210	$ 482	$ 1,447,512	$ 42,096	$ (172,703)	1	$ (55)	$ 1,317,332	$ 2,446	$ 1,319,778
Net income	—	—	—	55,133	—	—	—	55,133	469	55,602
Other comprehensive income	—	—	—	—	9,903	—	—	9,903	—	9,903
Adjustment of redeemable noncontrolling interest to redemption value	—	—	(1,451)	—	—	—	—	(1,451)	—	(1,451)
Issuance of stock under employee compensation plans	674	7	22,051	—	—	—	—	22,058	—	22,058
Acquisition of treasury shares	—	—	—	—	—	136	(17,760)	(17,760)	—	(17,760)
Stock-based compensation	—	—	12,899	—	—	—	—	12,899	—	12,899
March 30, 2019	**48,884**	**489**	**1,481,011**	**97,229**	**(162,800)**	**137**	**(17,815)**	**1,398,114**	**2,915**	**1,401,029**
Net income	—	—	—	43,728	—	—	—	43,728	383	44,111
Other comprehensive loss	—	—	—	—	(3,436)	—	—	(3,436)	—	(3,436)
Purchase of additional equity interest in and modification of Vital River redeemable noncontrolling interest	—	—	(1,870)	—	—	—	—	(1,870)	—	(1,870)
Issuance of stock under employee compensation plans	53	—	2,148	—	—	—	—	2,148	—	2,148
Acquisition of treasury shares	—	—	—	—	—	1	(123)	(123)	—	(123)
Stock-based compensation	—	—	16,505	—	—	—	—	16,505	—	16,505
June 29, 2019	**48,937**	**489**	**1,497,794**	**140,957**	**(166,236)**	**138**	**(17,938)**	**1,455,066**	**3,298**	**1,458,364**
Net income	—	—	—	72,810	—	—	—	72,810	776	73,586
Other comprehensive loss	—	—	—	—	(12,234)	—	—	(12,234)	—	(12,234)
Issuance of stock under employee compensation plans	39	1	2,801	—	—	—	—	2,802	—	2,802
Acquisition of treasury shares	—	—	—	—	—	1	(156)	(156)	—	(156)
Stock-based compensation	—	—	14,025	—	—	—	—	14,025	—	14,025
September 28, 2019	**48,976**	**$ 490**	**$ 1,514,620**	**$ 213,767**	**$ (178,470)**	**139**	**$ (18,094)**	**$ 1,532,313**	**$ 4,074**	**$ 1,536,387**

	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Total Equity Attributable to Common Shareholders	Noncontrolling Interest	Total Equity
	Shares	Amount				Shares	Amount			
December 30, 2017	87,495	$ 875	$ 2,560,192	$ 288,658	$ (144,731)	40,093	$ (1,659,914)	$ 1,045,080	$ 2,327	$ 1,047,407
Net income	—	—	—	52,631	—	—	—	52,631	464	53,095
Other comprehensive income	—	—	—	—	23,604	—	—	23,604	—	23,604
Reclassification due to adoption of ASU 2018-02 Reclass	—	—	—	3,330	(3,330)	—	—	—	—	—
Adjustment due to adoption of ASU 2016-01	—	—	—	1,424	—	—	—	1,424	—	1,424
Issuance of stock under employee compensation plans	630	6	20,088	—	—	—	—	20,094	—	20,094
Acquisition of treasury shares	—	—	—	—	—	126	(13,549)	(13,549)	—	(13,549)
Stock-based compensation	—	—	10,541	—	—	—	—	10,541	—	10,541
March 31, 2018	**88,125**	**881**	**2,590,821**	**346,043**	**(124,457)**	**40,219**	**(1,673,463)**	**1,139,825**	**2,791**	**1,142,616**
Net income	—	—	—	53,709	—	—	—	53,709	448	54,157
Other comprehensive loss	—	—	—	—	(29,151)	—	—	(29,151)	—	(29,151)
Issuance of stock under employee compensation plans	96	1	4,154	—	—	—	—	4,155	—	4,155
Acquisition of treasury shares	—	—	—	—	—	1	(119)	(119)	—	(119)
Stock-based compensation	—	—	13,547	—	—	—	—	13,547	—	13,547
June 30, 2018	**88,221**	**882**	**2,608,522**	**399,752**	**(153,608)**	**40,220**	**(1,673,582)**	**1,181,966**	**3,239**	**1,185,205**
Net income	—	—	—	60,368	—	—	—	60,368	364	60,732
Other comprehensive loss	—	—	—	—	(5,840)	—	—	(5,840)	—	(5,840)
Adjustment of redeemable non-controlling interest to fair value	—	—	(1,111)	—	—	—	—	(1,111)	—	(1,111)
Issuance of stock under employee compensation plans	94	1	6,025	—	—	—	—	6,026	—	6,026
Acquisition of treasury shares	—	—	—	—	—	1	(123)	(123)	—	(123)
Stock-based compensation	—	—	11,820	—	—	—	—	11,820	—	11,820
September 29, 2018	**88,315**	**$ 883**	**$ 2,625,256**	**$ 460,120**	**$ (159,448)**	**40,221**	**$ (1,673,705)**	**$ 1,253,106**	**$ 3,603**	**$ 1,256,709**

Balances may differ compared to prior condensed consolidated balance sheets due to rounding.

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 (SEC). 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 2018. 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.

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, 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 52-weeks, 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.

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 2018 as well as Note 16, "Leases" in this Quarterly Report on Form 10-Q.

Newly Adopted Accounting Pronouncements

In June 2018, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2018-07, "Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting." ASU 2018-07 aligns the accounting for share-based payment awards issued to employees and nonemployees as well as improves financial reporting for share-based payments to nonemployees. This standard became effective for the Company in the three months ended March 30, 2019 and did not have a material impact on the consolidated financial statements and related disclosures.

In August 2017, the FASB issued ASU 2017-12, "Derivatives and Hedging (Topic 815) Targeted Improvements to Accounting for Hedging Activities." ASU 2017-12 refines and expands hedge accounting for both financial and commodity risks. It also creates more transparency around how economic results are presented, both on the face of the financial statements and in the disclosures. In addition, this ASU makes certain targeted improvements to simplify the application of hedge accounting guidance. This standard became effective for the Company in the three months ended March 30, 2019 and did not have a material impact on the consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASU 2016-02, "Leases." The standard, including subsequently issued amendments, collectively referred to as Accounting Standards Codification (ASC) 842, "Leases", 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. The Company adopted this standard using the modified retrospective transition approach as applied to leases existing as of or entered into after the adoption date (December 30, 2018) in the three months ended March 30, 2019. See Note 16, "Leases" for a discussion of the Company's adoption of this standard and its impact on the consolidated financial statements and related disclosures.

Newly Issued Accounting Pronouncements

In August 2018, the FASB issued ASU 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computer Arrangement that is a Service Contract." ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years and will be applied either retrospectively or prospectively. Early adoption is permitted. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures, but does not believe there will be a material impact upon adoption.

In August 2018, the FASB issued ASU 2018-14, "Compensation Retirement Benefits - Defined Benefit Plans -General (Subtopic 715-20)." ASU 2018-14 removes the requirements to disclose the amounts in Accumulated other comprehensive income (loss) expected to be recognized as components of net periodic benefit cost over the next fiscal year and the related party disclosures about the amount of future annual benefits covered by insurance contracts. In addition, the ASU adds the requirement to disclose an explanation for any significant gains and losses related to changes in the benefit obligation for the period. The ASU is effective for fiscal years ending after December 15, 2020 and will be applied on a retrospective basis to all periods presented. Early adoption is permitted. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820) - Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement." ASU 2018-13 removes the disclosure requirement for the amount and reasons for transfers between Level 1 and Level 2 fair value measurements as well as the process for Level 3 fair value measurements. In addition, the ASU adds the disclosure requirements for changes in unrealized gains and losses included in Other comprehensive income (loss) for recurring Level 3 fair value measurements held at the end of the reporting period as well as the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. The ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years and will be applied on a retrospective basis to all periods presented. Early adoption is permitted. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures, but does not believe there will be a material impact upon adoption.

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 adoption of this standard is not expected to have a material impact on the Company's consolidated financial statements and related disclosures, but does not believe there will be a material impact upon adoption.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses." The standard, including subsequently issued amendments, requires a financial asset measured at amortized cost basis, such as accounts receivable, to be presented at the net amount expected to be collected based on relevant information about past events, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. This ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, and requires the modified retrospective approach. Early adoption is permitted. The Company is still evaluating the impact this standard will have on its consolidated financial statements and related disclosures, but does not believe there will be a material impact upon adoption.

2. BUSINESS ACQUISITIONS

Citoxlab

On April 29, 2019, the Company acquired Citoxlab, a non-clinical CRO, specializing in regulated safety assessment services, non-regulated discovery services, and medical device testing. With operations in Europe and North America, the acquisition of Citoxlab further strengthens the Company's position as a leading, global, early-stage CRO by expanding its scientific portfolio and geographic footprint, which enhances the Company's ability to partner with clients across the drug discovery and development continuum. The preliminary purchase price for Citoxlab was $527.7 million in cash, subject to certain post-closing adjustments that may change the purchase price. The acquisition was funded through a combination of cash on hand and proceeds from the Company's Credit Facility under the multi-currency revolving facility. This business is reported as part of the Company's DSA reportable segment.

The preliminary purchase allocation of $491.0 million, net of $36.7 million of cash acquired was as follows:

		April 29, 2019
		(in thousands)
Trade receivables (contractual amount of $35,405)	$	35,405
Inventories		5,282
Other current assets (excluding cash)		13,822
Property, plant and equipment		88,912
Goodwill		280,588
Definite-lived intangible assets		162,400
Other long-term assets		20,164
Deferred revenue		(15,278)
Current liabilities		(46,682)
Deferred tax liabilities		(27,655)
Other long-term liabilities		(21,916)
Redeemable noncontrolling interest		(4,035)
Total purchase price allocation	$	491,007

The preliminary purchase price allocation is subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. 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.

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	$	134,600	13
Developed technology		19,900	3
Backlog		7,900	1
Total definite-lived intangible assets	$	162,400	12

The goodwill resulting from the transaction,$7.2 million of which is deductible for tax purposes due to a prior asset acquisition, is primarily attributable to the potential growth of the Company's DSA business from customers introduced through Citoxlab and the assembled workforce of the acquired business.

The Company incurred transaction and integration costs in connection with the acquisition of$1.9 million and $19.1 million for the three and nine months ended September 28, 2019, respectively, which were primarily included in Selling, general and administrative expenses within the unaudited condensed consolidated statements of income.

Beginning on April 29, 2019, Citoxlab has been included in the operating results of the Company. Citoxlab revenue for thethree and nine months ended September 28, 2019 was $44.0 million and $74.9 million, respectively. Citoxlab operating income for thethree and nine months ended September 28, 2019was $0.2 million and $2.2 million, respectively.

The following selected unaudited pro forma consolidated results of operations are presented as if the Citoxlab acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition, which is December 31, 2017, after giving effect to certain adjustments. For the nine months ended September 28, 2019, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of$4.8 million, additional interest expense on borrowings of $1.2 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.For the nine months ended September 29, 2018, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of$7.3 million, additional interest expense on borrowings of $3.1 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Revenue	$ 667,951	$ 627,758	$ 1,992,472	$ 1,795,312
Net income attributable to common shareholders	$ 74,948	$ 63,919	$ 189,601	$ 170,557

These unaudited 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 dates indicated or that may result in the future. No effect has been given for synergies, if any, that may be realized through the acquisition.

MPI Research

On April 3, 2018, the Company acquired MPI Research, a non-clinical CRO providing comprehensive testing services to biopharmaceutical and medical device companies worldwide. The acquisition enhances 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 MPI Research was $829.7 million in cash. The acquisition was funded by borrowings on the Credit Facility as well as the issuance of the Company's Senior Notes. See Note 9, "Long-Term Debt and Finance Lease Obligations." This business is reported as part of the Company's DSA reportable segment.

The purchase allocation of $800.8 million, net of $27.7 million of cash acquired and a final net working capital adjustment of $1.2 million, was as follows:

	April 3, 2018
	(in thousands)
Trade receivables (contractual amount of $35,073)	$ 35,073
Inventories	4,463
Other current assets (excluding cash)	5,893
Property, plant and equipment	128,403
Goodwill	441,656
Definite-lived intangible assets	309,200
Other long-term assets	1,081
Deferred revenue	(23,926)
Current liabilities	(32,885)
Deferred tax liabilities	(65,945)
Other long-term liabilities	(2,213)
Total purchase price allocation	$ 800,800

From the date of the acquisition through March 30, 2019, 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	$ 264,900	13
Developed technology	23,400	3
Backlog	20,900	1
Total definite-lived intangible assets	$ 309,200	12

The goodwill resulting from the transaction, $4.1 million of which is deductible for tax purposes due to a prior asset acquisition, is primarily attributable to the potential growth of the Company's DSA business from customers introduced through MPI Research and the assembled workforce of the acquired business.

No significant integration costs were incurred in connection with the acquisition for thethree and nine months ended September 28, 2019. The Company incurred transaction and integration costs in connection with the acquisition of $0.8 million and $15.3 million for the three and nine months ended September 29, 2018, respectively, which were primarily included in Selling, general and administrative expenses within the unaudited condensed consolidated statements of income.

The following selected unaudited pro forma consolidated results of operations are presented as if the MPI Research acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition, which is January 1, 2017, after giving effect to certain adjustments. For the nine months ended September 29, 2018, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of$11.8 million, additional interest expense on borrowings of $2.8 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	September 29, 2018	
	Three Months Ended	**Nine Months Ended**
	(in thousands)	
Revenue	$ 585,295	$ 1,726,683
Net income attributable to common shareholders	59,297	168,872

These unaudited 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 dates indicated or that may result in the future. No effect has been given for synergies, if any, that may be realized through the acquisition.

KWS BioTest Limited

On January 11, 2018, the Company acquired KWS BioTest Limited (KWS BioTest), a CRO specializing in *in vitro* and *in vivo* discovery testing services for immuno-oncology, inflammatory and infectious diseases. The acquisition enhances the Company’s discovery expertise, with complementary offerings that provide the Company’s customers with additional tools in the active therapeutic research areas of oncology and immunology. The purchase price for KWS BioTest was $20.3 million in cash and was funded by the Company’s various borrowings. In addition to the initial purchase price, the transaction includes aggregate, undiscounted contingent payments of up to £3.0 million based on future performance. During the three months ended September 29, 2018, the terms of these contingent payments were amended, resulting in a fixed payment of £2.0 million, or $2.6 million, which was paid during the three months ended March 30, 2019. The KWS BioTest business is reported as part of the Company’s DSA reportable segment.

The purchase price allocation of $21.5 million, net of $1.0 million of cash acquired and a final net working capital adjustment of $0.4 million, was as follows:

	January 11, 2018
	(in thousands)
Trade receivables (contractual amount of $1,309)	$ 1,309
Other current assets (excluding cash)	99
Property, plant and equipment	1,136
Definite-lived intangible assets - client relationships	3,647
Goodwill	17,660
Current liabilities	(1,575)
Deferred revenue	(151)
Long-term liabilities	(596)
Total purchase price allocation	$ 21,529

From the date of the acquisition through December 29, 2018, 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 only definite-lived intangible asset relates to client relationships, which will be amortized over a weighted average life of12 years.

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

No significant integration costs were incurred in connection with the acquisition for the three and nine months ended September 28, 2019. The Company incurred transaction and integration costs of $0.1 million and $0.6 million in connection with the acquisition for the three and nine months ended September 29, 2018, respectively, which were included in Selling, general and administrative expenses, within the unaudited condensed consolidated statements of income.

Pro forma financial information as well as actual revenue and operating income have not been included because KWS BioTest's financial results are not significant when compared to the Company's consolidated financial results.

Other Acquisition

On August 28, 2019, the Company acquired an 80% ownership interest in a supplier that supports the Company's DSA reportable segment. The remaining 20% interest is a redeemable non-controlling interest. See Note 10, "Equity and Noncontrolling Interests." The preliminary purchase price was $23.4 million, net of a $4.0 million pre-existing relationship for a supply agreement settled upon acquisition, and subject to certain post-closing adjustments that may change the purchase price. The acquisition was funded through a combination of cash on hand and proceeds from the Company's Credit Facility under the multi-currency revolving facility. The business is reported as part of the Company's DSA reportable segment.

The preliminary purchase allocation of $23.1 million, net of $0.3 million of cash acquired was as follows:

		August 28, 2019
		(in thousands)
Trade receivables (contractual amount of $189)	$	189
Inventories		7,644
Property, plant and equipment		1,462
Goodwill		12,528
Other long-term assets		11,849
Current liabilities		(300)
Deferred tax liabilities		(1,331)
Other long-term liabilities		(238)
Redeemable noncontrolling interest		(8,740)
Total purchase price allocation	$	23,063

The purchase price allocation is subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. 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.

The Company incurred transaction and integration costs in connection with the acquisition of $2.1 million and $3.2 million for the three and nine months ended September 28, 2019, respectively, which are primarily included in Selling, general and administrative expenses within the unaudited condensed statements of income.

Pro forma financial information as well as the disclosure of actual results have not been included because these financial results are not significant when compared to the Company's consolidated financial results.

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Revenue Recognition

Revenue is recognized when, or as, obligations under the terms of a contract are satisfied, which occurs when control of the promised products or services is transferred to customers. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products or services to a customer ("transaction price").

To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing the amount to which the Company expects to be entitled. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available. Sales, value add, and other taxes collected on behalf of third parties are excluded from revenue.

When determining the transaction price of a contract, an adjustment is made if payment from a customer occurs either significantly before or significantly after performance, resulting in a significant financing component. Generally, the Company does not extend payment terms beyond one year. Applying the practical expedient, the Company does not assess whether a significant financing component exists if the period between when the Company performs its obligations under the contract and when the customer pays is one year or less. None of the Company's contracts contained a significant financing component for the nine months ended September 28, 2019 and September 29, 2018.

