UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

		FORM 10-Q	
(Mark One)			
\square		SUANT TO SECTION 13 OR 15(d) OF TI ARTERLY PERIOD ENDED MARCH 30, 2019 OR	HE SECURITIES EXCHANGE ACT OF 1934
		SUANT TO SECTION 13 OR 15(d) OF TH	HE SECURITIES EXCHANGE ACT OF 1934 TO
		Commission File No. 001-159	043
		-	
		charles rive	er
	CHARLES	RIVER LABORATORIES I	NTERNATIONAL, INC.
		(Exact Name of Registrant as Specified in	n Its Charter)
	Delaware		06-1397316
	(State or Other Jurisdiction	n of	(I.R.S. Employer
	Incorporation or Organiza		Identification No.)
	251 Ballardvale Stree Wilmington, Massachuse		01887
	(Address of Principal Executive		(Zip Code)
	(Re	gistrant's telephone number, including area	u code): (781) 222-6000
	(ite	gistrant s terephone number, meruanig area	(101) 222 0000
	_	6	12(1) (5(1) 4 4
	Title of each class	Securities registered pursuant to Section Ticker symbol(s)	Name of each exchange on which registered
	The of each class	Tieker symbol(s)	New York Stock Exchange
Cor	nmon stock, \$0.01 par value	CRL	New York Stock Exchange
1934 during th			be filed by Section 13 or 15(d) of the Securities Exchange Act of quired to file such reports), and (2) has been subject to such filing
	S-T (§ 232.405 of this chapter) d		Interactive Data File required to be submitted pursuant to Rule 40 shorter period that the registrant was required to submit such
an emerging g	ate by check mark whether the Rorowth company. See the definition Rule 12b-2 of the Exchange Act.	egistrant is a large accelerated filer, an accel ns of "large accelerated filer," "accelerated	erated filer, a non-accelerated filer, smaller reporting company, or filer," "smaller reporting company," and "emerging growth
Ι	arge accelerated filer ☑	Accelerated filer □	Non-accelerated filer □
	aller reporting company	Emerging growth company	у 🗆

If an emerging growth company, indicate by a check mark if the registrant has elected not to use the extended transition period for complying wany new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.	th
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes \square No \square	
As of April 26, 2019, there were 48,754,419 shares of the Registrant's common stock outstanding.	

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

QUARTERLY REPORT ON FORM 10-Q FOR THE QUARTERLY PERIOD ENDED MARCH 30, 2019

TABLE OF CONTENTS

Item		Page
	PART I - FINANCIAL INFORMATION	
1	Financial Statements	
	Condensed Consolidated Statements of Income (Unaudited) for the three months ended March 30, 2019 and March 31, 2018	<u>3</u>
	Condensed Consolidated Statements of Comprehensive Income (Unaudited) for the three months ended March 30, 2019 and March 31, 2018	<u>4</u>
	Condensed Consolidated Balance Sheets (Unaudited) as of March 30, 2019 and December 29, 2018	<u>5</u>
	Condensed Consolidated Statements of Cash Flows (Unaudited) for the three months ended March 30, 2019 and March 31, 2018	<u>_6</u>
	Notes to Unaudited Condensed Consolidated Financial Statements	9
2	Management's Discussion and Analysis of Financial Condition and Results of Operations	<u>9</u> <u>32</u>
3	Quantitative and Qualitative Disclosure About Market Risk	<u>40</u>
4	Controls and Procedures	41
	PART II - OTHER INFORMATION	
1	Legal Proceedings	<u>42</u>
1A	Risk Factors	<u>42</u>
2	Unregistered Sales of Equity Securities and Use of Proceeds	<u>42</u>
6	Exhibits	44
Signature	es	<u>45</u>
	1	

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 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

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 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	e Months Ended
	March 30, 2019	March 31, 2018
Service revenue	\$ 450,94	\$ 345,454
Product revenue	153,62	27 148,516
Total revenue	604,50	69 493,970
Costs and expenses:		
Cost of services provided (excluding amortization of intangible assets)	316,80	00 243,808
Cost of products sold (excluding amortization of intangible assets)	75,99	92 68,693
Selling, general and administrative	122,57	74 103,372
Amortization of intangible assets	19,41	11 10,268
Operating income	69,79	92 67,829
Other income (expense):		
Interest income	10	79 282
Interest expense	(9,98	87) (11,191)
Other income, net	6,30	06 6,120
Income from continuing operations, before income taxes	66,29	90 63,040
Provision for income taxes	10,60	9,772
Income from continuing operations, net of income taxes	55,68	88 53,268
Loss from discontinued operations, net of income taxes	-	— (23)
Net income	55,68	88 53,245
Less: Net income attributable to noncontrolling interests	55	55 614
Net income attributable to common shareholders	\$ 55,13	33 \$ 52,631
Earnings per common share		
Basic:		
Continuing operations attributable to common shareholders	\$ 1.5	14 \$ 1.10
Discontinued operations	\$	— \$ —
Net income attributable to common shareholders	\$ 1.3	14 \$ 1.10
Diluted:		
Continuing operations attributable to common shareholders	\$ 1.3	11 \$ 1.08
Discontinued operations	\$	— \$ —
Net income attributable to common shareholders	\$ 1.3	11 \$ 1.08
Weighted-average number of common shares outstanding:		
Basic	48.45	58 47,785
Diluted	40,4.	
Difficed	49,40	32 48,828

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			d
	March 3	arch 30, 2019		th 31, 2018
Net income	\$	55,688	\$	53,245
Other comprehensive income (loss):				
Foreign currency translation adjustment and other		9,885		25,431
Amortization of net loss and prior service benefit included in net periodic cost for pension and other post- retirement benefit plans		374		459
Comprehensive income, before income taxes		65,947		79,135
Less: Income tax (benefit) expense related to items of other comprehensive income		(102)		1,722
Comprehensive income, net of income taxes		66,049		77,413
Less: Comprehensive income related to noncontrolling interests, net of income taxes		1,013		1,178
Comprehensive income attributable to common shareholders, net of income taxes	\$	65,036	\$	76,235

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

ssets urrent assets: Cash and cash equivalents \$ Trade receivables, net Inventories	5 126,316 495,501 129,765	\$ 105 442
Cash and cash equivalents \$ Trade receivables, net Inventories	495,501	\$ 105 442
Trade receivables, net Inventories	495,501	\$ 105 442
Inventories		195,442
	129,765	472,248
Dunnaid annata		127,892
Prepaid assets	58,549	53,447
Other current assets	56,051	 48,807
Total current assets	866,182	897,836
roperty, plant and equipment, net	907,367	932,877
ight-of-use asset-operating leases	130,704	_
oodwill	1,245,848	1,247,133
lient relationships, net	525,108	537,945
ther intangible assets, net	69,651	72,943
eferred tax assets	23,772	23,386
ther assets	158,005	 143,759
Total assets	3,926,637	\$ 3,855,879
abilities, Redeemable Noncontrolling Interest and Equity		
urrent liabilities:		
Current portion of long-term debt and finance leases \$	30,655	\$ 31,416
Accounts payable	78,523	66,250
Accrued compensation	82,174	137,212
Deferred revenue	137,886	145,139
Accrued liabilities	109,049	106,925
Other current liabilities	91,472	71,280
Total current liabilities	529,759	558,222
ong-term debt, net and finance leases	1,540,833	1,636,598
ight-of-use liability-operating leases	109,054	_
eferred tax liabilities	151,881	143,635
ther long-term liabilities	173,562	179,121
Total liabilities	2,505,089	2,517,576
ommitments and contingencies (Note 17)		
edeemable noncontrolling interest	20,519	18,525
quity:		
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; 48,884 shares issued and 48,747 shares outstanding as of March 30, 2019, and 48,210 shares issued and 48,209 shares outstanding as of December 29, 2018	489	482
Additional paid-in capital	1,481,011	1,447,512
Retained earnings	97,229	42,096
Treasury stock, at cost, 137 and 1 shares, as of March 30, 2019 and December 29, 2018, respectively	(17,815)	(55)
Accumulated other comprehensive loss	(162,800)	(172,703)
otal equity attributable to common shareholders	1,398,114	 1,317,332
oncontrolling interest	2,915	2,446
Total equity	1,401,029	1,319,778
Total liabilities, redeemable noncontrolling interest, and equity \$		\$ 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)

	Three Months Ended			
	Ma	rch 30, 2019	М	arch 31, 2018
Cash flows relating to operating activities		_		
Net income	\$	55,688	\$	53,245
Less: Loss from discontinued operations, net of income taxes				(23)
Income from continuing operations, net of income taxes		55,688		53,268
Adjustments to reconcile net income from continuing operations to net cash provided by operating activities:				
Depreciation and amortization		45,358		33,210
Stock-based compensation		12,899		10,541
Deferred income taxes		7,781		(782)
Gain on venture capital investments		(10,575)		(6,451)
Other, net		(380)		3,932
Changes in assets and liabilities:				
Trade receivables, net		(23,127)		(3,780)
Inventories		(2,520)		(3,501)
Accounts payable		10,245		(1,076)
Accrued compensation		(55,114)		(30,991)
Deferred revenue		(14,405)		(18,292)
Customer contract deposits		(5,866)		23,566
Other assets and liabilities, net		(5,125)		407
Net cash provided by operating activities		14,859		60,051
Cash flows relating to investing activities				
Acquisition of businesses and assets, net of cash acquired		(989)		(20,216)
Capital expenditures		(16,731)		(27,726)
Purchases of investments and contributions to venture capital investments		(2,419)		(5,268)
Proceeds from sale of investments		15		28,596
Other, net		(689)		(50)
Net cash used in investing activities		(20,813)		(24,664)
Cash flows relating to financing activities				
Proceeds from long-term debt and revolving credit facility		290,111		1,080,299
Proceeds from exercises of stock options		21,832		20,041
Payments on long-term debt, revolving credit facility, and finance lease obligations		(360,658)		(1,096,795)
Payments on debt financing costs		_		(4,932)
Purchase of treasury stock		(17,760)		(13,549)
Other, net		(2,608)		_
Net cash used in financing activities		(69,083)		(14,936)
Discontinued operations		(05,005)		(1.,550)
Net cash used in operating activities from discontinued operations		_		(636)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash		6,025		4,254
Net change in cash, cash equivalents, and restricted cash		(69,012)		24,069
Cash, cash equivalents, and restricted cash, beginning of period		197,318		166,331
Cash, cash equivalents, and restricted cash, organism of period	\$	128,306	\$	190,400
Cash, Cash equivalents, and restricted cash, the or period	ψ	120,500	Ψ	170,700

		Three Months Ended				
	Ma	arch 30, 2019		March 31, 2018		
Supplemental cash flow information:						
Cash and cash equivalents	\$	126,316	\$	187,774		
Restricted cash included in Other current assets		491		605		
Restricted cash included in Other assets		1,499		2,021		
Cash, cash equivalents, and restricted cash, end of period	\$	128,306	\$	190,400		

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Comi	non St	ock	Additional		Ac	cumulated Other	Treas	sury S	Stock	Total Equity Attributable to					
	Shares	A	mount	Paid-In Capital	Retained Earnings	(Comprehensive Income (Loss)	Shares		Amount		Common hareholders	ľ	Noncontrolling Interest	Т	otal Equity
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	s	489	\$ 1,481,011	\$ 97,229	\$	(162,800)	137	\$	(17,815)	\$	1,398,114	\$	2,915	\$	1,401,029