Contracts with customers may contain multiple performance obligations. For such arrangements, the transaction price is allocated to each performance obligation based on the estimated relative standalone selling prices of the promised products or services underlying each performance obligation. The Company determines standalone selling prices based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.

Contracts are often modified to account for changes in contract specifications and requirements. Contract modifications exist when the modification either creates new, or changes existing, enforceable rights and obligations. Generally, when contract modifications create new performance obligations, the modification is considered to be a separate contract and revenue is recognized prospectively. When contract modifications change existing performance obligations, the existing transaction price and measure of progress for the performance obligation to which it relates is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis.

Product revenue is generally recognized when the customer obtains control of the Company's product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract. Service revenue is generally recognized over time as the services are delivered to the customer based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. Depending on which better depicts the transfer of value to the customer, the Company generally measures its progress using either cost-to-cost (input method) or right-to-invoice (output method). The Company uses the cost-to-cost measure of progress when it best depicts the transfer of value to the customer which occurs as the Company incurs costs on its contract, generally related to fixed fee service contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. The costs calculation includes variables such as labor hours, allocation of overhead costs, research model costs, and subcontractor costs. Revenue is recorded proportionally as costs are incurred. The right-to-invoice measure of progress is generally related to rate per unit contracts, as the extent of progress towards completion is measured based on discrete service or time-based increments, such as samples tested or labor hours incurred. Revenue is recorded in the amount invoiced since that amount corresponds directly to the value of the Company's performance to date.

Disaggregation of Revenue

The following tables disaggregate the Company's revenue by major business line and timing of transfer of products or services:

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Major Products/Service Lines:				
RMS	$ 132,546	$ 126,811	$ 405,772	$ 391,195
DSA	420,079	352,257	1,179,793	958,665
Manufacturing	115,326	106,227	344,523	314,706
Total revenue	$ 667,951	$ 585,295	$ 1,930,088	$ 1,664,566

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Timing of Revenue Recognition:				
RMS				
Services and products transferred over time	$ 56,243	$ 49,417	$ 168,377	$ 146,947
Services and products transferred at a point in time	76,303	77,394	237,395	244,248
DSA				
Services and products transferred over time	419,445	352,203	1,178,874	958,174
Services and products transferred at a point in time	634	54	919	491
Manufacturing				
Services and products transferred over time	36,308	31,420	102,674	92,978
Services and products transferred at a point in time	79,018	74,807	241,849	221,728
Total revenue	$ 667,951	$ 585,295	$ 1,930,088	$ 1,664,566

RMS

The RMS business generates revenue through the commercial production and sale of research models and the provision of services related to the maintenance and monitoring of research models and management of clients' research operations. Revenue from the sale of research models is recognized at a point in time when the customer obtains control of the product, which may be upon shipment or upon delivery based on the shipping terms of a contract. Revenue generated from research models services is recognized over time and is typically based on a right-to-invoice measure of progress (output method) as invoiced amounts correspond directly to the value of the Company's performance to date.

DSA

The Discovery and Safety Assessment business provides a full suite of integrated drug discovery services directed at the identification, screening and selection of a lead compound for drug development and offers a full range of safety assessment services including bioanalysis, drug metabolism, pharmacokinetics, toxicology and pathology. Discovery and Safety Assessment services revenue is generally recognized over time using the cost-to-cost or right to invoice measures of progress, primarily representing fixed fee service contracts and per unit service contracts, respectively.

Manufacturing

The Manufacturing business 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; and Avian Vaccine Services (Avian), which supplies specific-pathogen-free chicken eggs and chickens. Species identification service revenue is generally recognized at a point in time as identifications are completed by the Company. Biologics service revenue is generally recognized over time using the cost-to-cost measure of progress. Microbial Solutions and Avian product sales are generally recognized at a point in time when the customer obtains control of the product, which may be upon shipment or upon delivery based on the contractual shipping terms of a contract.

Transaction Price Allocated to Future Performance Obligations

The Company discloses the aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied as ofSeptember 28, 2019. Excluded from the disclosure is the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which revenue is recognized at the amount to which the Company has the right to invoice for services performed.

The following table includes estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially satisfied) as of September 28, 2019:

	Revenue Expected to be Recognized in Future Periods				
	Less than 1 Year	1 to 3 Years	4 to 5 Years	Beyond 5 Years	Total
	(in thousands)				
DSA	$ 163,868	$ 111,890	$ 6,641	$ 409	$ 282,808
Manufacturing	10,165	12,997	20	8	23,190
Total	$ 174,033	$ 124,887	$ 6,661	$ 417	$ 305,998

Contract Balances from Contracts with Customers

The timing of revenue recognition, billings and cash collections results in billed receivables (client receivables), contract assets (unbilled revenue), contract liabilities (current and non-current deferred revenue), and customer deposits on the unaudited condensed consolidated balance sheets. The Company's payment terms are generally 30 days in the United States and consistent with prevailing practice in international markets.A contract asset is recorded when a right to consideration in exchange for goods or services transferred to a customer is conditioned other than the passage of time. Client receivables are recorded separately from contract assets since only the passage of time is required before consideration is due. A contract liability is recorded when consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a contract. Contract liabilities are recognized as revenue after control of the products or services is transferred to the customer and all revenue recognition criteria have been met. The following table provides information about client receivables, contract assets, and contract liabilities from contracts with customers:

	September 28, 2019	December 29, 2018
	(in thousands)	
Balances from contracts with customers:		
Client receivables	$ 394,135	$ 370,131
Contract assets (unbilled revenue)	134,169	105,216
Contract liabilities (current and long-term deferred revenue)	191,443	179,559
Contract liabilities (customer contract deposits)	36,006	38,245

When the Company does not have the unconditional right to advanced billings, both advanced client payments and unpaidadvanced client billings are excluded from deferred revenue, with the advanced billings also being excluded from client receivables. As of September 28, 2019, the Company excluded approximately $21 million of unpaid advanced client billings from both client receivables and deferred revenue and approximately$36 million of advanced client payments have been presented as customer contract deposits within other current liabilities in the accompanying unaudited condensed consolidated balance sheets.

Other changes in the contract asset and the contract liability balances during thenine months ended September 28, 2019were as follows:

(i) Changes due to business combinations:

See Note 2. "Business Acquisitions" for client receivables, contract assets, and contract liabilities that were acquired as part of the Citoxlab acquisition on April 29, 2019.

(ii) Cumulative catch-up adjustments to revenue that affect the corresponding contract asset or contract liability, including adjustments arising from a change in the measure of progress, a change in an estimate of the transaction price (including any changes in the assessment of whether an estimate of variable consideration is constrained), or a contract modification:

During the nine months ended September 28, 2019, an immaterial cumulative catch-up adjustment to revenue was recorded.

(iii) A change in the time frame for a right to consideration to become unconditional (that is, for a contract asset to be recorded as a client receivable):

Approximately 85% of unbilled revenue as of December 29, 2018 was billed during the nine months ended September 28, 2019.

(iv) A change in the time frame for a performance obligation to be satisfied (that is, for the recognition of revenue arising from a contract liability):

Approximately 80% of contract liabilities as of December 29, 2018 were recognized as revenue during the nine months ended September 28, 2019.

4. SEGMENT INFORMATION

The Company's three reportable segments are Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Support (Manufacturing).

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

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
RMS				
Revenue	$ 132,546	$ 126,811	$ 405,772	$ 391,195
Operating income	34,385	32,121	103,729	104,893
Depreciation and amortization	4,895	4,811	14,198	14,565
Capital expenditures	5,818	8,166	14,979	18,105
DSA				
Revenue	$ 420,079	$ 352,257	$ 1,179,793	$ 958,665
Operating income	64,995	62,909	175,214	160,391
Depreciation and amortization	39,898	31,433	111,231	83,262
Capital expenditures	21,141	10,800	45,130	34,496
Manufacturing				
Revenue	$ 115,326	$ 106,227	$ 344,523	$ 314,706
Operating income	39,253	33,266	103,893	95,904
Depreciation and amortization	5,990	5,709	17,577	17,313
Capital expenditures	6,421	2,709	14,299	12,731

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	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)					
Three Months Ended:						
Total reportable segments	$ 138,633	$ 128,296	$ 50,783	$ 41,953	$ 33,380	$ 21,675
Unallocated corporate	(45,831)	(43,934)	975	1,639	1,783	764
Total consolidated	$ 92,802	$ 84,362	$ 51,758	$ 43,592	$ 35,163	$ 22,439
Nine Months Ended:						
Total reportable segments	$ 382,836	$ 361,188	$ 143,006	$ 115,140	$ 74,408	$ 65,332
Unallocated corporate	(140,474)	(132,287)	3,256	5,058	2,267	6,046
Total consolidated	$ 242,362	$ 228,901	$ 146,262	$ 120,198	$ 76,675	$ 71,378

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

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
RMS	$ 132,546	$ 126,811	$ 405,772	$ 391,195
DSA	420,079	352,257	1,179,793	958,665
Manufacturing	115,326	106,227	344,523	314,706
Total revenue	$ 667,951	$ 585,295	$ 1,930,088	$ 1,664,566

A summary of unallocated corporate expense consists of the following

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Stock-based compensation	$ 8,752	$ 7,910	$ 27,744	$ 24,517
Compensation, benefits, and other employee-related expenses	18,770	20,464	54,561	56,375
External consulting and other service expenses	4,156	4,767	12,060	12,711
Information technology	3,534	3,070	10,811	8,723
Depreciation	975	1,639	3,256	5,058
Acquisition and integration	5,679	1,122	23,621	15,678
Other general unallocated corporate	3,965	4,962	8,421	9,225
Total unallocated corporate expense	$ 45,831	$ 43,934	$ 140,474	$ 132,287

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

Revenue by geographic area is as follows:

	U.S.	Europe	Canada	Asia Pacific	Other	Consolidated
	(in thousands)					
Three Months Ended:						
September 28, 2019	$ 373,094	$ 184,685	$ 71,984	$ 36,698	$ 1,490	$ 667,951
September 29, 2018	336,811	159,473	53,665	34,062	1,284	585,295
Nine Months Ended:						
September 28, 2019	$ 1,091,194	$ 533,820	$ 194,865	$ 106,090	$ 4,119	$ 1,930,088
September 29, 2018	919,807	481,955	153,802	104,817	4,185	1,664,566

Included in the Asia Pacific category above are operations located in China, Japan, Korea, Australia, Singapore, and India. Included in the Other category above are operations located in Brazil and Israel. Revenue represents sales originating in entities physically located in the identified geographic area.

5. SUPPLEMENTAL BALANCE SHEET INFORMATION

The composition of trade receivables, net is as follows:

	September 28, 2019	December 29, 2018
	(in thousands)	
Client receivables	$ 394,135	$ 370,131
Unbilled revenue	134,169	105,216
Total	528,304	475,347
Less: Allowance for doubtful accounts	(4,230)	(3,099)
Trade receivables, net	$ 524,074	$ 472,248

The composition of inventories is as follows:

	September 28, 2019	December 29, 2018
	(in thousands)	
Raw materials and supplies	$ 23,670	$ 22,378
Work in process	36,851	21,732
Finished products	95,005	83,782
Inventories	$ 155,526	$ 127,892

The composition of other current assets is as follows:

	September 28, 2019	December 29, 2018
	(in thousands)	
Prepaid income tax	$ 75,019	$ 47,157
Investments	855	885
Restricted cash	534	465
Other	366	300
Other current assets	$ 76,774	$ 48,807

The composition of other assets is as follows:

	September 28, 2019	December 29, 2018
	(in thousands)	
Venture capital investments	$ 100,553	$ 87,545
Other investments	13,045	1,046
Life insurance policies	35,861	32,340
Restricted cash	1,427	1,411
Other	42,288	21,417
Other assets	$ 193,174	$ 143,759

The composition of other current liabilities is as follows:

	September 28, 2019	December 29, 2018
	(in thousands)	
Current portion of operating lease right-of-use liabilities	$ 20,032	$ —
Accrued income taxes	44,121	24,120
Customer contract deposits	36,006	38,245
Other	14,243	8,915
Other current liabilities	$ 114,402	$ 71,280

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

	September 28, 2019	December 29, 2018
	(in thousands)	
U.S. Transition Tax	$ 52,066	$ 52,064
Long-term pension liability	29,028	24,671
Accrued executive supplemental life insurance retirement plan	37,328	36,086
Long-term deferred revenue	25,348	34,420
Other	27,473	31,880
Other long-term liabilities	$ 171,243	$ 179,121

6. VENTURE CAPITAL AND OTHER 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 less than 1% to 12.0%. The Company accounts for the investments in limited partnerships (LPs), which are variable interest entities, under the equity method of accounting. For publicly-held investments in the LPs, the Company adjusts for changes in fair market value based on reported share holdings at the end of each fiscal quarter. 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.

Venture capital investments were $100.6 million and $87.5 million as of September 28, 2019 and December 29, 2018, respectively. The Company's total commitment to the venture capital funds as of September 28, 2019 was $128.1 million, of which the Company funded $77.4 million through that date. The Company received dividends totaling $0.2 million and $5.6 million for the three months ended September 28, 2019 and September 29, 2018, respectively. The Company received dividends totaling $1.8 million and $14.1 million for the nine months ended September 28, 2019 and September 29, 2018, respectively. The Company recognized losses of $0.6 million and gains of $5.4 million related to the venture capital investments for the three months ended September 28, 2019 and September 29, 2018, respectively. The Company recognized gains of $5.7 million and $22.8 million related to the venture capital investments for the nine months ended September 28, 2019 and September 29, 2018, respectively. Gains and losses are recorded in Other income, net in the accompanying unaudited condensed consolidated statements of income.

The Company also invests, with minority positions, directly in equity of predominantly privately-held companies. These investments are reported at fair value or under the equity method of accounting, as appropriate. Equity investments that do not have readily determinable fair values are generally recorded at cost, plus or minus certain adjustments. Other investments were $13.0 million and $1.0 million as of September 28, 2019 and December 29, 2018, respectively. The Company recognized an insignificant amount of gains and losses related to these investments for the three and nine months ended September 28, 2019 and September 29, 2018. Gains and losses from other investments are recorded in Other income, net in the accompanying unaudited consolidated statements of income.

7. 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 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 nine months ended September 28, 2019 and September 29, 2018, 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;
- 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. The book value of the Company's 5.5% Senior Notes (Senior Notes) due in 2026, which are fixed rate debt, are carried at amortized cost. Fair value of the Senior Notes is based on quoted market prices and on borrowing rates available to the Company; 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:

	September 28, 2019			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 436	$ —	$ 436
Other assets:				
Foreign currency forward contract	—	778	—	778
Life insurance policies	—	28,207	—	28,207
Total assets measured at fair value	$ —	$ 29,421	$ —	$ 29,421
Other current liabilities measured at fair value:				
Contingent consideration	$ —	$ —	$ 692	$ 692

	December 29, 2018			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 45,982	$ —	$ 45,982
Other assets:				
Life insurance policies	—	24,541	—	24,541
Total assets measured at fair value	$ —	$ 70,523	$ —	$ 70,523
Other current liabilities:				
Contingent consideration	$ —	$ —	$ 3,033	$ 3,033
Foreign currency forward contract	—	1,319	—	1,319
Total liabilities measured at fair value	$ —	$ 1,319	$ 3,033	$ 4,352

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

	Nine Months Ended	
	September 28, 2019	**September 29, 2018**
	(in thousands)	
Beginning balance	$ 3,033	$ 298
Additions	2,869	3,315
Payments	(5,252)	—
Foreign currency translation	42	(213)
Ending balance	$ 692	$ 3,400

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 within the fair value hierarchy.

As of both September 28, 2019 and December 29, 2018, the book value of the Company's Senior Notes, which is a fixed rate obligation carried at amortized cost, was $500.0 million. The fair value of the Company's Senior Notes as ofSeptember 28, 2019 and December 29, 2018 was $530.0 million and $495.0 million, respectively. Fair value is based on quoted market prices as well as borrowing rates available to the Company. As the fair value is based on significant other observable outputs, it is deemed to be Level 2 within the fair value hierarchy.

8. GOODWILL AND INTANGIBLE ASSETS

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

		Adjustments to Goodwill		
	December 29, 2018	**Acquisitions**	**Foreign Exchange**	**September 28, 2019**
		(in thousands)		
RMS	$ 56,968	$ —	$ (761)	$ 56,207
DSA	1,051,470	293,116	(13,660)	1,330,926
Manufacturing	138,695	—	(4,209)	134,486
Goodwill	$ 1,247,133	$ 293,116	$ (18,630)	$ 1,521,619

The increase in goodwill during the nine months ended September 28, 2019 related primarily to the acquisition of Citoxlab in the DSA reportable segment and the impact of foreign exchange.

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

	September 28, 2019			December 29, 2018		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
	(in thousands)					
Backlog	$ 28,716	$ (23,969)	$ 4,747	$ 20,900	$ (18,691)	$ 2,209
Technology	119,180	(52,291)	66,889	101,506	(41,870)	59,636
Trademarks and trade names	8,108	(4,724)	3,384	8,331	(4,640)	3,691
Other	17,850	(11,613)	6,237	17,448	(10,041)	7,407
Other intangible assets	173,854	(92,597)	81,257	148,185	(75,242)	72,943
Client relationships	919,738	(298,870)	620,868	791,725	(253,780)	537,945
Intangible assets	$ 1,093,592	$ (391,467)	$ 702,125	$ 939,910	$ (329,022)	$ 610,888

The increase in intangible assets, net during the nine months ended September 28, 2019 related primarily to the acquisition of Citoxlab.

9. LONG-TERM DEBT AND FINANCE LEASE OBLIGATIONS

Long-Term Debt and Finance Lease Obligations
Long-term debt, net and finance leases consists of the following:

	September 28, 2019	December 29, 2018
	(in thousands)	
Term loans	$ 703,125	$ 731,250
Revolving facility	691,459	397,452
2026 Senior Notes	500,000	500,000
Other debt	5,692	26,286
Finance leases (Note 16)	29,712	29,240
Total debt and finance leases	1,929,988	1,684,228
Less:		
Current portion of long-term debt	30,609	28,228
Current portion of finance leases (Note 16)	3,002	3,188
Current portion of long-term debt and finance leases	33,611	31,416
Long-term debt and finance leases	1,896,377	1,652,812
Debt discount and debt issuance costs	(13,784)	(16,214)
Long-term debt, net and finance leases	$ 1,882,593	$ 1,636,598

As of September 28, 2019 and December 29, 2018, the weighted average interest rate on the Company's debt was 3.33% and 4.24%, respectively.