	Comi	non St	tock	Additional		4.00	cumulated Other	Trea	sury	y Stock		Total Equity Attributable to Common Shareholders		Attributable to Common No						
	Shares	A	mount	Paid-In Capital	Retained Earnings	C	omprehensive ncome (Loss)	Shares		Amount						Common Noncontrolling		Total Equity		
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	_		_	_	3,330		(3,330)	_		_		_		_		_				
Adjustment due to adoption of ASU 2016-01	_		_	_	1,425		_	_		_		1,425		_		1,425				
Issuance of stock under employee compensation plans	630		6	20,088	_		_	_		_		20,094		_		20,094				
Acquisition of treasury shares	_		_	_	_		_	127		(13,549)		(13,549)		_		(13,549)				
Stock-based compensation	_		_	10,541	_		_	_		_		10,541		_		10,541				
March 31, 2018	88,125	\$	881	\$ 2,590,821	\$ 346,044	\$	(124,457)	40,220	\$	(1,673,463)	\$	1,139,826	\$	2,791	\$	1,142,617				

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 ongoing 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.

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.

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.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses." The standard 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.

2. BUSINESS ACQUISITIONS

Citoxlab

On April 29, 2019, the Company acquired Citoxlab, a non-clinical contract research organization (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 will further strengthen 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 €448 million in cash (or approximately \$500 million), 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 \$2.3B Credit Facility under the multi-currency revolving facility. See Note 9, "Long-Term Debt and Finance Leases." This business will be reported as part of the Company's DSA reportable segment. Due to the limited time between the acquisition date and the filing of this Quarterly Report on Form 10-Q, it is not practicable for the Company to disclose either the preliminary allocation of purchase price to assets acquired and liabilities assumed or the pro forma consolidated results of operations as if the Citoxlab acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition after giving effect to certain adjustments. The Company incurred transaction and integration costs in connection with the acquisition of \$5.2 million during the three months ended March 30, 2019, which were included in selling, general and administrative expenses within the unaudited condensed consolidated statements of income.

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 \$2.3B 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:

	Ap	ril 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.

The Company incurred transaction and integration costs in connection with the acquisition of \$0.1 million and \$2.7 million for the three months ended March 30, 2019 and March 31, 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 three months ended March 31, 2018, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of \$6.9 million, additional interest expense on borrowings of \$2.6 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	Three	Months Ended
	Mai	ch 31, 2018
	(in	thousands)
	\$	556,091
itable to common shareholders		49.414

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:

	Janu	uary 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 of 12 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.

The Company incurred transaction and integration costs of \$0.1 million and \$0.4 million in connection with the acquisition for the three months ended March 30, 2019 and March 31, 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.

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 three months ended March 30, 2019.

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					
	Ma	rch 30, 2019	Ma	arch 31, 2018		
		(in the	usands)			
Major Products/Service Lines:						
RMS	\$	137,172	\$	133,958		
DSA		354,197		259,992		
Manufacturing		113,200		100,020		
Total revenue	\$	604,569	\$	493,970		
Timing of Revenue Recognition:						
RMS						
Services and products transferred over time	\$	54,813	\$	48,726		
Services and products transferred at a point in time		82,359		85,232		
DSA						
Services and products transferred over time		354,078		259,744		
Services and products transferred at a point in time		119		248		
Manufacturing						
Services and products transferred over time		31,896		28,571		
Services and products transferred at a point in time		81,304		71,449		
Total revenue	\$	604,569	\$	493,970		

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 of March 30, 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 March 30, 2019:

		Revenue Expected to be Recognized in Future Periods									
	Les	Less than 1 Year 1 to 3 Years 4 to 5 Years Beyond 5 Years									
						(in thousands)					
DSA	\$	161,751	\$	103,493	\$	8,246	\$	548	\$	274,038	
Manufacturing		7,158		20,363		1,706		81		29,308	
Total	\$	168,909	\$	123,856	\$	9,952	\$	629	\$	303,346	

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:

	March 30, 2019			December 29, 2018			
		(in thousands)					
Balances from contracts with customers:							
Client receivables	\$	377,188	\$	370,131			
Contract assets (unbilled revenue)		120,607		105,216			
Contract liabilities (current and long-term deferred revenue)		166,705		179,559			
Contract liabilities (customer contract deposits)		32,380		38,245			

When the Company does not have the unconditional right to advanced billings, both advanced client payments and unpaid advanced client billings are excluded from deferred revenue, with the advanced billings also being excluded from client receivables. As of March 30, 2019, the Company excluded approximately \$12 million of unpaid advanced client billings from both client receivables and deferred revenue and approximately \$32 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 the three months ended March 30, 2019 were as follows:

(i) 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 three months ended March 30, 2019, an immaterial cumulative catch-up adjustment to revenue was recorded.

(ii) 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 70% of unbilled revenue as of December 29, 2018 was billed during the three months ended March 30, 2019.

(iii) 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 60% of contract liabilities as of December 29, 2018 were recognized as revenue during the three months ended March 30, 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				
	1	March 30, 2019		March 31, 2018	
		(in the	ousan	ands)	
RMS					
Revenue	\$	137,172	\$	133,958	
Operating income		37,832		38,527	
Depreciation and amortization		4,322		4,853	
Capital expenditures		4,112		4,625	
DSA					
Revenue	\$	354,197	\$	259,992	
Operating income		46,705		40,859	
Depreciation and amortization		33,784		20,787	
Capital expenditures		8,848		12,802	
Manufacturing					
Revenue	\$	113,200	\$	100,020	
Operating income		31,499		28,523	
Depreciation and amortization		5,805		5,736	
Capital expenditures		3,606		6,834	

The following table presents reconciliations of segment operating income, depreciation and amortization, and capital expenditures to the respective consolidated amounts:

	Operating Income			I	Depreciation a	nd Am	ortization		Capital E	penditures		
	Maı	March 30, 2019 March 31, 2018			Ma	rch 30, 2019	Maı	rch 31, 2018	March 30, 2019		March 31, 20	
						(in the	ousand	s)				
Three Months Ended:												
Total reportable segments	\$	116,036	\$	107,909	\$	43,911	\$	31,376	\$	16,566	\$	24,261
Unallocated corporate		(46,244)		(40,080)		1,447		1,834		165		3,465
Total consolidated	\$	69,792	\$	67,829	\$	45,358	\$	33,210	\$	16,731	\$	27,726

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

		Three Mo	nths End	ed		
	N	March 30, 2019	March 31, 2018			
		(in thousands)				
RMS	\$	\$ 137,172 \$ 133,				
DSA		354,197		259,992		
Manufacturing		113,200 100,02				
Total revenue	\$	604,569	\$	493,970		

A summary of unallocated corporate expense consists of the following:

		Three Months Ended				
	Marc	ch 30, 2019	Mar	ch 31, 2018		
		(in tho	usands)			
Stock-based compensation	\$	8,274	\$	6,991		
Compensation, benefits, and other employee-related expenses		22,038		20,596		
External consulting and other service expenses		3,810 2,93				
Information technology		2,723		2,465		
Depreciation		1,447		1,834		
Acquisition and integration		5,472		2,864		
Other general unallocated corporate		2,480 2,396				
Total unallocated corporate expense	\$	46,244	\$	40,080		

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	A	sia Pacific	Other	(Consolidated
			(in the	usand	s)			
Three Months Ended:								
March 30, 2019	\$ 350,176	\$ 166,365	\$ 53,979	\$	33,179	\$ 870	\$	604,569
March 31, 2018	248,980	160,826	48,578		34,520	1,066		493,970

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:

	Mar	ch 30, 2019	December 29, 2018				
		(in thousands)					
Client receivables	\$	377,188 \$	370,131				
Unbilled revenue		120,607	105,216				
Total		497,795	475,347				
Less: Allowance for doubtful accounts		(2,294)	(3,099)				
Trade receivables, net	\$	495,501	8 472,248				

The composition of inventories is as follows:

	Mar	March 30, 2019				
		(in thous	ands)			
Raw materials and supplies	\$	22,118	3	22,378		
Work in process		20,710		21,732		
Finished products		86,937				
Inventories	\$	129,765	5	127,892		

The composition of other current assets is as follows:

	March 30, 2019			December 29, 2018			
		(in thousands)					
Prepaid income tax	\$	54,153	\$	47,157			
Investments		907		885			
Restricted cash		491		465			
Other		500		300			
Other current assets	\$	56,051	\$	48,807			

The composition of other assets is as follows:

	Ma	rch 30, 2019	Dec	cember 29, 2018		
	(in thousands)					
Venture capital investments	\$	100,666	\$	88,591		
Life insurance policies		34,939		32,340		
Restricted cash		1,499		1,411		
Other		20,901		21,417		
Other assets	\$	158,005	\$	143,759		

The composition of other current liabilities is as follows:

	March 30, 2019	D	ecember 29, 2018
	 (in the	ousands)	•
Current portion of right-of-use liabilities-operating leases	\$ 18,912	\$	_
Accrued income taxes	25,725		24,120
Customer contract deposits	32,380		38,245
Other	14,455		8,915
Other current liabilities	\$ 91,472	\$	71,280

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

	 March 30, 2019		December 29, 2018
	(in the	usan	ds)
U.S. Transition Tax	\$ 52,066	\$	52,064
Long-term pension liability	24,589		24,671
Accrued executive supplemental life insurance retirement plan	36,522		36,086
Long-term deferred revenue	28,819		34,420
Other	31,566		31,880
Other long-term liabilities	\$ 173,562	\$	179,121

6. VENTURE CAPITAL INVESTMENTS

The Company invests in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. The Company's ownership interest in these funds ranges from 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.

The Company's total commitment to the venture capital funds as of March 30, 2019 was \$124.4 million, of which the Company funded \$71.4 million through that date. The Company received dividends totaling \$0.8 million and \$7.1 million for the three months ended March 30, 2019 and March 31, 2018, respectively. The Company recognized gains of \$10.6 million and \$6.5 million related to the venture capital investments for the three months ended March 30, 2019 and March 31, 2018, respectively. Gains and losses are recorded in Other income, net in the accompanying unaudited condensed 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 three months ended March 30, 2019 and March 31, 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:

				March 3	30, 20	19			
	L	evel 1	Leve	el 2		Level 3		Total	
				(in tho	usands	s)			
Cash equivalents	\$	_	\$	2,521	\$	_	\$	2,521	
Other assets:									
Life insurance policies		_		27,335		_		27,335	
Total assets measured at fair value	\$		\$	29,856	\$		\$	29,856	
Other current liabilities measured at fair value:			•				•		
Contingent consideration	\$	_	\$	_	\$	2,497	\$	2,497	
		December 29, 2018							
	L	evel 1	Leve	el 2		Level 3		Total	
	L	evel 1	Leve	el 2 (in tho	usands			Total	
Cash equivalents	\$ \$			(in tho	usands \$		\$	Total 45,982	
Cash equivalents Other assets:				(in tho			\$		
-			\$	(in tho			\$		
Other assets:			\$	(in tho 45,982			\$	45,982	
Other assets: Life insurance policies Total assets measured at fair value	\$		\$	(in tho 45,982 24,541	\$		\$ \$	45,982 24,541	
Other assets: Life insurance policies Total assets measured at fair value Other current liabilities:	\$		\$	(in tho 45,982 24,541	\$	——————————————————————————————————————	\$	45,982 24,541 70,523	
Other assets: Life insurance policies Total assets measured at fair value Other current liabilities: Contingent consideration	\$		\$	(in tho 45,982 24,541 70,523	\$		\$ \$ \$	45,982 24,541 70,523 3,033	
Other assets: Life insurance policies Total assets measured at fair value Other current liabilities:	\$		\$	(in tho 45,982 24,541	\$	——————————————————————————————————————	\$	45,982 24,541 70,523	