Term Loans and Revolving Facility
On March 26, 2018, the Company amended and restated its $1.65 billion credit facility creating a $2.3 billion credit facility (Credit Facility). The amendment extended the maturity date and provided for a $750.0 million term loan and a $1.55 billion multi-currency revolving facility. The amendment was accounted for as a debt modification. In connection with the transaction, the Company capitalized approximately $6.2 million within Long-term debt, net and finance leases in the accompanying unaudited condensed consolidated balance sheets and expensed approximately $1.0 million of debt issuance costs recorded within Interest expense in the accompanying unaudited condensed consolidated statements of income for the year ended 2018. On September 25, 2019 the Company amended and restated the Credit Facility for certain administrative matters.

The term loan facility matures in 19 quarterly installments with the last installment due March 26, 2023. The revolving facility matures on March 26, 2023, and requires no scheduled payment before that date.

On October 23, 2019, the Company prepaid $500.0 million of the term loan with proceeds from a $500.0 million unregistered private offering (see 2028 Senior Notes Offering below). Additionally, on November 4, 2019, the Company amended and restated the Credit Facility to increase the multi-currency revolving facility by $500.0 million, from $1.55 billion to $2.05 billion. The amount outstanding under the multi-currency revolving facility has not significantly changed since September 28, 2019. Under specified circumstances, the Company has the ability to increase the term loan and/or revolving facility by up to $1.0 billion in the aggregate.

The interest rates applicable to the term loan and revolving facility under the 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 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 4.00 to 1.0. As of September 28, 2019, the Company was compliant with all covenants.

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

During the three and nine months ended September 28, 2019, the Company had multiple U.S. dollar denominated loans borrowed by a non-U.S. Euro functional currency entity under the Company's Credit Facility, which ranged from $300 million to $350 million. This resulted in foreign currency losses recognized in Other income, net of $12.1 million during the three months ended September 28, 2019 and $14.9 million during the nine months ended September 28, 2019. The Company entered into foreign exchange forward contracts to limit its foreign currency exposures related to these borrowings. As of September 28, 2019, the Company did not have any outstanding borrowings in a currency different than its respective functional currency. See Note 14, "Foreign Currency Contracts", for further discussion.

Base Indenture for Senior Notes Offerings

On April 3, 2018, the Company entered into an indenture (Base Indenture) with MUFG Union Bank, N.A., (Trustee). The purpose of the Indenture was to allow the Company the ability to issue senior notes. The Company has entered into two supplemental indentures in connection with two unregistered offerings, which are described below.

The Indenture contains certain covenants including, but not limited to, limitations and restrictions on the ability of the Company and its U.S. subsidiaries to (i) create certain liens, (ii) enter into any Sale and Leaseback Transaction (as defined in the Indenture) with respect to any property, and (iii) merge, consolidate, sell or otherwise dispose of all or substantially all of their assets. These covenants are subject to a number of conditions, qualifications, exceptions and limitations. Any event of default, as defined, could result in the acceleration of the repayment of the obligations.

2026 Senior Notes Offering

On April 3, 2018, the Company entered into the first supplemental indenture (First Supplemental Indenture) with the Trustee in connection with an offering of $500.0 million in aggregate principal amount of the Company's 5.5% Senior Notes (2026 Senior Notes), due in 2026, in an unregistered offering. Under the terms of the First Supplemental Indenture, interest on the Senior Notes is payable semi-annually on April 1 and October 1, beginning on October 1, 2018. The 2026 Senior Notes are guaranteed fully and unconditionally, jointly and severally on a senior unsecured basis by the Company and certain of its U.S. subsidiaries. In connection with the transaction, the Company incurred $7.4 million of debt issuance costs within Long-term debt, net and finance leases in the accompanying unaudited condensed consolidated balance sheets.

The Company may redeem all or part of the 2026 Senior Notes at any time prior to April 1, 2021, at its option, at a redemption price equal to 100% of the principal amount of such Senior Notes plus the Applicable Premium (as defined in the First Supplemental Indenture). The Company may also redeem up to 40% of the Senior Notes with the proceeds of certain equity offerings completed before April 1, 2021, at a redemption price equal to 105.5% of the principal amount of such 2026 Senior Notes. On or after April 1, 2021, the Company may on any one or more occasions redeem all or a part of the 2026 Senior Notes, at the redemption prices specified in the Indenture based on the applicable date of redemption. Upon the occurrence of a Change of Control Triggering Event (as defined in the Indenture), the Company will be required to offer to repurchase the 2026 Senior Notes at a purchase price equal to 101% of the aggregate principal amount of such 2026 Senior Notes. Any redemption of the 2026 Senior Notes would also require settlement of accrued and unpaid interest, if any, up to but excluding the redemption date.

Net proceeds from the 2026 Senior Notes of $493.8 million were used to partially repay the outstanding revolving credit facility on April 3, 2018 as well as fund the acquisition of MPI Research.

2028 Senior Notes Offering

On October 23, 2019, the Company entered into a second supplemental indenture (Second Supplemental Indenture) with the Trustee in connection with the offering of $500.0 million in aggregate principal amount of the Company's 4.25% Senior Notes

(2028 Senior Notes), due in 2028, in an unregistered offering. Under the terms of the Second Supplemental Indenture, interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1, beginning on May 1, 2020. The 2028 Senior Notes are guaranteed fully and unconditionally, jointly and severally on a senior unsecured basis by the Company and certain of its U.S. subsidiaries. In connection with the transaction, the Company incurred approximately $6 million of debt issuance costs, which were capitalized upon the 2028 Senior Notes issuance on October 23, 2019.

The Company may redeem all or part of the 2028 Senior Notes at any time prior to May 1, 2023, at its option, at a redemption price equal to 100% of the principal amount of such 2028 Senior Notes plus the Applicable Premium (as defined in the Indenture). The Company may also redeem up to 40% of the 2028 Senior Notes with the proceeds of certain equity offerings completed before May 1, 2023, at a redemption price equal to 104.25% of the principal amount of such 2028 Senior Notes. On or after May 1, 2023, the Company may on any one or more occasions redeem all or a part of the 2028 Senior Notes, at the redemption prices specified in the Indenture based on the applicable date of redemption. Upon the occurrence of a Change of Control Triggering Event (as defined in the Indenture), the Company will be required to offer to repurchase the Senior Notes at a purchase price equal to 101% of the aggregate principal amount of such Senior Notes. Any redemption of the Senior Notes would also require settlement of accrued and unpaid interest, if any, up to but excluding the redemption date.

Net proceeds from the 2028 Senior Notes of approximately $494 million and available cash were used to prepay a portion of the term loan on October 23, 2019.

Commitment Letter

On February 12, 2018, the Company secured an $830 million commitment under a 364-day senior unsecured bridge loan facility (the Bridge Facility) for the purpose of financing the acquisition of MPI Research. The Bridge Facility was terminated as of April 3, 2018 upon the successful acquisition of MPI Research. Debt issuance costs of $1.8 million, which were capitalized upon the execution of the Bridge Facility, were expensed upon termination of the agreement on April 3, 2018. In addition, the Company incurred and expensed $2.0 million of fees pertaining to a temporary backstop facility related to the negotiation of the Credit Facility during the three months ended March 31, 2018. These costs were included in Interest expense in the accompanying unaudited condensed consolidated statements of income.

Letters of Credit

As of September 28, 2019 and December 29, 2018, the Company had $6.7 million and $6.5 million, respectively, in outstanding letters of credit.

10. EQUITY AND NONCONTROLLING INTERESTS

Earnings Per Share

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

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Numerator:				
Income from continuing operations, net of income taxes	$ 73,552	$ 60,902	$ 173,549	$ 167,020
Income from discontinued operations, net of income taxes	—	—	—	1,506
Less: Net income attributable to noncontrolling interests	742	534	1,878	1,818
Net income attributable to common shareholders	$ 72,810	$ 60,368	$ 171,671	$ 166,708
Denominator:				
Weighted-average shares outstanding - Basic	48,818	48,310	48,682	48,098
Effect of dilutive securities:				
Stock options, restricted stock units, performance share units and restricted stock	897	1,016	945	1,020
Weighted-average shares outstanding - Diluted	49,715	49,326	49,627	49,118

Options to purchase 0.4 million and 0.5 million shares for the three months ended September 28, 2019 and September 29, 2018, respectively, as well as a non-significant 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 0.4 million and 0.5 million shares for the nine months ended September 28, 2019 and September 29, 2018, respectively, as well as a non-significant 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 nine months ended September 28, 2019 and September 29, 2018 excluded the impact of 1.0 million shares of non-vested restricted stock and RSUs.

Treasury Shares

During the nine months ended September 28, 2019 and September 29, 2018, the Company did not repurchase any shares under its authorized stock repurchase program. As of September 28, 2019, the Company had $129.1 million remaining on the authorized stock repurchase program.

The Company's stock-based compensation plans permit the netting of common stock upon vesting of RSUs and PSUs in order to satisfy individual statutory tax withholding requirements. During the nine months ended September 28, 2019 and September 29, 2018, the Company acquired 0.1 million shares for $18.0 million and 0.1 million shares for $13.8 million, respectively, from such netting.

Accumulated Other Comprehensive Income (Loss)

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

	Foreign Currency Translation Adjustment and Other	Pension and Other Post-Retirement Benefit Plans	Total
	(in thousands)		
December 29, 2018	$ (102,199)	$ (70,504)	$ (172,703)
Other comprehensive loss before reclassifications	(8,261)	—	(8,261)
Amounts reclassified from accumulated other comprehensive loss	—	1,113	1,113
Net current period other comprehensive income (loss)	(8,261)	1,113	(7,148)
Income tax expense (benefit)	(1,615)	234	(1,381)
September 28, 2019	$ (108,845)	$ (69,625)	$ (178,470)

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 immaterial during the three and nine months ended September 28, 2019 and September 29, 2018.

Redeemable Noncontrolling Interests

On June 13, 2019, the Company purchased an additional 5% equity interest in Vital River for $7.9 million, resulting in total ownership of 92%. The Company recorded a $0.8 million gain in equity equal to the excess fair value of the 5% equity interest over the purchase price. Concurrent with the transaction, the pre-existing agreement was further amended to provide the Company with the right to purchase, and the noncontrolling interest holders with the right to sell, the remaining 8% equity interest (redeemable noncontrolling interest) at a contractually defined redemption value, subject to a redemption floor, which represents a derivative embedded within the equity instrument. These rights are exercisable beginning in 2022 and are accelerated in certain events. The Company recorded a charge of $2.2 million in Selling, general and administrative expenses within the unaudited condensed consolidated statements of income, equal to the excess fair value of the hybrid instrument (equity interest with embedded derivative) over the fair value of the 8% equity interest. 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 ($14.5 million as of September 28, 2019) and the 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 8% interest, the noncontrolling interest is classified in the mezzanine section of the unaudited condensed consolidated balance sheets, 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 8% equity interest.

As part of the Citoxlab acquisition on April 29, 2019, the Company acquired a less than wholly owned subsidiary that is fully consolidated under the voting interest model. The Company acquired a 90% equity interest, which includes a 10% redeemable noncontrolling interest. The noncontrolling interest holders have the ability to require the Company to purchase the remaining 10% interest at certain dates in the future between 2021 through 2023. The noncontrolling interest is classified in the mezzanine section of the unaudited condensed consolidated balance sheets and is approximately $4 million as of September 28, 2019.

On August 28, 2019, the Company acquired an 80% equity interest in a supplier, which included a 20% redeemable noncontrolling interest. The contract provides the Company the right to purchase, and the noncontrolling interest holders with the right to sell, the remaining 20% equity interest at its appraised value. These rights are exercisable beginning in 2022. 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 appraised value and the carrying amount adjusted for net income (loss) attributable to the noncontrolling interest or a pre-determined floor value. As the noncontrolling interest holders have the ability to require the Company to purchase the remaining 20% interest, the noncontrolling interest is classified in the mezzanine section of the unaudited condensed balance sheets, 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 20% equity interest.

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

	Nine Months Ended	
	September 28, 2019	September 29, 2018
	(in thousands)	
Beginning balance	$ 18,525	$ 16,609
Adjustment to Vital River redemption value	1,451	1,111
Purchase of Vital River 5% equity interest	(8,745)	—
Change in fair value of Vital River 8% equity interest, included in additional-paid-in-capital	2,708	—
Modification of Vital River 8% purchase option	2,196	—
Acquisition of a 10% non-controlling interest through acquiring Citoxlab	4,035	—
Acquisition of a 20% non-controlling interest through acquiring a supplier	8,740	—
Net income attributable to noncontrolling interests	249	543
Foreign currency translation	(814)	(932)
Ending balance	$ 28,345	$ 17,331

11. INCOME TAXES

The Company's effective tax rates for the three months ended September 28, 2019 and September 29, 2018 were (0.4)% and 16.9%, respectively. The Company's effective tax rates for the nine months ended September 28, 2019 and September 29, 2018 were 12.6% and 19.2%, respectively. For the three and nine months ended September 28, 2019, the change in the effective tax rates from the prior year periods were primarily attributable to recognizing a $20.4 million deferred tax asset in the three months ended September 28, 2019 for net operating losses expected to be utilized in the future due to changes in the Company's international financing structure.

For the three months ended September 28, 2019, the Company's unrecognized tax benefits decreased by $5.8 million to $19.0 million, primarily due to the lapse of statutes of limitations, offset by an additional quarter of Canadian Scientific Research and Experimental Development Credit reserves. For the three months ended September 28, 2019, the unrecognized income tax benefits that would impact the effective tax rate decreased by $6.1 million to $16.6 million, for the same reasons discussed above. The accrued interest on unrecognized tax benefits was $2.2 million at September 28, 2019. The Company estimates that it is reasonably possible that the unrecognized tax benefits will decrease by up to $1.6 million over the next twelve-month period, primarily due to the outcome of pending tax audits.

The Company conducts business in several tax jurisdictions. As a result, it is subject to tax audits in jurisdictions including the U.S., U.K., China, France, Germany, Canada, Japan and India. With few exceptions, the Company is no longer subject to U.S. and international income tax examinations for years before 2016.

The Company and certain of its subsidiaries have ongoing tax controversies with various tax authorities in the U.S., Canada, Japan, India, China, and France. The Company does not anticipate resolution of these audits will have a material impact on its financial statements.

12. 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		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Service cost	$ 701	$ 814	$ 2,088	$ 2,629
Interest cost	2,902	2,752	8,652	8,241
Expected return on plan assets	(3,236)	(3,801)	(9,706)	(11,690)
Amortization of prior service cost (credit)	92	(135)	274	(406)
Amortization of net loss	489	736	1,466	2,267
Net periodic cost	$ 948	$ 366	$ 2,774	$ 1,041

Service cost is recorded as an operating expense within the accompanying unaudited condensed consolidated statements of income. All other components of net periodic costs are recorded in Other income, net in the accompanying unaudited condensed consolidated statements of income. The net periodic cost for the Company's other post-retirement benefit plan for the three and nine months ended September 28, 2019 and September 29, 2018 was not significant.

13. 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		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Cost of revenue	$ 2,354	$ 1,596	$ 6,792	$ 4,747
Selling, general and administrative	11,671	10,224	36,637	31,161
Stock-based compensation, before income taxes	14,025	11,820	43,429	35,908
Provision for income taxes	(2,166)	(2,370)	(7,068)	(6,940)
Stock-based compensation, net of income taxes	$ 11,859	$ 9,450	$ 36,361	$ 28,968

During the nine months ended September 28, 2019, the Company granted stock options representing 0.5 million common shares with a per-share weighted-average grant date fair value of $33.97, RSUs representing 0.2 million common shares with a per-share weighted-average grant date fair value of $142.89, and PSUs representing 0.2 million common shares with a per-share weighted-average grant date fair value of $162.74. The maximum number of common shares to be issued upon vesting of PSUs granted during the nine months ended September 28, 2019 is 0.3 million.

14. FOREIGN CURRENCY CONTRACTS

Cross currency loan

The Company entered into foreign exchange forward contracts during the nine months ended September 28, 2019 and three months ended December 29, 2018 to limit its foreign currency exposure related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under the Credit Facility. These contracts are not designated as hedging instruments. Any gains or losses on these forward contracts are recognized immediately in Interest expense.

The open contract at December 29, 2018, which had a duration of approximately 3 months, was recorded at fair value in the Company's accompanying unaudited condensed consolidated balance sheets. The notional amount and fair value of the open contract is summarized as follows:

	Notional Amount		Fair Value		Balance Sheet Location
	(in thousands)				
December 29, 2018	$	343,300	$	(1,319)	Other current liabilities

The Company had no open forward contracts related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency at September 28, 2019.

The following table summarizes the effect of the foreign exchange forward contracts entered into to limit its foreign currency exposure related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under the Credit Facility on the Company's unaudited condensed consolidated statements of income:

	September 28, 2019				September 29, 2018			
Location of hedge gain (loss)	Financial statement caption amount		Amount of gain (loss)		Financial statement caption amount		Amount of gain (loss)	
	(in thousands)							
Three Months Ended:								
Interest expense	$	(5,698)	$	14,311	$	(17,197)	$	—
Nine Months Ended:								
Interest expense	$	(36,520)	$	21,622	$	(47,031)	$	—

Intercompany loans

The Company also entered into foreign exchange forward contracts during the nine months ended September 28, 2019 to limit its foreign currency exposure related to certain intercompany loans. These contracts are not designated as hedging instruments. Any gains or losses on forward contracts associated with intercompany loans are recognized immediately in Other income, net and are largely offset by the remeasurement of the underlying intercompany loans.