Contingent Consideration

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

		Three Months Ended						
	March	March 30, 2019						
		(in thou	ısands)					
Beginning balance	\$	3,033	\$	298				
Additions		2,000		2,746				
Payments		(2,610)		_				
Foreign currency translation		74		9				
Ending balance	\$	2,497	\$	3,053				

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 March 30, 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 of March 30, 2019 and December 29, 2018 was \$520.0 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:

				ustments to Goodwill	
	De	cember 29, 2018	Fore	eign Exchange	March 30, 2019
			(iı	1 thousands)	
RMS	\$	56,968	\$	278	\$ 57,246
DSA		1,051,470		(2,341)	1,049,129
Manufacturing		138,695		778	139,473
Goodwill	\$	1,247,133	\$	(1,285)	\$ 1,245,848

Intangible Assets, Net

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

		Ma	arch 30, 2019				Dec	ember 29, 2018	
	Gross		accumulated amortization	Net		Gross		Accumulated Amortization	Net
				(in tho	usaı	nds)			
Backlog	\$ 20,900	\$	(19,238)	\$ 1,662	\$	20,900	\$	(18,691)	\$ 2,209
Technology	102,038		(44,682)	57,356		101,506		(41,870)	59,636
Trademarks and trade names	8,411		(4,692)	3,719		8,331		(4,640)	3,691
Other	17,471		(10,557)	6,914		17,448		(10,041)	7,407
Other intangible assets	148,820		(79,169)	69,651		148,185		(75,242)	72,943
Client relationships	797,014		(271,906)	525,108		791,725		(253,780)	537,945
Intangible assets	\$ 945,834	\$	(351,075)	\$ 594,759	\$	939,910	\$	(329,022)	\$ 610,888

The decrease in intangible assets, net during the three months ended March 30, 2019 related to the normal amortization over the useful lives.

9. LONG-TERM DEBT AND FINANCE LEASE OBLIGATIONS

Long-Term Debt

Long-term debt, net consists of the following:

	M	arch 30, 2019	Decembe	er 29, 2018			
	_	(in thousands)					
Term loans	\$	721,875	\$	731,250			
Revolving facility		335,976		397,452			
Senior Notes		500,000		500,000			
Other debt		101		26,286			
Finance leases		28,939		29,240			
Total debt and finance leases		1,586,891		1,684,228			
Less:							
Current portion of long-term debt		28,225		28,228			
Current portion of finance leases		2,430		3,188			
Current portion of long-term debt and finance leases		30,655		31,416			
Long-term debt and finance leases		1,556,236		1,652,812			
Debt discount and debt issuance costs		(15,403)		(16,214)			
Long-term debt, net and finance leases	\$	1,540,833	\$	1,636,598			

As of March 30, 2019 and December 29, 2018, the weighted average interest rate on the Company's debt was 3.77% 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 (\$2.3B Credit Facility) which extends the maturity date for the credit facility. The \$2.3B Credit Facility provides 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.

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. 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 \$2.3B 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 \$2.3B 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 4.50 to 1.0 with step downs to 3.50 to 1.0 by the last day of the first quarter of 2020. As of March 30, 2019, the Company was compliant with all covenants.

The obligations of the Company under the \$2.3B Credit Facility are collateralized by substantially all of the assets of the Company.

During the three months ended March 30, 2019, the Company had a \$343.3 million U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under the Company's \$2.3B Credit Facility, which resulted in foreign currency losses recognized in Other income, net. The Company entered into foreign exchange forward contracts to limit its foreign currency exposures related to these borrowings. As of March 30, 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.

The acquisition of Citoxlab on April 29, 2019 for €448 million in cash (or approximately \$500 million) was funded through a combination of cash on hand and proceeds from the \$2.3B Credit Facility under the multi-currency revolving facility.

Senior Notes Offering

On April 3, 2018, the Company entered into an indenture (Indenture) with MUFG Union Bank, N.A., (Trustee) in connection with the offering of \$500.0 million in aggregate principal amount of the Company's 5.5% Senior Notes (Senior Notes), due in 2026, in an unregistered offering. Under the terms of the Indenture, interest on the Senior Notes is payable semi-annually on April 1 and October 1, beginning on October 1, 2018. The 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 \$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 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 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 Senior Notes. On or after April 1, 2021, the Company may on any one or more occasions redeem all or a part of the 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.

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.

Net proceeds from the Senior Notes of \$493.8 million were used to partially repay the outstanding revolving credit facility on April 3, 2018.

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 both March 30, 2019 and December 29, 2018, the Company had \$6.5 million in outstanding letters of credit.

Finance Lease Obligations

The Company's finance lease obligations amounted to \$28.9 million and \$29.2 million as of March 30, 2019 and December 29, 2018, respectively. See Note 16. "Leases" for further discussion.

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			
	Ma	rch 30, 2019	Mar	ch 31, 2018	
		(in tho	usands)		
Numerator:					
Income from continuing operations, net of income taxes	\$	55,688	\$	53,268	
Loss from discontinued operations, net of income taxes		_		(23)	
Less: Net income attributable to noncontrolling interests		555		614	
Net income attributable to common shareholders	\$	55,133	\$	52,631	
Denominator:					
Weighted-average shares outstanding - Basic		48,458		47,785	
Effect of dilutive securities:					
Stock options, restricted stock units, performance share units and restricted stock		1,004		1,043	
Weighted-average shares outstanding - Diluted		49,462		48,828	

Options to purchase 0.4 million and 0.5 million shares for the three months ended March 30, 2019 and March 31, 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. Basic weighted-average shares outstanding for the three months ended March 30, 2019 and March 31, 2018 excluded the impact of 1.0 million and 1.1 million shares, respectively, of non-vested restricted stock and RSUs.

Treasury Shares

During the three months ended March 30, 2019 and March 31, 2018, the Company did not repurchase any shares under its authorized stock repurchase program. As of March 30, 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 three months ended March 30, 2019 and March 31, 2018, the Company acquired 0.1 million shares for \$17.8 million and 0.1 million shares for \$13.5 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 nslation Adjustment and Other	 ension and Other Post- etirement Benefit Plans	Total
		(in thousands)	
December 29, 2018	\$ (102,199)	\$ (70,504)	\$ (172,703)
Other comprehensive income before reclassifications	9,427	_	9,427
Amounts reclassified from accumulated other comprehensive loss		374	374
Net current period other comprehensive income	9,427	 374	9,801
Income tax (benefit) expense	(182)	80	(102)
March 30, 2019	\$ (92,590)	\$ (70,210)	\$ (162,800)

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 months ended March 30, 2019 and March 31, 2018.

Redeemable Noncontrolling Interest

The Company's redeemable noncontrolling interest in Vital River is 13%.

The Company has the right to purchase, and the noncontrolling interest holders have the right to sell, the remaining 13% equity interest at a contractually defined redemption value, subject to a redemption floor (embedded derivative). These rights are currently exercisable. 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 (\$20.5 million as of March 30, 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 13% 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 13% equity interest.

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

		Three Mo	nths End	led			
	Marc	March 30, 2019 March 31, 201					
		(in the	usands)				
Beginning balance	\$	18,525	\$	16,609			
Total gains or losses (realized/unrealized):							
Net income attributable to noncontrolling interest		85		150			
Adjustment to redemption value		1,451		_			
Foreign currency translation		458		564			
Ending balance	\$	20,519	\$	17,323			

11. INCOME TAXES

The Company's effective tax rates for the three months ended March 30, 2019 and March 31, 2018 were 16.0% and 15.5%, respectively. The slight increase in the 2019 period compared to the 2018 period was primarily attributable to tax benefits from favorable tax authority rulings in the 2018 period, partially offset by increased tax benefits from stock-based compensation deductions in the 2019 period.

For the three months ended March 30, 2019, the Company's unrecognized tax benefits increased by \$0.7 million to \$19.5 million, primarily due to an additional quarter of Canadian Scientific Research and Experimental Development Credit reserves as well as unfavorable foreign exchange. For the three months ended March 30, 2019, the unrecognized income tax benefits that would impact the effective tax rate increased by \$0.5 million to \$18.1 million, for the same reasons listed above. The accrued interest on unrecognized tax benefits was \$2.9 million at March 30, 2019. The Company estimates that it is reasonably possible that the unrecognized tax benefits will decrease by up to \$8.2 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 2015.

The Company and certain of its subsidiaries have ongoing tax controversies with various tax authorities in the U.S., Canada, Japan, India 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				
	March 30, 2019		March 31, 2018		
	(in thousands)				
Service cost	\$ 630	\$	846		
Interest cost	2,875		2,833		
Expected return on plan assets	(3,235)		(3,877)		
Amortization of prior service cost (credit)	91		(181)		
Amortization of net loss	489		645		
Net periodic cost	\$ 850	\$	266		

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 months ended March 30, 2019 and March 31, 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			
	Ma	rch 30, 2019	M	larch 31, 2018	
		(in thousands)			
Cost of revenue	\$	1,949	\$	1,413	
Selling, general and administrative		10,950		9,128	
Stock-based compensation, before income taxes		12,899		10,541	
Provision for income taxes		(2,047)		(2,116)	
Stock-based compensation, net of income taxes	\$	10,852	\$	8,425	

During the three months ended March 30, 2019, the Company granted stock options representing 0.4 million common shares with a per-share weighted-average grant date fair value of \$34.00, RSUs representing 0.2 million common shares with a per-share weighted-average grant date fair value of \$144.35, 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 three months ended March 30, 2019 is 0.3 million.

14. FOREIGN CURRENCY CONTRACTS

The Company entered into foreign exchange forward contracts during the three months ended March 30, 2019 and 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 \$2.3B 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:

	Notio	nal 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 March 30, 2019.

The following table summarizes the effect of the foreign exchange forward contract on the Company's unaudited condensed consolidated statements of income:

		Three Months Ended							
	Ma	March 30, 2019				March 31, 20	18		
Location of hedge gain (loss)	Financial statement amount	Financial statement caption Amount of gain amount (loss)		Fina	ncial statement caption amount		t of gain oss)		
		(in thousands)							
Interest expense	\$	(9,987)	\$	8,917	\$	(11,191)	\$	_	

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 Company's existing lease obligations for certain facilities continue through various dates, the latest being 2028.