The Company had one open forward contract related to an intercompany loan at September 28, 2019. The notional amount and fair value of the open contract is summarized as follows:

	Notional Amount		Fair Value		Balance Sheet Location
	(in thousands)				
September 28, 2019	$	108,029	$	778	Other current assets

The forward contract outstanding as of September 28, 2019 had a duration of less than 1 month. The Company had no such open contracts at December 29, 2018.

The following table summarizes the effect of the foreign exchange forward contracts entered into in connection with intercompany loans on the Company's unaudited condensed consolidated statements of income:

	September 28, 2019				September 29, 2018			
Location of hedge gain (loss)	Financial statement caption amount		Amount of gain (loss)		Financial statement caption amount		Amount of gain (loss)	
	(in thousands)							
Three Months Ended:								
Other (expense) income, net	$	(14,254)	$	840	$	5,910	$	235
Nine Months Ended:								
Other (expense) income, net	$	(8,161)	$	1,358	$	24,069	$	(850)

15. RESTRUCTURING AND ASSET IMPAIRMENTS

Global Restructuring Initiatives

In recent fiscal years, the Company has undertaken productivity improvement initiatives within all reportable segments at various locations across the U.S., Europe, and Japan. This includes workforce right-sizing and scalability initiatives, resulting in severance and transition costs; and cost related to the consolidation of facilities, resulting in asset impairment and accelerated depreciation charges.

The following table presents a summary of restructuring costs related to these initiatives within the unaudited condensed consolidated statements of income.

	Three Months Ended					
	September 28, 2019			September 29, 2018		
	Severance and Transition Costs	Asset Impairments and Other Costs	Total	Severance and Transition Costs	Asset Impairments and Other Costs	Total
	(in thousands)					
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 435	$ 180	$ 615	$ 30	$ 5	$ 35
Selling, general and administrative	2,038	—	2,038	4,619	21	4,640
Total	$ 2,473	$ 180	$ 2,653	$ 4,649	$ 26	$ 4,675

	Nine Months Ended					
	September 28, 2019			September 29, 2018		
	Severance and Transition Costs	Asset Impairments and Other Costs	Total	Severance and Transition Costs	Asset Impairments and Other Costs	Total
	(in thousands)					
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 1,074	$ 1,685	$ 2,759	$ 767	$ 27	$ 794
Selling, general and administrative	3,110	18	3,128	6,354	21	6,375
Total	$ 4,184	$ 1,703	$ 5,887	$ 7,121	$ 48	$ 7,169

The following table presents restructuring costs by reportable segment for these productivity improvement initiatives:

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
RMS	$ 381	$ —	$ 1,323	$ —
DSA	1,843	56	2,529	1,021
Manufacturing	429	—	2,035	870
Unallocated corporate	—	4,619	—	5,278
Total	$ 2,653	$ 4,675	$ 5,887	$ 7,169

2017 RMS Restructuring Initiative

In the fourth quarter of fiscal year 2017, the Company committed to a plan to further reduce costs and improve operating efficiencies in its RMS reportable segment. The plan included ceasing production within the Company's facility in Maryland and repurposing it for alternative initiatives, and reducing its workforce at certain RMS facilities during 2018.

The following table presents a summary of severance and transition costs, and asset impairments (referred to as restructuring costs) during the three and nine months ended September 29, 2018 related to this initiative within the unaudited condensed consolidated statements of income. The Company did not incur any restructuring costs in the three and nine months ended September 28, 2019.

	September 29, 2018					
	Three Months Ended			Nine Months Ended		
	Severance and Transition Costs	Asset Impairments and Other Costs	Total	Severance and Transition Costs	Asset Impairments and Other Costs	Total
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 95	$ 238	$ 333	$ 650	$ 822	$ 1,472
Selling, general and administrative	(30)	—	(30)	158	—	158
Total	$ 65	$ 238	$ 303	$ 808	$ 822	$ 1,630

Cumulative restructuring costs incurred during 2017 and 2018 were $20.1 million, which primarily related to non-cash asset impairments and accelerated depreciation charges of $17.7 million and cash payments for severance and transition costs of $1.2 million and were recorded in the RMS reportable segment. All severance and transition costs have been paid as of June 29, 2019 and no further restructuring costs related to the 2017 RMS Restructuring Initiative are expected to be incurred.

The following table provides a rollforward for all of the Company's severance and transition costs, and lease obligation liabilities related to all restructuring activities:

	Three Months Ended		Nine Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
	(in thousands)			
Beginning balance	$ 2,758	$ 6,810	$ 2,921	$ 6,856
Expense (excluding non-cash charges)	2,653	4,714	5,508	7,929
Payments / utilization	(1,604)	(4,407)	(4,608)	(7,544)
Foreign currency adjustments	(24)	(55)	(38)	(179)
Ending balance	$ 3,783	$ 7,062	$ 3,783	$ 7,062

As of September 28, 2019 and September 29, 2018, $3.8 million and $2.6 million of severance and other personnel related costs liabilities and lease obligation liabilities, respectively, were included in accrued compensation and accrued liabilities within the Company's unaudited condensed consolidated balance sheets and zero and $4.4 million, respectively, were included in other long-term liabilities within the Company's unaudited condensed consolidated balance sheets.

16. LEASES

Adoption of ASC Topic 842, "Leases" (ASC 842)

ASC 842 became effective for the Company on December 30, 2018 and was adopted using the modified retrospective method for all leases that had commenced as of the effective date, along with certain available practical expedients. The Company elected to recognize any effects of applying the new standard as a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption, which there were none. In addition, the Company elected to adopt the package of practical expedients permitted under the transition guidance within the new standard. The practical expedient package applied to leases that commenced prior to the effective date of the new standard and permits a reporting entity not to: i) reassess whether any expired or existing contracts are or contain leases, ii) reassess the historical lease classification for any expired or existing leases, and iii) reassess initial direct costs for any existing leases.

The reporting results for the nine months ended September 28, 2019 reflect the application of ASC 842 guidance while the historical results for fiscal year 2018 were prepared under the guidance of ASC 840. The adoption of the new standard did not have a significant impact upon the Company's condensed consolidated statements of income and cash flows. The adoption of the new standard resulted in the following impact to the condensed consolidated balance sheet: i) no significant change in the carrying values of assets and liabilities related to the Company's finance leases, previously referred to as capital leases (See Note 9, "Long-Term Debt and Finance Lease Obligations"), ii) the derecognition of assets and related liabilities pertaining to certain build-to-suit arrangements previously accounted for under ASC 840 and recording them under the guidance of ASC 842, and iii) the recording of right-of-use assets and corresponding lease liabilities pertaining to the Company's operating leases on the condensed consolidated balance sheet, adjusted for existing balances of prepaid rent and deferred rent liabilities as of the transition date. The cumulative effect of applying ASC 842 to all leases that had commenced as of December 30, 2018 was as follows:

Balance sheet captions impacted by ASC 842	December 30, 2018 (Prior to adoption of ASC 842)	Effect of the adoption of ASC 842		December 30, 2018 (As adjusted)
		(in thousands)		
Prepaid assets	$ 53,447	$ (4,413)	(1)	$ 49,034
Property, plant and equipment, net	932,877	(23,448)	(2)	909,429
Operating lease right-of-use assets, net	—	134,172	(3)	134,172
Other assets	143,759	(4,989)	(4)	138,770
Other current liabilities	71,280	15,935	(5)	87,215
Operating lease right-of-use liabilities	—	111,570	(6)	111,570
Long-term debt, net and finance leases	1,636,598	(26,183)	(7)	1,610,415

ASC 842 adoption adjustments:

(1) Short term prepaid rent reclassified from Prepaid assets to the Operating lease right-of-use asset.

(2) Derecognition of approximately $26 million of leased properties, recorded in Property, plant and equipment, specifically Construction-in-process, that were recognized under the previously existing build-to-suit accounting rules; partially offset by Prepaid assets related to finance leases reclassified from Prepaid assets.

(3) Recognition of Operating lease right-to-use asset and adjusted for prepaid rent and deferred rent liability reclassification adjustments identified in adjustments (1) (4) (5).

(4) Long-term prepaid rent reclassified from Other assets to the Operating lease right-of-use asset.

(5) Recognition of short-term portion of the Operating lease right-of-use liabilities offset by reclassification of deferred rent liability to Operating lease right-of-use asset.

(6) Recognition of long-term portion of the Operating lease right-of-use liabilities.

(7) Derecognition of approximately $26 million of Other debt associated with leased properties that were recognized under the previously existing build-to-suit accounting rules.

Operating and Finance Leases

At inception of a contract, the Company determines if a contract meets the definition of a lease. A lease isa contract, or part of a contract, that conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration. The Company determines if the contract conveys the right to control the use of an identified asset for a period of time. The Company assesses throughout the period of use whether the Company has both of the following: (1) the right to obtain substantially all of the economic benefits from use of the identified asset, and (2) the right to direct the use of the identified asset. This determination is reassessed if the terms of the contract are changed. Leases are classified as operating or finance leases based on the terms of the lease agreement and certain characteristics of the identified asset. Right-of-use assets and lease liabilities are recognized at lease commencement date based on the present value of the minimum future lease payments.

The Company leases laboratory, production, and office space (real estate), as well as land, vehicles and certain equipment under non-cancellable operating and finance leases. The carrying value of the Company's right-of-use lease assets is substantially concentrated in its real estate leases, while the volume of lease agreements is primarily concentrated in vehicles and equipment leases. The Company's policy is to not record leases with an original term of twelve months or less on the condensed consolidated balance sheets. The Company recognizes lease expense for these short-term leases on a straight-line basis over the lease term.

Certain lease agreements include rental payments that are adjusted periodically for inflation or other variables. In addition to rent, the leases may require the Company to pay additional amounts for taxes, insurance, maintenance and other expenses, which are generally referred to as non-lease components. Such adjustments to rental payments and variable non-lease components are treated as variable lease payments and recognized in the period in which the obligation for these payments was incurred. Variable lease components and variable non-lease components are not measured as part of the right of use asset and liability. Only when lease components and their associated non-lease components are fixed are they accounted for as a single lease component and are recognized as part of a right of use asset and liability. Total contract consideration is allocated to the combined fixed lease and non-lease component. This policy election applies consistently to all asset classes under lease agreements.

Most leases contain clauses for renewal at the Company's option with renewal terms that generally extend the lease term froml to 5 years. Certain lease agreements contain options to purchase the leased property and options to terminate the lease. Payments to be made in option periods are recognized as part of the right-of-use lease assets and lease liabilities when it is reasonably certain that the option to extend the lease will be exercised or the option to terminate the lease will not be exercised, or is not at the Company's option. The Company determines whether the reasonably certain threshold is met by considering contract-, asset-, market-, and entity-based factors.

A portfolio approach is applied to certain lease contracts with similar characteristics. The Company's lease agreements do not contain any significant residual value guarantees or material restrictive covenants imposed by the leases.

The Company subleases a limited number of lease arrangements. Sublease activity is not material to the condensed consolidated financial statements.

Right-of-use lease assets and lease liabilities are reported in the Company's unaudited condensed consolidated balance sheets as follows:

	September 28, 2019
	(in thousands)
Operating leases	
Operating lease right-of-use assets, net	$ 140,359
Other current liabilities	$ 20,032
Operating lease right-of-use liabilities	116,868
Total operating lease liabilities	$ 136,900
Finance leases	
Property, plant and equipment, net	$ 32,076
Current portion of long-term debt and finance leases	$ 3,002
Long-term debt, net and finance leases	26,710
Total finance lease liabilities	$ 29,712

The components of operating and finance lease costs for thethree and nine months ended September 28, 2019were as follows:

	September 28, 2019	
	Three Months Ended	Nine Months Ended
	(in thousands)	
Operating lease costs	$ 7,839	$ 23,433
Finance lease costs:		
Amortization of right-of-use assets	1,070	2,921
Interest on lease liabilities	360	1,001
Short-term lease costs	256	652
Variable lease costs	646	1,911
Sublease income	(383)	(474)
Total lease costs	$ 9,788	$ 29,444

Other information related to leases was as follows:

Supplemental cash flow information

		Nine Months Ended September 28, 2019
		(in thousands)
Cash flows included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$	20,084
Operating cash flows from finance leases		1,058
Finance cash flows from finance leases		2,862
Non-cash leases activity:		
Right-of-use lease assets obtained in exchange for new operating lease liabilities	$	20,805
Right-of-use lease assets obtained in exchange for new finance lease liabilities		4,741

Lease term and discount rate

	As of September 28, 2019
Weighted-average remaining lease term (in years)	
Operating lease	8.35
Finance lease	12.94
Weighted-average discount rate	
Operating lease	4.37
Finance lease	4.40

At the lease commencement date, the discount rate implicit in the lease is used to discount the lease liability if readily determinable. If not readily determinable or leases do not contain an implicit rate, the Company’s incremental borrowing rate is used as the discount rate.

As of September 28, 2019, maturities of operating and finance lease liabilities for each of the following five years and a total thereafter were as follows:

		Operating Leases		Finance Leases
		(in thousands)		
2019 (excluding the nine months ended September 28, 2019)	$	6,264	$	1,244
2020		25,519		4,658
2021		23,993		3,651
2022		20,188		3,622
2023		16,197		2,760
Thereafter		74,148		24,235
Total minimum future lease payments		166,309		40,170
Less: Imputed interest		29,409		10,458
Total lease liabilities	$	136,900	$	29,712

Total minimum future lease payments (predominantly operating leases) of approximately $47 million for leases that have not commenced as of September 28, 2019, as the Company does not yet control the underlying assets, are not included in the condensed consolidated financial statements. These leases are expected to commence between fiscal years 2019 and 2024 with lease terms of approximately 3 to 15 years.

As of December 29, 2018, minimum future lease payments under non-cancellable leases for each of the following five years and a total thereafter were as follows:

	Operating Leases (1)	Finance Leases (1)
	(in thousands)	
2019	$ 25,411	$ 3,972
2020	22,400	3,759
2021	21,544	2,869
2022	18,535	2,967
2023	15,398	2,209
Thereafter	66,870	24,304
Total minimum future lease payments	$ 170,158	$ 40,080

(1) Lease commitments are presented under the guidance of ASC 840 and includes approximately $14 million of minimum future lease payments for leases that had not commenced as of December 29, 2018. These commitments relate to existing leases for which the Company does not yet control certain expansion space.

17. 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.

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 related 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 2018. 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 Item 1A, "Risk Factors" in our Annual Report on Form 10-K for fiscal year 2018. Certain percentage changes may not recalculate due to rounding.

Overview

We are a full service, early-stage contract research organization (CRO). For over 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.

Segment Reporting

Our three reportable segments are Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Support (Manufacturing). Our RMS reportable segment includes the Research Models and Research Model Services businesses. Research Models includes the commercial production and sale of small research models, as well as the supply of large research models. Research Model 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.

Recent Acquisitions

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

On August 28, 2019, we acquired an 80% ownership interest in a supplier that supports our DSA reportable segment.The remaining 20% interest is a redeemable non-controlling interest. The preliminary purchase price was $23.4 million, net of a $4.0 million pre-existing relationship for a supply agreement settled upon acquisition, and subject to certain post-closing adjustments that may change the purchase price. The acquisition was funded through a combination of cash on hand and proceeds from our Credit Facility under the multi-currency revolving facility. The business is reported as part of our DSA reportable segment.

On April 29, 2019, we acquired Citoxlab, a non-clinical CRO, specializing in regulated safety assessment services, non-regulated discovery services, and medical device testing. With operations in Europe and North America, the acquisition of Citoxlab further strengthens our position as a leading, global, early-stage CRO by expanding our scientific portfolio and geographic footprint, which enhances our ability to partner with clients across the drug discovery and development continuum. The preliminary purchase price for Citoxlab was $527.7 million in cash, subject to certain post-closing adjustments that may change the purchase price. The acquisition was funded through a combination of cash on hand and proceeds from our Credit Facility under the multi-currency revolving facility. Citoxlab is reported as part of our DSA reportable segment.

On April 3, 2018, we acquired MPI Research, a non-clinical CRO providing comprehensive testing services to biopharmaceutical and medical device companies worldwide. The acquisition enhances 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 MPI Research was $829.7 million in cash. The acquisition was funded by borrowings on our Credit Facility as well as the issuance of $500.0 million of 5.5% Senior Notes due 2026 (2026 Senior Notes) in an unregistered offering. MPI Research is reported as part of our DSA reportable segment.

On January 11, 2018, we acquired KWS BioTest Limited (KWS BioTest), a CRO specializing in *in vitro* and *in vivo* discovery testing services for immuno-oncology, inflammatory and infectious diseases. The acquisition enhances our discovery expertise, with complementary offerings that provide our customers with additional tools in the active therapeutic research areas of oncology and immunology. The purchase price for KWS BioTest was $20.3 million in cash. In addition to the initial purchase price, the transaction includes aggregate, undiscounted contingent payments of up to £3.0 million based on future performance. During the three months ended September 29, 2018, the terms of these contingent payments were amended, resulting in a fixed payment of £2.0 million, or $2.6 million, which was paid during the three months ended March 30, 2019. The KWS BioTest business is reported as part of our DSA reportable segment.

Overview of Results of Operations and Liquidity

Revenue for the three months ended September 28, 2019 was $668.0 million compared to $585.3 million in the corresponding period in 2018. This increase of $82.7 million, or 14.1%, was primarily due to the recent acquisition of Citoxlab as well as growth in our DSA and Manufacturing segments; partially offset by the negative effect of changes in foreign currency exchange rates which decreased revenue by $7.7 million, or 1.3%, when compared to the corresponding period in 2018. Revenue for the nine months ended September 28, 2019 was $1.9 billion compared to $1.7 billion in the corresponding period in 2018. The increase of $265.5 million, or 16.0%, was primarily due to the reasons described above as well as the acquisition of MPI Research; partially offset by the negative effect of changes in foreign currency exchange rates, which decreased revenue by $32.6 million, or 1.9%, when compared to the corresponding period in 2018.

In the three months ended September 28, 2019, our operating income and operating income margin were $92.8 million and 13.9%, respectively, compared with $84.4 million and 14.4%, respectively, in the corresponding period of 2018. In the nine months ended September 28, 2019, our operating income and operating margin were $242.4 million and 12.6%, respectively, compared with $228.9 million and 13.8%, respectively, in the corresponding period of 2018. The increases in operating income were primarily due to contributions from our recent acquisitions of Citoxlab and MPI Research. The decreases in operating income margin were primarily due to increased amortization expense and costs related to our recent acquisitions; as well as continued investments to support future growth of the businesses, which includes increased investments in personnel (staffing levels and hourly wage increases) and facility expansions.

Net income attributable to common shareholders increased to $72.8 million in the three months ended September 28, 2019, from $60.4 million in the corresponding period of 2018. Net income attributable to common shareholders increased to $171.7 million in the nine months ended September 28, 2019, from $166.7 million in the corresponding period of 2018. The increases in Net income attributable to common shareholders was primarily due to recognizing a $20.4 million deferred tax asset in the three months ended September 28, 2019 for net operating losses expected to be utilized in the future due to changes in the Company's international financing structure.

During the first nine months of 2019, our cash flows from operations remained relatively consistent at $300.3 million compared with $301.2 million for the same period in 2018. The slight decrease was primarily driven by unfavorable changes in operating assets and liabilities, specifically related to the timing of net contract balances from contracts with customers (collectively trade receivables, net; deferred revenue; and customer contract deposits) and higher compensation payments compared to the prior year period; offset by the favorable timing of vendor and supplier payments compared to the same period in 2018.

On October 23, 2019, we issued $500.0 million of 4.25% Senior Notes due in 2028 (2028 Senior Notes) in an unregistered offering. Interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1, beginning on May 1, 2020. Net proceeds from the 2028 Senior Notes of approximately $494 million and available cash were used to prepay $500.0 million of our term loan under our Credit Facility. Additionally, on November 4, 2019, we amended and restated our Credit Facility by increasing the amount of our multi-currency revolving facility by $500.0 million, from $1.55 billion to $2.05 billion. Under specified circumstances, we have the ability to increase the term loan and/or revolving facility by up to $1.0 billion in the aggregate.

In March 2019, we detected unauthorized access into portions of our information systems and commenced an investigation into the incident, coordinated with U.S. federal law enforcement and leading cybersecurity experts, and promptly implemented a comprehensive containment and remediation plan. While the investigation is ongoing, we have determined that some client data was copied by a highly sophisticated, well-resourced intruder. We have not yet determined the potential revenue or financial impact related to this incident.

Results of Operations

Three Months Ended September 28, 2019 Compared to the Three Months Ended September 29, 2018

Revenue and Operating Income

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

	Three Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
Service revenue	$ 523.2	$ 443.0	$ 80.2	18.1%
Product revenue	144.8	142.3	2.5	1.8%
Total revenue	$ 668.0	$ 585.3	$ 82.7	14.1%

	Three Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
RMS	$ 132.6	$ 126.8	$ 5.8	4.5%	(1.3)%
DSA	420.1	352.3	67.8	19.3%	(1.1)%
Manufacturing	115.3	106.2	9.1	8.6%	(2.2)%
Total revenue	$ 668.0	$ 585.3	$ 82.7	14.1%	(1.3)%

The following table presents operating income by reportable segment:

	Three Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
RMS	$ 34.4	$ 32.1	$ 2.3	7.0 %
DSA	65.0	62.9	2.1	3.3 %
Manufacturing	39.2	33.3	5.9	18.0 %
Unallocated corporate	(45.8)	(43.9)	(1.9)	4.3 %
Total operating income	$ 92.8	$ 84.4	$ 8.4	10.0 %
Operating income % of revenue	13.9%	14.4%		(0.5)%

The following presents the results of each of our reportable segments:

RMS

	Three Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 132.6	$ 126.8	$ 5.8	4.5 %	(1.3)%
Cost of revenue (excluding amortization of intangible assets)	81.9	79.2	2.7	3.4 %	
Selling, general and administrative	16.0	15.1	0.9	5.4 %	
Amortization of intangible assets	0.3	0.4	(0.1)	(11.4)%	
Operating income	$ 34.4	$ 32.1	$ 2.3	7.0 %	
Operating income % of revenue	25.9%	25.3%		0.6 %	

RMS revenue increased $5.8 million due primarily to higher research model services revenue and higher research model product revenue in China. Research model services benefited from a large government contract in the IS business. Partially offsetting these increases were the effect of changes in foreign currency exchange rates and lower research model product revenue outside of China, particularly from large biopharmaceutical clients.

RMS operating income increased $2.3 million compared to the corresponding period in 2018. RMS operating income as a percentage of revenue for the three months ended September 28, 2019 was 25.9%, an increase of 0.6% from 25.3% for the corresponding period in 2018. Operating income and operating income as a percentage of revenue increased primarily due to higher revenue described above and the impact of ongoing efficiency initiatives; partially offset due to lower operating income margins on the aforementioned large government contract and lower sales volume for research models outside of China.

DSA

	Three Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 420.1	$ 352.3	$ 67.8	19.3 %	(1.1)%
Cost of revenue (excluding amortization of intangible assets)	285.8	239.3	46.5	19.4 %	
Selling, general and administrative	48.0	33.8	14.2	41.8 %	
Amortization of intangible assets	21.3	16.3	5.0	31.2 %	
Operating income	$ 65.0	$ 62.9	$ 2.1	3.3 %	
Operating income % of revenue	15.5%	17.9%		(2.4)%	

DSA revenue increased $67.8 million due primarily to the recent acquisition of Citoxlab which contributed $44.0 million to service revenue growth. Additionally, service revenue increased in both the Safety Assessment and Discovery Services businesses due to demand from biotechnology clients and increased pricing of services. These increases were partially offset by the effect of changes in foreign currency exchange rates.

DSA operating income increased $2.1 million during the three months ended September 28, 2019 compared to the corresponding period in 2018. DSA operating income as a percentage of revenue for the three months ended September 28, 2019 was 15.5%, a decrease of 2.4% from 17.9% for the corresponding period in 2018. The increase to operating income was primarily attributable to higher revenues described above. This increase was partially offset by higher amortization of intangible assets and acquisition and integration costs associated with our recent acquisitions. These increased costs collectively decreased operating income as a percentage of revenue in the three months ended September 28, 2019 compared to the same period in 2018.

Manufacturing

	Three Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 115.3	$ 106.2	$ 9.1	8.6 %	(2.2)%
Cost of revenue (excluding amortization of intangible assets)	54.1	50.6	3.5	6.9 %	
Selling, general and administrative	19.7	20.1	(0.4)	(1.9)%	
Amortization of intangible assets	2.3	2.2	0.1	(0.6)%	
Operating income	$ 39.2	$ 33.3	$ 5.9	18.0 %	
Operating income % of revenue	34.0%	31.3%		2.7 %	

Manufacturing revenue increased $9.1 million due primarily to higher demand for endotoxin product in the Microbial Solutions business and higher service revenue in the Biologics business; partially offset by the effect of changes in foreign currency exchange rates.

Manufacturing operating income increased $5.9 million during the three months ended September 28, 2019 compared to the corresponding period in 2018. Manufacturing operating income as a percentage of revenue for the three months ended September 28, 2019 was 34.0%, an increase of 2.7% from 31.3% for the corresponding period in 2018. The increases were due primarily to higher revenues as well as improved production efficiencies and the impact of certain cost savings initiatives in the three months ended September 28, 2019 compared to the same period in 2018.

Unallocated Corporate

	Three Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
Unallocated corporate	$ 45.8	$ 43.9	$ 1.9	4.3 %
Unallocated corporate % of revenue	6.9%	7.5%		(0.6)%

Unallocated corporate costs consist of selling, general and administrative expenses that are not directly related or allocated to the reportable segments. The amount in the three months ended September 28, 2019 increased by $1.9 million compared to the same period in 2018 due to the increase in costs associated with the evaluation and integration of our recent acquisition activity and costs related to the remediation of the unauthorized access into our information systems; partially offset by a net decrease in compensation, benefits, and other employee-related expenses related to certain severance and executive transition costs incurred in the corresponding period in 2018. Costs as a percentage of revenue for the three months ended September 28, 2019 was 6.9%, a decrease of 0.6% from 7.5% for the corresponding period in 2018.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits remained consistent at $0.4 million and $0.2 million for the three months ended September 28, 2019 and the corresponding period in 2018, respectively.

Interest Expense

Interest expense for the three months ended September 28, 2019 was $5.7 million, a decrease of $11.5 million, or 66.9%, compared to $17.2 million for the corresponding period in 2018. The decrease was due primarily to a foreign currency gain recognized in connection with an foreign exchange forward contract; partially offset by higher debt to fund our recent acquisitions.

Other Income (Expense), Net

Other expense, net, was $14.3 million for the three months ended September 28, 2019, a decrease of $20.2 million, or 341.2%, compared to Other income, net of $5.9 million for the corresponding period in 2018. The decrease was due to a foreign currency loss recognized in the three months ended September 28, 2019 in connection with a U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency and a net loss on our venture capital investments compared to a net gain in the corresponding period in 2018.

Income Taxes

Income tax benefit for the three months ended September 28, 2019 was $0.3 million, a decrease of $12.7 million compared to income tax expense of $12.4 million for the corresponding period in 2018. Our effective tax rate was (0.4)% for the three months ended September 28, 2019, compared to 16.9% for the corresponding period in 2018. The decrease in our effective tax rate in the 2019 period compared to the 2018 period was primarily due to recognizing a $20.4 million deferred tax asset in the three months ended September 28, 2019 for net operating losses expected to be utilized in the future due to changes in the Company's international financing structure.

Nine Months Ended September 28, 2019 Compared to the Nine Months Ended September 29, 2018

Revenue and Operating Income

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

	Nine Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
Service revenue	$ 1,480.0	$ 1,227.0	$ 253.0	20.6%
Product revenue	450.1	437.6	12.5	2.9%
Total revenue	$ 1,930.1	$ 1,664.6	$ 265.5	16.0%

	Nine Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
RMS	$ 405.8	$ 391.2	$ 14.6	3.7%	(2.3)%
DSA	1,179.8	958.7	221.1	23.1%	(1.4)%
Manufacturing	344.5	314.7	29.8	9.5%	(3.1)%
Total revenue	$ 1,930.1	$ 1,664.6	$ 265.5	16.0%	(1.9)%

The following table presents operating income by reportable segment:

	Nine Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
RMS	$ 103.7	$ 104.9	$ (1.2)	(1.1)%
DSA	175.2	160.4	14.8	9.2 %
Manufacturing	103.9	95.9	8.0	8.3 %
Unallocated corporate	(140.4)	(132.3)	(8.1)	6.2 %
Total operating income	$ 242.4	$ 228.9	$ 13.5	5.9 %
Operating income % of revenue	12.6%	13.8%		(1.2)%

The following presents the results of each of our reportable segments:

RMS

	Nine Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 405.8	$ 391.2	$ 14.6	3.7 %	(2.3)%
Cost of revenue (excluding amortization of intangible assets)	248.8	238.8	10.0	4.2 %	
Selling, general and administrative	52.2	46.3	5.9	12.8 %	
Amortization of intangible assets	1.1	1.2	(0.1)	(13.3)%	
Operating income	$ 103.7	$ 104.9	$ (1.2)	(1.1)%	
Operating income % of revenue	25.6%	26.8%		(1.2)%	

RMS revenue increased $14.6 million due primarily to higher research model services revenue and higher research model product revenue in China. Research model services benefited from a large government contract in the IS business and strong client demand in the GEMS business resulting from increased research and development activity conducted across biotechnology and academic institutional clients. Partially offsetting these increases were the effect of changes in foreign currency exchange rates and lower research model product revenue outside of China, particularly from large biopharmaceutical clients.

RMS operating income decreased $1.2 million compared to the corresponding period in 2018. RMS operating income as a percentage of revenue for the nine months ended September 28, 2019 was 25.6%, a decrease of 1.2% from 26.8% for the corresponding period in 2018. Operating income and operating income as a percentage of revenue decreased primarily due to higher cost of revenue and selling, general, and administrative expenses to support the growth of the businesses, which included the following: a $2.2 million charge recorded within selling, general and administrative costs in the nine months ended September 28, 2019 in connection with the modification of the option to purchase the remaining 8% equity interest in Vital River, increased investments in personnel (staffing levels and hourly wage increases), and facility expansions (primarily in China). In addition, operating income as a percentage of revenue decreased due to lower operating income margins on the aforementioned large government contract, and lower sales volume for research models outside of China.

DSA

	Nine Months Ended				
	September 28, 2019	**September 29, 2018**	**$ change**	**% change**	**Impact of FX**
			(in millions, except percentages)		
Revenue	$ 1,179.8	$ 958.7	$ 221.1	23.1 %	(1.4)%
Cost of revenue (excluding amortization of intangible assets)	815.5	661.9	153.6	23.2 %	
Selling, general and administrative	131.3	96.5	34.8	36.1 %	
Amortization of intangible assets	57.8	39.9	17.9	44.9 %	
Operating income	$ 175.2	$ 160.4	$ 14.8	9.2 %	
Operating income % of revenue	14.9%	16.7%		(1.8)%	

DSA revenue increased $221.1 million due primarily to the recent acquisitions of Citoxlab and MPI Research, which contributed $74.9 million and $73.0 million, respectively, to service revenue growth. Additionally, service revenue increased in both the Safety Assessment and Discovery Services businesses due to demand from biotechnology clients and increased pricing of services. These increases were partially offset by the effect of changes in foreign currency exchange rates.

DSA operating income increased $14.8 million during the nine months ended September 28, 2019 compared to the corresponding period in 2018. DSA operating income as a percentage of revenue for the nine months ended September 28, 2019 was 14.9%, a decrease of 1.8% from 16.7% for the corresponding period in 2018. The increase to operating income was primarily attributable to contributions from our recent acquisitions of Citoxlab and MPI Research. This increase was partially offset by increased costs in both cost of revenue and selling, general, and administrative expenses to support the growth of the businesses, which included the following: increased investments in personnel (staffing levels and hourly wage increases); increased investments related to facility expansions; and higher amortization of intangible assets and acquisition and integration costs associated with our recent acquisitions. These increased costs collectively decreased operating income as a percentage of revenue in the nine months ended September 28, 2019 compared to the same period in 2018.

Manufacturing

	Nine Months Ended				
	September 28, 2019	September 29, 2018	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 344.5	$ 314.7	$ 29.8	9.5 %	(3.1)%
Cost of revenue (excluding amortization of intangible assets)	169.8	150.2	19.6	13.0 %	
Selling, general and administrative	64.0	61.8	2.2	3.6 %	
Amortization of intangible assets	6.8	6.8	—	— %	
Operating income	$ 103.9	$ 95.9	$ 8.0	8.3 %	
Operating income % of revenue	30.2%	30.5%		(0.3)%	

Manufacturing revenue increased $29.8 million due primarily to higher demand for endotoxin products, bioburden products and services, and species identification services in the Microbial Solutions business and higher service revenue in the Biologics business; partially offset by theeffect of changes in foreign currency exchange rates.

Manufacturing operating income increased $8.0 million during the nine months ended September 28, 2019 compared to the corresponding period in 2018. Manufacturing operating income as a percentage of revenue for the nine months ended September 28, 2019 was 30.2%, a decrease of 0.3% from 30.5% for the corresponding period in 2018. The increase to operating income was due primarily to the increase in revenue. This increase was partially offset by increased costs in both cost of revenue and selling, general, and administrative expenses to support the growth of the businesses, which included the following: increased investments in process improvements to further enhance Microbial Solutions' operating efficiency;increased investments in personnel (staffing levels and hourly wage increases), and increased investments related to facility expansions (primarily in Biologics), and certain site consolidation costs. These increased costs collectively decreased operating income as a percentage of revenue in the nine months ended September 28, 2019 compared to the same period in 2018.

Unallocated Corporate

	Nine Months Ended			
	September 28, 2019	September 29, 2018	$ change	% change
	(in millions, except percentages)			
Unallocated corporate	$ 140.4	$ 132.3	$ 8.1	6.2 %
Unallocated corporate % of revenue	7.3%	7.9%		(0.6)%

Unallocated corporate costs consist of selling, general and administrative expenses that are not directly related or allocated to the reportable segments. The increase in unallocated corporate costs of $8.1 million is related to an increase in costs associated with the evaluation and integration of our recent acquisition activity and costs related to the remediation of the unauthorized access into our information systems; partially offset by a net decrease in compensation, benefits, and other employee-related expenses related to certain severance and executive transition costs incurred in the corresponding period in 2018. Costs as a percentage of revenue for the nine months ended September 28, 2019 was 7.3%, a decrease of 0.6% from 7.9% for the corresponding period in 2018.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits remained consistent at $0.8 million and $0.7 million for the nine months ended September 28, 2019 and the corresponding period in 2018, respectively.

Interest Expense

Interest expense for the nine months ended September 28, 2019 was $36.5 million, a decrease of $10.5 million, or 22.3%, compared to $47.0 million for the corresponding period in 2018. The decrease was due primarily to a foreign currency gain recognized in connection with an foreign exchange forward contract and the absence of debt issuance costs that were incurred in the corresponding period in 2018; partially offset by higher debt to fund our recent acquisitions.

Other Income (Expense), Net

Other expense, net, was $8.2 million for the nine months ended September 28, 2019, a decrease of $32.3 million, or 133.9%, compared to Other income, net of $24.1 million for the corresponding period in 2018. The decrease was due to a foreign currency loss recognized in the nine months ended September 28, 2019 in connection with a U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency and lower net gains on our venture capital investments and our life insurance policy investments compared to the corresponding period in 2018.

Income Taxes

Income tax expense for the nine months ended September 28, 2019 was $25.0 million, a decrease of $14.6 million compared to $39.6 million for the corresponding period in 2018. Our effective tax rate was 12.6% for the nine months ended September 28, 2019 compared to 19.2% for the corresponding period in 2018. The decrease in our effective tax rate in the 2019 period compared to the 2018 period was primarily due to recognizing a $20.4 million deferred tax asset in the three months ended September 28, 2019 for net operating losses expected to be utilized in the future due to changes in the Company's international financing structure.