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

	Three Months Ended												
		N	March 3	30, 2019			March 31, 2018						
	Severance at		Impair	Asset ments and er Costs		Total		everance and ansition Costs		t Impairments Other Costs	1	Γotal	
						(in tho	usan	ds)					
Cost of services provided and products sold (excluding amortization of													
intangible assets)	\$ 20	57	\$	1,149	\$	1,416	\$	563	\$	22	\$	585	
Selling, general and administrative	13	33				133		53		_		53	
Total	\$ 40	00	\$	1,149	\$	1,549	\$	616	\$	22	\$	638	

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

	Three Months Ended			
_	March 30, 2019 March			March 31, 2018
_	(in thousands))
		301		_
\$	\$	13	\$	(232)
		1,235		870
\$	\$	1,549	\$	638

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 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 months ended March 31, 2018 related to this initiative within the unaudited condensed consolidated statements of income. The Company did not incur any restructuring costs in the three months ended March 30, 2019.

	Three Months Ended					
			Marc	h 31, 2018		
	Severance and Asset Transition Impairments and Costs Other Costs		Total			
Cost of services provided and products sold (excluding amortization of intangible assets)	\$	353	\$	515	\$	868
Selling, general and administrative		170		_		170
Total	\$	523	\$	515	\$	1,038

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. Substantially all severance and transition costs have been paid as of March 30, 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				
	 March 30, 2019	M	larch 31, 2018		
	(in thousands)				
Beginning balance	\$ 2,921	\$	6,856		
Expense	1,246		1,139		
Payments / utilization	(2,034)		(1,149)		
Foreign currency adjustments	(20)		207		
Ending balance	\$ 2,113	\$	7,053		

As of March 30, 2019 and March 31, 2018, 1.8 million and \$3.1 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 \$0.3 million and \$3.9 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 three months ended March 30, 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 E1 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
Right-of-use asset-operating leases		_		134,172 (3)		134,172
Other assets		143,759		(4,989) (4)		138,770
Other current liabilities		71,280		15,935 (5)		87,215
Right-of-use liability-operating leases		_		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 contact meets the definition of a lease. A lease is a 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 from 1 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 condensed consolidated financial statements as follows:

	Ma	rch 30, 2019
	(in	thousands)
Operating leases		
Right-of-use asset-operating leases	\$	130,704
Other current liabilities	\$	18,912
Right-of-use liability-operating leases		109,054
Total operating lease liabilities	\$	127,966
Finance leases		
Property, plant and equipment, net	\$	30,774
Current portion of long-term debt and finance leases	\$	2,430
Long-term debt, net and finance leases		26,509
Total finance lease liabilities	\$	28,939
	·	·

The components of operating and finance lease costs for the three months ended March 30, 2019 were as follows:

	Marc	h 30, 2019
	(in the	nousands)
Operating lease costs	\$	7,706
Finance lease costs:		
Amortization of right-of-use assets		921
Interest on lease liabilities		296
Short-term lease costs		192
Variable lease costs		335
Sublease income		(46)
Total lease costs	\$	9,404

Other information related to leases was as follows:

Supplemental cash flow information

		March 30, 2019
	_	(in thousands)
Cash flows included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$	6,533
Operating cash flows from finance leases		352
Finance cash flows from finance leases		838
Non-cash leases activity:		
Right-of-use lease assets obtained in exchange for new operating lease liabilities	\$	1,688
Right-of-use lease assets obtained in exchange for new finance lease liabilities		_

Lease term and discount rate

	March 30, 2019
Weighted-average remaining lease term (in years)	
Operating lease	7.71
Finance lease	14.19
Weighted-average discount rate	
Operating lease	4.51
Finance lease	4.77

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 March 30, 2019, minimum future lease payments under non-cancellable leases for each of the following five years and a total thereafter were as follows:

	Оре	erating Leases	Finance Leases		
		(in thousands)			
2019 (excluding the three months ended March 30, 2019)	\$	18,658	\$	2,768	
2020		22,915		3,797	
2021		20,906		2,916	
2022		17,595		3,034	
2023		14,304		2,268	
Thereafter		58,784		24,945	
Total minimum future lease payments		153,162		39,728	
Less: Imputed interest		25,196		10,789	
Total lease liabilities	\$	127,966	\$	28,939	

Total minimum future lease payments (predominantly operating leases) of approximately \$27.9 million for leases that have not commenced as of March 30, 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 2021 with lease terms of 3 to 11 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:

	Opera	ating 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 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 will further strengthen our position as a leading, global, early-stage CRO by expanding our scientific portfolio and geographic footprint, which will enhance our ability to partner with clients across the drug discovery and development continuum. The preliminary purchase price for Citoxlab was €448 million in cash (or approximately \$500 million), subject to customary closing adjustments. The acquisition was funded through a combination of cash on hand and proceeds from our \$2.3B Credit Facility under the multi-currency revolving facility. This business will be 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 \$2.3 billion credit facility (\$2.3B Credit Facility) as well as the issuance of the Company's Senior Notes. 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 March 30, 2019 was \$604.6 million compared to \$494.0 million in the corresponding period in 2018. This increase of \$110.6 million, or 22.4%, was primarily due to the recent acquisition of MPI Research 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 \$13.9 million, or 2.8%, when compared to the corresponding period in 2018.

In the three months ended March 30, 2019, our operating income and operating income margin were \$69.8 million and 11.5%, respectively, compared with \$67.8 million and 13.7%, respectively, in the corresponding period of 2018. The increase in operating income was primarily due to our recent acquisitions. 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 (primarily in the RMS and Biologics business). Offsetting the decreases in operating income margin were the realization of improved volume and pricing across our products and services portfolio.

Net income attributable to common shareholders increased to \$55.1 million in the three months ended March 30, 2019, from \$52.6 million in the corresponding period of 2018. The increase in Net income attributable to common shareholders was primarily due to the increase in operating income discussed above.