Liquidity and Capital Resources

We currently require cash to fund our working capital needs, capital expansion, and acquisitions, and 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:

	September 28, 2019	December 29, 2018
	(in millions)	
Cash and cash equivalents:		
Held in U.S. entities	$ 1.8	$ 67.3
Held in non-U.S. entities	163.0	128.1
Total cash and cash equivalents	164.8	195.4
Investments:		
Held in non-U.S. entities	0.8	0.9
Total cash, cash equivalents and investments	$ 165.6	$ 196.3

Borrowings

On March 26, 2018, we amended and restated our $1.65 billion credit facility, which extended the maturity date and provided for a $750.0 million term loan and a $1.55 billion multi-currency revolving facility. The term loan facility matures in 19 quarterly installments with the last installment due March 26, 2023. The revolving facility matures on March 26, 2023, and requires no scheduled payment before that date. On October 23, 2019, we prepaid $500.0 million of the term loan with proceeds from a $500.0 million unregistered private offering (see 2028 Senior Notes below). Additionally, on November 4, 2019, we further amended and restated the Credit Facility to increase the multi-currency revolving facility by $500.0 million, from $1.55 billion to $2.05 billion. The amount outstanding under the multi-currency revolving facility has not significantly changed since September 28, 2019. Under specified circumstances, we have the ability to increase the term loan and/or revolving facility by up to $1.0 billion in the aggregate.

On April 3, 2018, we entered into an indenture (Base Indenture) with MUFG Union Bank, N.A. to allow for senior notes offerings under supplemental indentures. Concurrently on April 3, 2018, we entered into our first supplemental indenture and raised $500.0 million in aggregate principal amount of 5.5% Senior Notes due in 2026 (2026 Senior Notes) in an unregistered offering. Under the terms of the first supplemental indenture, interest on the 2026 Senior Notes is payable semi-annually on April 1 and October 1, beginning on October 1, 2018. On October 23, 2019, we entered into our second supplemental indenture and raised an additional $500.0 million in aggregate principal amount of 4.25% Senior Notes due in 2028 (2028 Senior Notes) in an unregistered offering. Under the terms of the second supplemental indenture, interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1, beginning on May 1, 2020.

Amounts outstanding under our credit facilities and 2026 Senior Notes were as follows:

	September 28, 2019	December 29, 2018
	(in millions)	
Term loans	$ 703.1	$ 731.3
Revolving facility	691.5	397.5
2026 Senior Notes	500.0	500.0
Total	$ 1,894.6	$ 1,628.8

The interest rates applicable to the term loan and revolving facility under the 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 1.0%) or the adjusted LIBOR rate, plus an interest rate margin based upon our leverage ratio.

We entered into foreign exchange forward contracts during the nine months ended September 28, 2019 and three months ended December 29, 2018 to limit our foreign currency exposure related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under the Credit Facility.

The acquisition of Citoxlab on April 29, 2019 for $527.7 million in cash was funded through a combination of cash on hand and proceeds from our Credit Facility under the multi-currency revolving facility.

Repurchases of Common Stock

During the nine months ended September 28, 2019, we did not repurchase any shares under our authorized stock repurchase program. As of September 28, 2019, we had $129.1 million remaining on the authorized $1.3 billion stock repurchase program and we do not intend to repurchase shares for the remainder of 2019. 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 nine months ended September 28, 2019, we acquired 0.1 million shares for $18.0 million through such netting.

Cash Flows

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

	Nine Months Ended	
	September 28, 2019	September 29, 2018
	(in millions)	
Income from continuing operations, net of income taxes	$ 173.5	$ 167.0
Adjustments to reconcile net income from continuing operations, net of income taxes, to net cash provided by operating activities	163.8	133.0
Changes in assets and liabilities	(37.0)	1.2
Net cash provided by operating activities	$ 300.3	$ 301.2

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, gains on venture capital investments, 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 nine months ended September 28, 2019, compared to the nine months ended September 29, 2018, the slight decrease in net cash provided by operating activities was primarily driven by unfavorable changes in operating assets and liabilities, specifically related to the timing of net contract balances from contracts with customers (collectively trade receivables, net; deferred revenue; and customer contract deposits), and higher compensation payments compared to the prior year period; offset by the favorable timing of vendor and supplier payments compared to the same period in 2018.

The following table presents our net cash used in investing activities:

	Nine Months Ended	
	September 28, 2019	September 29, 2018
	(in millions)	
Acquisitions of businesses and assets, net of cash acquired	$ (515.6)	$ (822.6)
Capital expenditures	(76.7)	(71.4)
Investments, net	(17.6)	10.1
Other, net	(0.7)	(0.1)
Net cash used in investing activities	$ (610.6)	$ (884.0)

For the nine months ended September 28, 2019, the primary use of cash used in investing activities related to the acquisition of Citoxlab, the acquisition of a supplier, capital expenditures to support the growth of the business, and investments in certain venture capital and other equity investments. For the nine months ended September 29, 2018, the primary use of cash used in investing activities related primarily to our acquisitions of MPI Research and KWS BioTest, and our capital expenditures to support the growth of the business; partially offset by proceeds from net investments, which primarily related to short-term investments held by our U.K. operations.

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

	Nine Months Ended	
	September 28, 2019	September 29, 2018
	(in millions)	
Proceeds from long-term debt and revolving credit facility	$ 2,071.2	$ 2,392.2
Proceeds from exercises of stock options	27.0	30.2
Payments on long-term debt, revolving credit facility and finance lease obligations	(1,798.6)	(1,832.8)
Payments on debt financing costs	—	(18.3)
Purchase of treasury stock	(18.0)	(13.8)
Other, net	(10.6)	—
Net cash provided by financing activities	$ 271.0	$ 557.5

For the nine months ended September 28, 2019, net cash provided by financing activities reflected the net proceeds of $272.6 million on our Credit Facility and finance lease obligations. Included in the net proceeds are approximately $1.6 billion of gross proceeds and payments on the revolving credit facility, which resulted from a non-U.S. Euro functional currency entity repaying an existing Euro loan and replacing the Euro loan with a U.S. dollar denominated loan. A series of forward currency contracts were executed to mitigate any foreign currency gains or losses on the U.S. dollar denominated loans. These proceeds and payments are presented as gross financing activities and net to zero. Net cash provided by financing activities also reflected proceeds from exercises of employee stock options of $27.0 million. Net cash provided by financing activities was partially offset by treasury stock purchases of $18.0 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements and the purchase of an additional 5% equity interest in Vital River for $7.9 million which is included in Other, net.

For the nine months ended September 29, 2018, net cash provided by financing activities reflected the incremental proceeds from the refinancing of our previous $1.65 billion credit facility to the $2.3 billion credit facility and the proceeds from our $500.0 million 2026 Senior Notes; and proceeds from exercises of employee stock options of $30.2 million; partially offset by payments on debt financing costs of $18.3 million and treasury stock purchases of $13.8 million made 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 commitments and obligations was reported in our Annual Report on Form 10-K for fiscal 2018. There have been no material changes from the contractual commitments and obligations previously disclosed in our Annual Report on Form 10-K for fiscal 2018 other than the changes described in Note 2, “Business Acquisitions,” Note 7, “Fair Value,” Note 9, “Long-Term Debt and Finance Lease Obligations,” Note 16, “Leases,” and Note 17, “Commitments and Contingencies” in our notes to the unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q.

Off-Balance Sheet Arrangements

As of September 28, 2019, 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 September 28, 2019 was $128.1 million, of which we funded $77.4 million through September 28, 2019. Refer to Note 6, "Venture Capital and Other Investments" 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 September 28, 2019 were $6.7 million.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our 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, are 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 significant accounting policies are described in our Annual Report on Form 10-K for fiscal year 2018 as well as Note 16, "Leases" in this Quarterly Report on Form 10-Q

Recent Accounting Pronouncements

For a discussion of recent accounting pronouncements please refer to Note 1, "Basis of Presentation," in this Quarterly Report on Form 10-Q. Other than as discussed in Note 1, "Basis of Presentation," we did not adopt any other new accounting pronouncements during the nine months ended September 28, 2019 that had a significant effect on our unaudited condensed consolidated financial statements included in this Quarterly 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 September 28, 2019, 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 $13.9 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 currency. 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 nine months ended September 28, 2019, the most significant drivers of foreign currency translation adjustment the Company recorded as part of Other comprehensive income (loss) were the Euro, British Pound, Canadian Dollar, Chinese Yuan Renminbi, and Japanese Yen.

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. expenses, 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, expenses, assets, liabilities, and cash flows will generally increase when reported in U.S. dollars. For thenine months ended September 28, 2019, our revenue would have increased by $65.7 million and our operating income would have increased by$0.9 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 policy. We do not enter into speculative derivative agreements.

During the nine months ended September 28, 2019, we entered into foreign exchange forward contracts to limit our foreign currency exposure related to both intercompany loans and a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under our Credit Facility. Refer to Note 14, “Foreign Currency Contracts” in this Quarterly Report on Form 10-Q for additional information regarding foreign currency contracts open as of September 28, 2019.

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, as of September 28, 2019, 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. 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 thethree months ended September 28, 2019. 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 September 28, 2019 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 17, "Commitments and Contingencies" in our notes to the 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 2018, 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 2018, except as disclosed below.

We have in the past experienced and in the future could experience an unauthorized access into our information systems.

We operate large and complex information systems that contain significant amounts of client data. As a routine element of our business, we collect, analyze, and retain substantial amounts of data pertaining to the non-clinical studies we conduct for our clients. Unauthorized third parties could attempt to gain entry to such information systems for the purpose of stealing data or disrupting the systems. While we have taken measures to protect them from intrusion, in March 2019, we detected evidence that an unauthorized third party has accessed certain of our information systems and acquired data. The Company's investigation is ongoing, but we believe that the incident is attributable to a sophisticated intruder. We are working with a leading data security firm to assist in our investigation, and are also coordinating with law enforcement authorities. The investigation indicates that the affected information included client information.

Our contracts with our clients typically contain provisions that require us to keep confidential the information generated from the studies we conduct. The unauthorized access detected, as well as any other breaches, could expose us to significant harm including termination of customer contracts, damage to our customer relationships, damage to our reputation and potential legal claims from customers, employees and others. In addition, we may face investigations by government regulators and agencies as a result of this incident or as a result of future incidents.

While the Company is in the process of implementing additional security safeguards, it is expected to take a number of months for all of these additional security safeguards to be fully implemented. While we have taken steps to limit the unauthorized third party's access to our computer systems, we will be unable to determine that this matter has been entirely contained until the additional steps to secure our information systems have been fully implemented. In addition, there can be no assurance that the additional security safeguards will be successful. In the event that additional data is accessed prior to the full implementation of these additional security safeguards or in the event that such additional security safeguards are unsuccessful, we could suffer significant harm.

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 September 28, 2019.

	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)
June 30, 2019 to July 27, 2019	387	$ 142.10	—	$ 129,105
July 28, 2019 to August 24, 2019	519	133.28	—	129,105
August 25, 2019 to September 28, 2019	246	131.01	—	129,105
Total	1,152		—	

Our Board of Directors have authorized up to an aggregate amount of $1.3 billion for our stock repurchase program. During the three months ended September 28, 2019, we did not repurchase any shares of common stock under our stock repurchase program or in open market trading. As of September 28, 2019, we had $129.1 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
10.1*+	Agreement between David Johst and Charles River Laboratories, Inc. effective July 26, 2019
10.2+	Charles River Laboratories International, Inc. Second Amendment dated September 25, 2019 relating to the Eighth Amended and Restated Credit Agreement dated March 26, 2018
10.3+	Charles River Laboratories International, Inc. Third Amendment dated November 4, 2019 relating to the Eighth Amended and Restated Credit Agreement dated March 26, 2018
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 - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document

* Management contract or compensatory plan, contract or arrangement.

+ 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.

November 6, 2019	/s/ JAMES C. FOSTER
	James C. Foster *Chairman, President and Chief Executive Officer*
November 6, 2019	/s/ DAVID R. SMITH
	David R. Smith *Corporate Executive Vice President and Chief Financial Officer*

Exhibit 10.1

charles river

AGREEMENT

This Agreement (the “Agreement”), with an effective date of July 26, 2019, is entered into by Charles River Laboratories, Inc., with its principal place of business at 251 Ballardvale Street, Wilmington, Massachusetts 01887 (the “Company”) and Mr. David P. Johst, an individual residing at 7 Meadow View Lane, Andover, MA 01810 (the “Employee”).

The Employee and the Company recently engaged in discussions regarding the Employee’s future employment and planned retirement from the Company. The Company desires to afford the Employee the opportunity to leave in a manner that ensures the smooth transition of his global responsibilities and allows the Company to benefit from post-employment consulting services to be provided by the Employee. The Employee desires to provide the Company with the benefit of a smooth and well-planned transition of the Employee’s responsibilities leading up to the conclusion of his employment and to provide the Company with post-employment consulting services under mutually agreeable terms.

Consequently, in consideration of the mutual covenants and promises contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Term of Employment. The Company will continue to employ the Employee until May 31, 2020 (referred to hereafter as the “Final Day of Employment”). The Company agrees to continue to employ the Employee through the Final Day of Employment and hereby affirms that the Employee will be entitled to receive, among other things, the following, up to and including the Final Day of Employment, so long as he does not submit his voluntary resignation from employment with the Company at any time prior to the Final Day of employment:

(i) Full payment of his current base salary;

(ii) Full payment of his 2019 EICP bonus without modification;

(iii) A $100,000 stock award to be granted in accordance with the terms of a commitment letter delivered to the Employee on February 8, 2010 which shall expressly provide for post-retirement vesting;

(iv) The 2019 contribution to be made by the Company for the account of the Employee under the Company’s Deferred Compensation Plan as a Schedule A participant; and

(v) Post-retirement vesting of equity awards made to the Employee pursuant to the Employee’s delivery of a letter entitled “NOTICE OF INTENT - FULL CAREER RETIREMENT” on May 23, 2019, per the terms of the respective award agreements underlying those awards.

2. Time Commitment. The Company and the Employee have mutually agreed that the amount of time to be devoted by the Employee to the Employee’s current responsibilities will diminish as those responsibilities are transitioned to others in anticipation of the Final Day of Employment. It is currently expected that this transition process will commence in September, 2019 and will be ongoing during the remainder of 2019 and potentially through the first calendar quarter of 2020. During that time, the Employee and the Chairman, President & CEO of the Company (the “CEO”) will mutually agree on the incremental adjustment of the Employee’s roles and responsibilities, taking into account the progressive transitioning of the Employee’s current position responsibilities to other members of the Company’s senior management team or to his successor, as applicable. This adjustment of roles and responsibilities may be modified from time to time by mutual agreement.

3. Consulting Services. The Company desires to benefit from the Employee’s experience and legal/management expertise following the Employee’s Final Day of Employment and the Employee is willing to make his services periodically available to the Company on a consulting basis. Consequently, the Company and the Employee have agreed that the Employee will provide the Company with consulting services (“Consulting Services”) from June 1, 2020 through December 31, 2020 (the “Consulting Period”). The average number of hours of Consulting Services to be provided will be established by the CEO, but in no event will the average number of hours of Consulting Services exceed twenty (20) hours per month, subject to a mutually agreeable schedule.

4. Salary/Consulting Fees. The Employee will continue to receive his current salary of $682,745 (the “Base Salary”), paid on a biweekly basis, through the Final Day of Employment. The Employee understands and agrees that the Employee will receive no base pay adjustment in FY2020. To the extent that any services will be provided by the Employee working remotely, either as an employee or as a consultant, the Company will reimburse the Employee for all reasonable

expenses associated with providing Consulting Services including, without limitation, travel, meals, lodging, and costs associated with maintaining home offices through the last day of the Consulting Period. After the Employee's employment with the Company terminates and the Consulting Period concludes, the Employee will be entitled to retain for his own personal use all home office equipment, peripherals, hand-held devices (e.g. cellphone and iPad) and any other similar equipment previously provided to the Employee by the Company at no cost to the Employee.

After the Employee converts to consulting status, he will receive no cash remuneration as compensation for his Consulting Services. Instead, the Company will provide the Employee with the health benefits described in Section 5 of this Agreement as consideration for the provision of such Consulting Services.

5. Benefits. As consideration of his provision of Consulting Services, commencing on June 1, 2020, the Employee shall be entitled to Company-provided family medical and dental health coverage (as defined below, "Health Coverage") entirely at the Company's expense. For avoidance of doubt, the Employee will not be required at any time to pay the then-current contribution paid by employees or other healthcare benefit recipients for their selected coverage, including any deductibles or co-payments, which shall be fully reimbursed by the Company. To the extent that the Employee or any members of the Employee's immediate family are required to pay any out-of-pocket amounts in order to obtain Health Coverage, the Company shall reimburse such expenses within thirty (30) days of their submission to the Company for reimbursement. It is the express intention of the parties that the Company will bear 100% of all costs associated with the provision of Health Coverage to the Employee and members of the Employee's immediate family who are currently covered by the Health Coverage benefit and the Company acknowledges and agrees that the provision of Health Coverage under this Agreement may extend indefinitely beyond the Consulting Period. For purposes of this Agreement, the term "Health Coverage" shall mean medical, dental and other health benefits provided to the Company's U.S.-based employees who serve in senior management roles within the Company which the Employee and members of his immediate family are enrolled in or participate in as of the Final Day of Employment. The term "Health Coverage" shall be construed broadly and shall include any successor plans and/or programs (collectively, "Successor Plans"), which modify or supplant any of the current employee health plans and programs currently in place for the benefit of the Company's U.S.-based employees or which subsequently modify or supplant any Successor Plan(s). To the extent that the Company chooses to (i) change or modify any of its health-related programs or (ii) reduce the number or quality of Health Coverage benefit options available to U.S.-based employees following the Final Day of Employment, it will not, in either case, do so in a manner that would directly or indirectly reduce the Health Coverage provided to the Employee or members of his immediate family or deprive them of any Health Coverage enjoyed by them as of the Final Day of Employment. If the Company elects to curtail or to significantly reduce the type and scope of health benefits it provides to its U.S.-based employees following the Employee's Last Day of Employment, thereby reducing the scope of the Health Coverage, then the Employee or the members of the Employee's immediate family who receive Health Coverage may obtain equivalent supplemental coverage from a quality third-party provider and the Company will fully reimburse the cost of obtaining such supplemental coverage within thirty (30) days of receiving a request for reimbursement.

The Company will provide Health Coverage to the Employee and any members of his immediate family who are receiving Health Coverage as of the Final Day of Employment unless and until the Employee, at his sole discretion, notifies the Company that he no longer desires to receive such Health Coverage; provided however, that if the Employee (i) gains active full-time employment following the Final Day of Employment and (ii) obtains medical and dental coverage in connection with such employment substantially equivalent to the Health Coverage provided by the Company, then the Employee shall promptly notify the Company and the Company will cease to provide the Health Coverage on the date when such coverage takes effect. Similarly, if the Employee or his spouse are receiving Health Coverage when they respectively attain the age of 65 and are enrolled in Medicare, the Health Coverage will continue to serve as coverage, but shall be reduced in scope by whatever medical or dental care is obtained through Medicare. If, after the Employee and his spouse are enrolled in Medicare, the Employee and the Company mutually agree that it would be more cost-effective for the Company to procure supplemental Health Coverage for the Employee and his spouse in lieu of continuing the Health Coverage, then upon procurement of such coverage on mutually acceptable terms, the Company's obligation to provide Health Coverage shall cease.

In the event the Employee's death occurs while Health Coverage is being provided pursuant to this Agreement, Employee's spouse will be entitled to Health Coverage for up to thirty-six (36) months following the date of the Employee's death.

The Employee has entered into this Agreement and agreed to accelerate the transition referenced above based on the Company's commitment to provide Health Coverage until the Employee advises the Company that he no longer desires to receive such Health Coverage or obtains substantially equivalent health benefits through subsequent employment. This commitment by the Company is a material inducement for the Employee to enter into this Agreement.

6. Announcement of Modified Role/Position Title. If a point is reached where it helps to better effect the transition, the Employee and the CEO will mutually agree on any title change that may be necessary in support of the transition,

but this title change will in no way impact or reduce the payments or awards delineated in Section 1 of this Agreement including, without limitation, the stock award to be granted under the terms of the commitment letter dated February 8, 2010. After the Employee converts to consulting status, or sooner if requested by the CEO, his title will be "Senior Legal Advisor".

7. Successors. The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company to expressly assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place, unless such obligations are binding upon such successor by operation of law. Failure of the Company to obtain such assumption and agreement prior to the effectiveness of any such succession shall be a breach of this Agreement and shall entitle the Employee to compensation from the Company in the amount(s) required for the Employee to obtain medical and dental coverage equal to the Health Coverage.

8. Notices. For the purpose of this Agreement, notices and all other communications provided for in the Agreement shall be in writing and shall be deemed to have been duly given when delivered or mailed by the US registered mail, return receipt requested, postage prepaid, addressed to the respective addresses set forth below, or to such other address as either party may have furnished to the other in writing in accordance herewith, except that notice of change of address shall be effective only upon actual receipt:

To the Company:
Charles River Laboratories, Inc.
251 Ballardvale Street
Wilmington, MA 01887
Attention: Chief Executive Officer
Copy to: General Counsel

To the Employee:
David P. Johst
21 Sheldon Road
Cohasset, MA 02025

9. No Mitigation; Set-Off. The Company agrees that the Employee is not required to seek other employment or to attempt in any way to reduce the costs incurred by the Company in connection with the provision of Health Coverage. Similarly, if applicable, the Employee and his spouse shall have the right, at their sole discretion, to choose whatever type of Medicare coverage they deem most appropriate. The Company's obligation to make available the Health Coverage under the terms of this Agreement and otherwise to perform its obligations hereunder shall not be affected by any set-off, counterclaim, recoupment, defense or other claim, right or action which the Company may have against the Employee.

10. Miscellaneous. No provision of this Agreement may be modified, waived or discharged unless such waiver, modification or discharge is agreed to in writing and signed by the Employee and the CEO or the CEO's designee. No waiver by either party hereto at any time of any breach by the other party hereto of, or compliance with, any condition or provision of this Agreement to be performed by such other party shall be deemed a waiver of similar or dissimilar provisions or conditions at the same or any prior or subsequent time. No agreements or representations, oral or otherwise, express or implied, with respect to the subject matter hereof have been made by either party which are not expressly set forth in this Agreement. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the Commonwealth of Massachusetts. The obligations of the Company under Sections 4, 5, 7 and 9 shall survive the expiration of this Agreement.

11. Miscellaneous. No delay or omission by either party in exercising any right under this Agreement shall operate as a waiver of that or any other right. A waiver or consent given by either party on any one occasion shall be effective only if made in writing and only in that instance, and shall not be construed as a bar or waiver of any right on any other occasion. In the event that any provision of this Agreement shall be invalid, illegal or otherwise unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

12. Validity. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

13. Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the day and year set forth above.

CHARLES RIVER LABORATORIES, INC.	**EMPLOYEE**
By: /s/ James C. Foster	/s/ David P. Johst
James C. Foster Chairman, President & CEO	David P. Johst Corporate Executive Vice President, General Counsel & CAO
Date: July 30, 3019	Date: July 30, 3019

Exhibit 10.2

SECOND AMENDMENT TO THE EIGHTH AMENDED AND RESTATED CREDIT AGREEMENT

SECOND AMENDMENT (this "**Amendment**") dated as of September 25, 2019 relating to the Eighth Amended and Restated Credit Agreement dated as of March 26, 2018 (as heretofore amended or modified, the "**Credit Agreement**") among Charles River Laboratories International, Inc. (the "**Parent Borrower**"), the Subsidiary Borrowers party thereto, the Lenders party thereto from time to time, JPMorgan Chase Bank, N.A., as Administrative Agent (in such capacity, the "**Administrative Agent**") and the other agents party thereto.

RECITALS:

WHEREAS, the Borrowers wish to amend certain terms of the Credit Agreement with the consent of the Required Lenders in the manner set forth below.

NOW, THEREFORE, in consideration of the premises and the agreements, provisions and covenants herein contained, the parties hereto agree as follows:

Section 1 *Defined Terms.* Unless otherwise specifically defined herein, each term used herein that is defined in the Credit Agreement has the meaning assigned to such term in the Credit Agreement.

Section 2 *Amendments.* As of the Effective Date and subject to the satisfaction of the terms and conditions set forth herein:

(a) Section 6.04(e) of the Credit Agreement is hereby amended by replacing "$50,000,000" referred to therein with "$150,000,000" in lieu thereof.

(b) Section 6.04(i) of the Credit Agreement is hereby amended and restated in its entirety as follows:

"(i) so long as no Event of Default shall have occurred or would result therefrom, other investments constituting minority investments in Capital Stock of or promissory notes issued by Persons engaged in a commercial business activity similar to the principal business activities of the Parent Borrower on the Eighth Amendment and Restatement Effective Date, or reasonably related or ancillary or complementary thereto, at any time outstanding shall not exceed $400,000,000 minus the amount of investments in excess of $20,000,000 made in reliance on Section 6.04(l) below"

Section 3 *Representations of the Borrowers.* The Borrowers represent and warrant that:

(a) each of the representations and warranties made by any Loan Party contained in the Credit Agreement or in the other Loan Documents is true and correct in all material respects (if not qualified as to materiality or Material Adverse Effect) or in any respect (if so qualified) on and as of the Effective Date (as defined below) after giving effect hereto;

(b) no Default or Event of Default has occurred and is continuing on and as of the Effective Date after giving effect hereto;

(c) each Loan Party has the corporate power and authority, and the legal right, to make, deliver and perform this Amendment. Each Loan Party has taken all necessary corporate or other action to authorize the execution, delivery and performance of this Amendment. No consent or authorization of, filing with, notice to or other act by or in respect of, any Governmental Authority or any other Person is required in connection with the execution, delivery, performance, validity or enforceability of this Amendment, except for such as have been obtained or made and are in full force and effect or to the extent failure to obtain such authorization or consent or to take such action could not reasonably be expected to result in a Material Adverse Effect. This Amendment has been duly executed and delivered on behalf of each Loan Party. This Amendment constitutes, and each other Loan Document as modified hereby constitutes, a legal, valid and binding obligation of each Loan Party that is a party hereto or thereto, enforceable against each such Loan Party in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditors' rights generally and by general equitable principles (whether enforcement is sought by proceedings in equity or at law); and

(d) the execution, delivery and performance of this Amendment (a) do not require any consent or approval of, registration or filing with, or any other action by, any Governmental Authority, except such as have been obtained or made and are in full force and effect or those which the failure to obtain or make could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, (b) will not violate any applicable law or regulation or the charter, by-laws or other organizational documents of any Consolidated Entity or any order or decree of any Governmental Authority binding on or affecting any Consolidated Entity where such violation of such order or decree, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect, (c) will not violate or result in a default under any indenture, agreement or other instrument binding upon any Consolidated Entity or any of its assets, or give rise to a right thereunder to require any payment to be made by any Consolidated Entity, where such violation or result, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect, and (d) will not result in the creation or imposition of any Lien on any asset of any Consolidated Entity, except pursuant to the terms of any Loan Document.

Section 4 *Conditions.* This Amendment shall become effective as of the first date (the "**Effective Date**") when each of the following conditions shall have been satisfied:

(a) the Administrative Agent shall have received from the Required Lenders an executed counterpart hereof or other written confirmation (in form satisfactory to the Administrative Agent) that such party has signed a counterpart hereof;

(b) the Administrative Agent shall have received from the Borrowers an executed counterpart hereof or other written confirmation (in form satisfactory to the Administrative Agent) that such party has signed a counterpart hereof; and

(c) the Administrative Agent shall have received all fees and other amounts due and payable by the Borrowers on the Effective Date, including, to the extent invoiced, reimbursement or payment of all reasonable out-of-pocket expenses required to be reimbursed or paid by the Borrowers (including the reasonable fees, charges and disbursements of counsel for the Administrative Agent) under the Credit Agreement.

Section 5 *Governing Law.* This Amendment shall be governed by and construed and interpreted in accordance with the laws of the State of New York.

Section 6 *Counterparts.* This Amendment may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

Section 7 *Miscellaneous.* This Amendment shall constitute a Loan Document for all purposes of the Credit Agreement and the other Loan Documents. The Borrowers shall pay all reasonable out-of-pocket costs and expenses of the Administrative Agent incurred in connection with the negotiation, preparation and execution of this Amendment and the transactions contemplated hereby (including reasonable fees and expenses of Simpson Thacher & Bartlett LLP). Except as expressly set forth herein, this Amendment shall not by implication or otherwise limit, impair, constitute a waiver of or otherwise affect the rights and remedies of the Administrative Agent or any Lender under the Credit Agreement or any other Loan Document, and shall not alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Credit Agreement or any other Loan Document, all of which, as amended, supplemented or otherwise modified hereby, are ratified and affirmed in all respects and shall continue in full force and effect.

[Signature Pages to Follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed as of the date first above written.

CHARLES RIVER LABORATORIES
INTERNATIONAL, INC.

By: /s/ David R. Smith
Name: David R. Smith
Title: Corporate Executive Vice President

CHARLES RIVER NEDERLAND B.V.

By: /s/ Jeroen de Groot
Name: Jeroen de Groot
Title: Director

CHARLES RIVER UK LIMITED

By: /s/ David R. Smith
Name: David R. Smith
Title: Director

CHARLES RIVER LABORATORIES
JAPAN, INC.

By: /s/ David R. Smith
Name: David R. Smith
Title: Director

CHARLES RIVER LABORATORIES
LUXEMBOURG S.A.R.L.

By: /s/ Wilbert Frieling
Name: Wilbert Frieling
Title: A Manager

[CRL First Amendment Signature Page]

JPMORGAN CHASE BANK, N.A., as Administrative Agent

By: /s/ David Hyman

Name: David Hyman

Title: Executive Director

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

JPMORGAN CHASE BANK, N.A., as a Required Lender

By: /s/ David Hyman

Name: David Hyman

Title: Executive Director

REQUIRED LENDER CONSENT

Bank of America, N.A., as a Required Lender

By: /s/ Linda E.C. Alto

Name: Linda E.C. Alto

Title: Senior Vice President

REQUIRED LENDER CONSENT

CITIZENS BANK, N.A., as a Required Lender

By: /s/ Christopher J. DeLauro
Name: Christopher J. DeLauro
Title: Senior Vice President

REQUIRED LENDER CONSENT

TD BANK, N.A., as a Required Lender

By: /s/ Alan Garson

Name: Alan Garson

Title: Senior Vice President

REQUIRED LENDER CONSENT

WELLS FARGO BANK, NATIONAL ASSOCIATION, as a Required Lender

By: /s/ Jordan Harris

Name: Jordan Harris

Title: Director

REQUIRED LENDER CONSENT

DNB Capital LLC, as a Required Lender

By: /s/ Thomas Tangen
Name: Thomas Tangen
Title: Senior Vice President Head of Healthcare

By: /s/ Devan Patel
Name: Devan Patel
Title: Vice President

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

U.S. Bank, National Association, as a Required Lender

By: /s/ Joseph M. Schnorr

Name: Joseph M. Schnorr

Title: Senior Vice President

REQUIRED LENDER CONSENT

MUFG BANK, LTD. (formerly known as The Bank of Tokyo-Mitsubishi UFJ, Ltd.), as a Required Lender

By: /s/ Teutha Ghilaga

Name: Teutha Ghilaga

Title: Director

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

CITIBANK, N.A., as a Required Lender

By: /s/ Michael Chen

Name: Michael Chen

Title: Authorized Signer

REQUIRED LENDER CONSENT

KEYBANK NATIONAL ASSOCIATION, as a Required Lender

By: /s/ Suzannah Valdivia
Name: Suzannah Valdivia
Title: Senior Vice President

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

SunTrust Bank, as a Required Lender

By: /s/ Katherine Bass
Name: Katherine Bass
Title: Director

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

People's United Bank, N.A., as a Required Lender

By: /s/ Darci Buchanan

Name: Darci Buchanan

Title: Senior Vice President

REQUIRED LENDER CONSENT

BANK OF THE WEST, as a Required Lender

By: /s/ Michael Weinert

Name: Michael Weinert

Title: Director

REQUIRED LENDER CONSENT

GOLDMAN SACHS BANK USA, as a Required Lender

By: /s/ Jamie Minieri
Name: Jamie Minieri
Title: Authorized Signatory

[CRL Second Amendment Signature Page]

REQUIRED LENDER CONSENT

PNC BANK, NATIONAL ASSOCIATION, as a Required Lender

By: /s/ William P. Herold

Name: William P. Herold

Title: Vice President

Exhibit 10.3

THIRD AMENDMENT TO THE EIGHTH AMENDED AND RESTATED CREDIT AGREEMENT

THIRD AMENDMENT (this "**Amendment**") dated as of November 4, 2019 relating to the Eighth Amended and Restated Credit Agreement dated as of March 26, 2018 (as heretofore amended or modified, the "**Credit Agreement**") among Charles River Laboratories International, Inc. (the "**Parent Borrower**"), the Subsidiary Borrowers party thereto, the Lenders party thereto from time to time, JPMorgan Chase Bank, N.A., as Administrative Agent (in such capacity, the "**Administrative Agent**") and the other agents party thereto.

RECITALS:

WHEREAS, the Parent Borrower has requested that the Revolving Lenders provide up to the Dollar Equivalent of $500.0 million of additional Revolving Commitments (the "**Additional Revolving Commitments**" and the Revolving Lenders providing Additional Revolving Commitments, the "**Additional Revolving Commitment Lenders**").

WHEREAS, in connection with the Additional Revolving Commitments, the Borrowers wish to amend certain terms of the Credit Agreement with the consent of the Required Lenders in the manner set forth below.

NOW, THEREFORE, in consideration of the premises and the agreements, provisions and covenants herein contained, the parties hereto agree as follows:

Section 1 *Defined Terms.* Unless otherwise specifically defined herein, each term used herein that is defined in the Credit Agreement has the meaning assigned to such term in the Credit Agreement.

Section 2 *Amendments.* As of the Third Amendment Effective Date (as defined below) and subject to the satisfaction of the terms and conditions set forth herein:

(a) Section 1.01 of the Credit Agreement is hereby amended by adding the following new definitions in the appropriate alphabetical order:

"BHC Act Affiliate" of a party means an "affiliate" (as such term is defined under, and interpreted in accordance with, 12 U.S.C. 1841(k)) of such party.

"Covered Entity" means any of the following:

(i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);

(ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or

(iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

"Covered Party" has the meaning assigned to it in Section 10.20.

"Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable

"QFC" has the meaning assigned to the term "qualified financial contract" in, and shall be interpreted in accordance with, 12 U.S.C. 5390(c)(8)(D).

"QFC Credit Support" has the meaning assigned to it in Section 10.20.

"Supported QFC" has the meaning assigned to it in Section 10.20.

"Subsidiary Borrower Debt Limit" means the Subsidiary Borrowers incurring aggregate Revolving Loans, Swingline Loans and Letters of Credit under this Agreement at any time in excess of the Dollar Equivalent of $1,550,000,000.

"Third Amendment Effective Date" means November 4, 2019.

"U.S. Special Resolution Regime" has the meaning assigned to it in Section 10.20.

(b) Section 1.01 of the Credit Agreement is hereby amended by amending and restating the following definitions therein:

"USD Revolving Commitment" means, with respect to each USD Revolving Lender, the commitment of such Lender to make USD Revolving Loans and to acquire participations in Letters of Credit and Swingline Loans hereunder, expressed as an amount representing the maximum aggregate amount of such Lender's USD Revolving Credit Exposure hereunder, as such commitment may be (a) reduced from time to time pursuant to Section 2.12, (b) increased from time to time pursuant to Section 2.25 and (c) reduced or increased from time to time pursuant to assignments by or to such Lender pursuant to Section 10.04. The amount of each Lender's USD Revolving Commitment as of the Third Amendment Effective Date is set forth on Schedule 2.04, or in the Assignment and Assumption pursuant to which such Lender shall have assumed its USD Revolving Commitment as of the date of such Assignment and Assumption, as applicable. The aggregate amount of the Lenders' USD Revolving Commitments as of the Third Amendment Effective Date is $2,050,000,000.

"Multicurrency Revolving Commitment" means, with respect to each Multicurrency Revolving Lender, the commitment of such Lender (which is a sublimit of the Revolving Commitment of such Lender) to make Multicurrency Revolving Loans, as such commitment may be (a) reduced from time to time pursuant to Section 2.12, (b) increased from time to time pursuant to Section 2.25, or (c) reduced or increased from time to time pursuant to assignments by or to such Lender pursuant to Section 10.04. The amount of each Lender's Multicurrency Revolving Commitment as of the Third Amendment Effective Date is set forth on Schedule 2.04, or in the Assignment and Assumption pursuant to which such Lender shall have assumed its Multicurrency Revolving Commitment as of the date of such Assignment and Assumption, as applicable. The Dollar Equivalent of the aggregate amount of the Lenders' Multicurrency Revolving Commitments as of the Third Amendment Effective Date is $2,050,000,000.

(c) Section 2.04(b) of the Credit Agreement is hereby amended and restated in its entirety as follows:

"(b) Subject to the terms and conditions set forth herein, each Multicurrency Revolving Lender agrees to make Multicurrency Revolving Loans to the Parent Borrower and/or the Subsidiary Borrowers (other than the Japanese Borrower) from time to time during the Revolving Commitment Period in an aggregate principal amount at any one time outstanding which (i) does not exceed such Lender's Multicurrency Revolving Commitment, (ii) will not result in such Lender's Revolving Credit Exposure exceeding the amount of such Lender's Revolving Commitment, (iii) will not result in the Subsidiary Borrower Debt Limit to be exceeded and (iv) will not result in the total Revolving Credit Exposure exceeding the total Revolving Commitment. Within the foregoing limits and subject to the terms and conditions set forth herein, the Parent Borrower and/or the Subsidiary Borrowers may borrow, prepay and reborrow Multicurrency Revolving Loans."

(d) Section 6.11 of the Credit Agreement is hereby amended and restated in its entirety as follows:
"Section 6.11. Leverage Ratio

The Consolidated Entities will not permit the Leverage Ratio as determined as of the end of each fiscal quarter of the Consolidated Entities to be greater than 4.00 to 1.00;

provided that, upon the U.S. Administrative Agent's receipt of a QMA Notice and subject to the limitations set forth in the definition of Qualifying Material Acquisition, such ratio shall be increased by 0.50 to 1.00 for the four consecutive fiscal quarters ended immediately after the applicable Consummation Date; provided further that (x) if the Consummation Date is the last day of a fiscal quarter, subject to clause (y), the increased ratio set forth above shall apply as of such date and the three consecutive immediately following fiscal quarters and (y) if the applicable QMA Notice Date occurs after the date on which the financial statements for the fiscal quarter (or, if applicable, fiscal year) ended immediately after (or, if applicable, on) the applicable Consummation Date are due pursuant to Sections 5.01(a) or (b), such increased ratio shall only apply for the three consecutive fiscal quarters ended immediately after such initial fiscal quarter ended immediately after (or, if applicable, on) the applicable Consummation Date); provided further, that such an increase shall only be permitted twice during the term of this Agreement."

(e) The Credit Agreement is hereby amended by adding the following new Section 10.20:

"Acknowledgement Regarding Any Supported QFCs. To the extent that the Loan Documents provide support, through a guarantee or otherwise, for Hedging Agreements or any other agreement or instrument that is a QFC (such support "QFC Credit Support" and each such QFC a "Supported QFC"), the parties acknowledge and agree as follows with respect to the resolution power of the Federal Deposit Insurance Corporation under the Federal Deposit Insurance Act and Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (together with the regulations promulgated thereunder, the "U.S. Special Resolution Regimes") in respect of such Supported QFC and QFC Credit Support (with the provisions below applicable notwithstanding that the Loan Documents and any Supported QFC may in fact be stated to be governed by the laws of the State of New York and/or of the United States or any other state of the United States):

In the event a Covered Entity that is party to a Supported QFC (each, a "Covered Party") becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer of such Supported QFC and the benefit of such QFC Credit Support (and any interest and obligation in or under such Supported QFC and such QFC Credit Support, and any rights in property securing such Supported QFC or such QFC Credit Support) from such Covered Party will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if the Supported QFC and such QFC Credit Support (and any such interest, obligation and rights in property) were governed by the laws of the United States or a state of the United States. In the event a Covered Party or a BHC Act Affiliate of a Covered Party becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under the Loan Documents that might otherwise apply to such Supported QFC or any QFC Credit Support that may be exercised against such Covered Party are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if the Supported QFC and the Loan Documents were governed by the laws of the United States or a state of the United States. Without limitation of the foregoing, it is understood and agreed that rights and remedies of the parties with respect to a Defaulting Lender shall in no event affect the rights of any Covered Party with respect to a Supported QFC or any QFC Credit Support."

(f) Each Additional Revolving Commitment Lender whose name appears on Schedule 2.04 hereto acknowledges and agrees that, on and as of the Third Amendment Effective Date, such Additional Revolving Commitment Lender shall be a Revolving Lender under the Credit Agreement and shall have a Revolving Commitment as set forth next to the name of such Additional Revolving Commitment Lender on

Schedule 2.04 hereto. Each party hereto acknowledges and agrees that, on and as of the Third Amendment Effective Date, Schedule 2.04 hereto sets forth all of the Revolving Commitments of all the Revolving Lenders.

Section 3 *Representations of the Borrowers.* The Borrowers represent and warrant that:

(a) each of the representations and warranties made by any Loan Party contained in the Credit Agreement or in the other Loan Documents is true and correct in all material respects (if not qualified as to materiality or Material Adverse Effect) or in any respect (if so qualified) on and as of the Third Amendment Effective Date after giving effect hereto;

(b) no Default or Event of Default has occurred and is continuing on and as of the Third Amendment Effective Date after giving effect hereto;

(c) each Loan Party has the corporate power and authority, and the legal right, to make, deliver and perform this Amendment. Each Loan Party has taken all necessary corporate or other action to authorize the execution, delivery and performance of this Amendment. No consent or authorization of, filing with, notice to or other act by or in respect of, any Governmental Authority or any other Person is required in connection with the execution, delivery, performance, validity or enforceability of this Amendment, except for such as have been obtained or made and are in full force and effect or to the extent failure to obtain such authorization or consent or to take such action could not reasonably be expected to result in a Material Adverse Effect. This Amendment has been duly executed and delivered on behalf of each Loan Party. This Amendment constitutes, and each other Loan Document as modified hereby constitutes, a legal, valid and binding obligation of each Loan Party that is a party hereto or thereto, enforceable against each such Loan Party in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting the enforcement of creditors' rights generally and by general equitable principles (whether enforcement is sought by proceedings in equity or at law); and

(d) the execution, delivery and performance of this Amendment (a) do not require any consent or approval of, registration or filing with, or any other action by, any Governmental Authority, except such as have been obtained or made and are in full force and effect or those which the failure to obtain or make could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, (b) will not violate any applicable law or regulation or the charter, by-laws or other organizational documents of any Consolidated Entity or any order or decree of any Governmental Authority binding on or affecting any Consolidated Entity where such violation of such order or decree, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect, (c) will not violate or result in a default under any indenture, agreement or other instrument binding upon any Consolidated Entity or any of its assets, or give rise to a right thereunder to require any payment to be made by any Consolidated Entity, where such violation or result, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect, and (d) will not result in the creation or imposition of any Lien on any asset of any Consolidated Entity, except pursuant to the terms of any Loan Document.

Section 4 *Conditions.* This Amendment shall become effective as of the first date (the "**Third Amendment Effective Date**") when each of the following conditions shall have been satisfied:

(a) the Administrative Agent shall have received from the Required Lenders and the Additional Commitment Revolving Lenders an executed counterpart hereof or other written confirmation (in form satisfactory to the Administrative Agent) that such party has signed a counterpart hereof;

(b) the Administrative Agent shall have received from the Borrowers an executed counterpart hereof or other written confirmation (in form satisfactory to the Administrative Agent) that such party has signed a counterpart hereof;

(c) the Administrative Agent shall have received all fees and other amounts due and payable by the Borrowers on the Third Amendment Effective Date, including, to the extent invoiced, reimbursement or payment of all reasonable out-of-pocket expenses required to be reimbursed or paid by the Borrowers (including the reasonable fees, charges and disbursements of counsel for the Administrative Agent) under the Credit Agreement;

(d) the Administrative Agent shall have shall have received favorable written opinions (addressed to the Administrative Agent and the Lenders and dated the Third Amendment Effective Date) from counsel to the Parent Borrower and its Subsidiaries in form and substance satisfactory to the Administrative Agent covering the matters set forth in the opinions delivered on the Eighth Amendment and Restatement Effective Date under Section 4.01(d) of the Credit Agreement;

(e) The Administrative Agent shall have received from the parties to any (i) Guarantee Agreement, (ii) Pledge Agreement and (iii) Security Agreement, an Eighth Amendment and Restatement Acknowledgement and Confirmation Agreement substantially in the form of Exhibit H to the Credit Agreement signed on behalf of such party;

(f) Immediately before and after giving effect to the Additional Revolving Commitments, the representations and warranties set forth in Section 3 shall be true and correct on and as of the Third Amendment Effective Date and the Administrative Agent shall have received a certificate from an officer of the Parent Borrower, in form and substantive satisfactory to the Administrative Agent certifying to the effect thereof;

(g) The Parent Borrower and its Subsidiaries shall be solvent on a consolidated basis after giving effect to the Additional Revolving Commitments and the Administrative Agent shall have received a certificate from the chief financial officer of the Parent Borrower, in form and substance reasonably satisfactory to the Administrative Agent certifying to the effect thereof; and

(h) The Administrative Agent shall have received such documents and certificates as the Administrative Agent or its counsel may reasonably request relating to the organization, existence and good standing of each Loan Party, the authorization of this Amendment and the Additional Revolving Commitments and any other legal matters relating to each Loan Party, this Amendment or the Additional Revolving Commitments, all in form and substance reasonably satisfactory to the Administrative Agent.

Section 5 *Governing Law.* This Amendment shall be governed by and construed and interpreted in accordance with the laws of the State of New York.

Section 6 *Counterparts.* This Amendment may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

Section 7 *Miscellaneous.* This Amendment shall constitute a Loan Document for all purposes of the Credit Agreement and the other Loan Documents. The Borrowers shall pay all reasonable out-of-pocket costs and expenses of the Administrative Agent incurred in connection with the negotiation, preparation and execution of this Amendment and the transactions contemplated hereby (including reasonable fees and expenses of Simpson Thacher & Bartlett LLP). Except as expressly set forth herein, this Amendment shall not by implication or otherwise limit, impair, constitute a waiver of or otherwise affect the rights and remedies of the Administrative Agent or any Lender under the Credit Agreement or any other Loan Document, and shall not alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Credit Agreement or any other Loan Document, all of which, as amended, supplemented or otherwise modified hereby, are ratified and affirmed in all respects and shall continue in full force and effect.

[Signature Pages to Follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed as of the date first above written.

CHARLES RIVER LABORATORIES
INTERNATIONAL, INC.

By: /s/ David P. Johst
Name: David P. Johst
Title: Corporate Executive Vice President and General Counsel

[Signature Page to Amendment to the Eighth Amended & Restated Credit Agreement]

CHARLES RIVER NEDERLAND B.V.

By: /s/ David R. Smith
Name: David R. Smith
Title: A Manager

CHARLES RIVER UK LIMITED

By: /s/ David P. Johst
Name: David P. Johst
Title: Director

[Signature Page to Amendment to the Eighth Amended & Restated Credit Agreement]

CHARLES RIVER LABORATORIES
JAPAN, INC.

By: /s/ David P. Johst
Name: David P. Johst
Title: Director

CHARLES RIVER LABORATORIES
LUXEMBOURG S.A.R.L.

By: /s/ Wilbert Frieling
Name: Wilbert Frieling
Title: A Manager

JPMORGAN CHASE BANK, N.A., as Administrative Agent, Lender and Issuing Bank

By: /s/ David Hyman

Name: David Hyman

Title: Executive Director

REQUIRED LENDER CONSENT

Bank of America, N.A., as a Lender and Issuing Bank

By: /s/ Linda E.C. Alto

Name: Linda E.C. Alto

Title: Senior Vice President

REQUIRED LENDER CONSENT

CITIZENS BANK, N.A., as a Lender and Issuing Bank

By: /s/ Benjamin J. Sileo
Name: Benjamin J. Sileo
Title: Vice President

REQUIRED LENDER CONSENT

TD BANK, N.A., as a Lender and Issuing Bank

By: /s/ Alan Garson

Name: Alan Garson

Title: Senior Vice President

WELLS FARGO BANK, NATIONAL ASSOCIATION, as a Lender and Issuing Bank

By: /s/ Jordan Harris

Name: Jordan Harris

Title: Director

REQUIRED LENDER CONSENT

DNB Capital LLC, as a Lender

By: /s/ Thomas Tangen

Name: Thomas Tangen

Title: Senior Vice President Head of Healthcare

By: /s/ Devan Patel

Name: Devan Patel

Title: Vice President

U.S. Bank, National Association, as a Lender

By: /s/ Joseph M. Schnorr

Name: Joseph M. Schnorr

Title: Senior Vice President

REQUIRED LENDER CONSENT

MUFG BANK, LTD, as a Lender and Issuing Bank

By: /s/ Teuta Ghilaga
Name: Teuta Ghilaga
Title: Director

REQUIRED LENDER CONSENT

CITIBANK, N.A., as a Lender

By: /s/ Michael Chen

Name: Michael Chen

Title: Authorized Signer

REQUIRED LENDER CONSENT

PNC BANK, NATIONAL ASSOCIATION, as a Lender and Issuing Bank

By: /s/ Michael Richards

Name: Michael Richards

Title: SVP, Managing Director

REQUIRED LENDER CONSENT

KEYBANK NATIONAL ASSOCIATION, as a Lender

By: /s/ Suzannah Valdivia

Name: Suzannah Valdivia

Title: Senior Vice President

REQUIRED LENDER CONSENT

Santander Bank, N.A., as a Lender

By: /s/ William Latham

Name: William Latham

Title: Senior Vice President

REQUIRED LENDER CONSENT

SunTrust Bank, as a Lender

By: /s/ Katherine Bass

Name: Katherine Bass

Title: Director

REQUIRED LENDER CONSENT

People's United Bank, N.A., as a Lender

By: /s/ Amy LeBlanc Hackett

Name: Amy LeBlanc Hackett

Title: Managing Director

REQUIRED LENDER CONSENT

Bank of the West, as a Lender

By: /s/ Jeffrey Toner

Name: Jeffrey Toner
Title: Director

By: /s/ Caroline Smith

Name: Caroline Smith
Title: Assistant Vice President

REQUIRED LENDER CONSENT

GOLDMAN SACHS BANK USA, as a Lender

By: /s/ Rebecca Kratz

Name: Rebecca Kratz

Title: Authorized Signatory

SCHEDULE 2.04

REVOLVING COMMITMENTS

Lender	USD Revolving Commitment	Multicurrency Revolving Commitment[1]	Yen Revolving Commitment[2]
JPMORGAN CHASE BANK, N.A.	$213,913,043.46	$213,913,043.46	
BANK OF AMERICA, N.A.	$213,913,043.48	$213,913,043.48	
CITIZENS BANK, N.A.	$213,913,043.48	$213,913,043.48	
TD BANK, N.A.	$213,913,043.48	$213,913,043.48	
WELLS FARGO BANK, NATIONAL ASSOCIATION	$213,913,043.48	$213,913,043.48	
DNB CAPITAL LLC	$133,695,652.19	$133,695,652.19	
U.S. BANK NATIONAL ASSOCIATION	$133,695,652.19	$133,695,652.19	
MUFG BANK, LTD.	$133,695,652.19	$133,695,652.19	$25,000,000
CITIBANK, N.A.	$133,695,652.19	$133,695,652.19	
PNC BANK, NATIONAL ASSOCIATION	$89,130,434.77	$89,130,434.77	$25,000,000
KEYBANK NATIONAL ASSOCIATION	$89,130,434.77	$89,130,434.77	
SANTANDER BANK, N.A.	$66,847,826.09	$66,847,826.09	
SUNTRUST BANK	$66,847,826.09	$66,847,826.09	
PEOPLE'S UNITED BANK	$44,565,217.38	$44,565,217.38	
BANK OF THE WEST	$44,565,217.38	$44,565,217.38	
GOLDMAN SACHS BANK USA	$44,565,217.38	$44,565,217.38	
TOTALS	$2,050,000,000.00	$2,050,000,000.00	$50,000,000.00

1 With respect to each Revolving Lender with a USD Revolving Commitment and a Multicurrency Revolving Commitment, (a) the amount of such Lender’s total Revolving Commitment is equal to such Lender’s USD Revolving Commitment and (b) the amount of such Lender’s Multicurrency Revolving Commitment is a sublimit within such Lender’s total Revolving Commitment.

2 With respect to each Revolving Lender with a USD Revolving Commitment, a Multicurrency Revolving Commitment and a Yen Revolving Commitment, (a) the amount of such Lender’s total Revolving Commitment is equal to such Lender’s USD Revolving Commitment, (b) the amount of such Lender’s Multicurrency Revolving Commitment is a sublimit within such Lender’s total Revolving Commitment and (c) the amount of such Lender’s Yen Revolving Commitment is a sublimit within such Lender’s total Multicurrency Revolving Commitment.

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 September 28, 2019 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.

November 6, 2019

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 and Chief Financial 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 September 28, 2019 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.

November 6, 2019

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 endedSeptember 28, 2019 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, President and Chief Executive Officer of the Company, and David R. Smith, Corporate Executive Vice President and Chief Financial 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
November 6, 2019	James C. Foster *Chairman, President and Chief Executive Officer* Charles River Laboratories International, Inc.
	/s/ David R. Smith
November 6, 2019	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.