During the first three months of 2019, our cash flows from operations was \$14.9 million compared with \$60.1 million for the same period in 2018. The decrease was primarily driven by unfavorable changes in operating assets and liabilities, specifically related to net contract balances from contracts with customers (collectively trade receivables, net; deferred revenue; and customer contract deposits) and accrued compensation compared to the prior year period.

On March 26, 2018, we amended and restated our \$1.65 billion credit facility creating a \$2.3B Credit Facility. The \$2.3B Credit Facility provides 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. 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 issued \$500.0 million of 5.5% Senior Notes (Senior Notes) due 2026 in an unregistered offering. Interest on the Senior Notes is payable semi-annually on April 1 and October 1, beginning on October 1, 2018.

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.

We continue to move aggressively to further secure our information systems, which includes adding enhanced security features and monitoring procedures to further protect our client data. While we have taken substantial steps to minimize unauthorized access into our information systems, until our ongoing remediation process is complete, we will be unable to determine that this incident has been entirely remediated. We have not observed any further indications of continued unauthorized activity in our information systems.

Results of Operations

Three Months Ended March 30, 2019 Compared to the Three Months Ended March 31, 2018

Revenue and Operating Income

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

		Three Months Ended							
	Marc	March 30, 2019		March 31, 2018		\$ change	% change		
	·	(in millions, except percentages)							
Service revenue	\$	451.0	\$	345.5	\$	105.5	30.5%		
Product revenue		153.6		148.5		5.1	3.4%		
Total revenue	\$	604.6	\$	494.0	\$	110.6	22.4%		

		Three Months Ended										
	Mar	ch 30, 2019	h 30, 2019 March 31, 2018		5	\$ change	% change	Impact of FX				
		(in millions, except percentages)										
RMS	\$	137.2	\$	134.0	\$	3.2	2.4%	(3.0)%				
DSA		354.2		260.0		94.2	36.2%	(2.2)%				
Manufacturing		113.2		100.0		13.2	13.2%	(4.3)%				
Total revenue	\$	604.6	\$	494.0	\$	110.6	22.4%	(2.8)%				

The following table presents operating income by reportable segment:

		Three Months Ended							
	Mar	March 30, 2019		March 31, 2018	\$ change		% change		
		(in millions, except percentages)							
RMS	\$	37.8	\$	38.5	\$	(0.7)	(1.8)%		
DSA		46.7		40.9		5.8	14.2 %		
Manufacturing		31.5		28.5		3.0	10.5 %		
Unallocated corporate		(46.2)		(40.1)		(6.1)	15.2 %		
Total operating income	\$	69.8	\$	67.8	\$	2.0	2.9 %		
Operating income % of revenue		11.5%		13.7%			(2.2)%		

The following presents the results from operating income by each of our reportable segments:

RMS

	Three Months Ended				_			
	March 30, 2019			March 31, 2018		\$ change	% change	Impact of FX
				(in million	ns, e	xcept percentages)		
Revenue	\$	137.2	\$	134.0	\$	3.2	2.4 %	(3.0)%
Cost of revenue (excluding amortization of intangible assets))	82.8		80.2		2.6	3.2 %	
Selling, general and administrative		16.2		14.8		1.4	9.5 %	
Amortization of intangible assets		0.4		0.5		(0.1)	(20.0)%	
Operating income	\$	37.8	\$	38.5	\$	(0.7)	(1.8)%	
Operating income % of revenue		27.6%		28.8%			(1.2)%	

RMS revenue increased \$3.2 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 \$0.7 million compared to the corresponding period in 2018. RMS operating income as a percentage of revenue for the three months ended March 30, 2019 was 27.6%, a decrease of 1.2% from 28.8% for the corresponding period in 2018. Operating income and operating income as a percentage of revenue decreased due primarily to continued investments to support future growth, including increased investments in personnel (staffing levels and hourly wage increases), and facility expansions (primarily in China), lower operating income margins on the aforementioned large government contract, and lower sales volume for research models outside of China.

DSA

		Three Months Ended							
	Mar	March 30, 2019		March 31, 2018		\$ change	% change	Impact of FX	
Revenue	\$	354.2	\$	260.0	\$	94.2	36.2 %	(2.2)%	
Cost of revenue (excluding amortization of intangible assets)		252.2		183.5		68.7	37.4 %		
Selling, general and							2,11,70		
administrative		38.6		28.1		10.5	37.4 %		
Amortization of intangible as	ssets	16.7		7.5		9.2	122.7 %		
Operating income	\$	46.7	\$	40.9	\$	5.8	14.2 %		
Operating income % of revenue		13.2%		15.7%			(2.5)%		

DSA revenue increased \$94.2 million due primarily to the recent acquisition of MPI Research which contributed \$70.7 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 favorable pricing of services. These increases were partially offset by the effect of changes in foreign currency exchange rates.

DSA operating income increased \$5.8 million during the three months ended March 30, 2019 compared to the corresponding period in 2018. DSA operating income as a percentage of revenue for the three months ended March 30, 2019 was 13.2%, a decrease of 2.5% from 15.7% for the corresponding period in 2018. The increase to operating income was primarily attributable to contributions from our recent acquisition of 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 as substantially all of our acquisitions in fiscal year 2018 are included within the DSA reportable segment. These increased costs collectively decreased operating income as a percentage of revenue in the three months ended March 30, 2019 compared to the same period in 2018.

Manufacturing

		Three Months Ended						
	Ma	arch 30, 2019		March 31, 2018		\$ change	% change	Impact of FX
				(in million	s, ex	cept percentages)		
Revenue	\$	113.2	\$	100.0	\$	13.2	13.2 %	(4.3)%
Cost of revenue (excluding amortization of intangible assets)		57.8		48.8		9.0	18.4 %	
Selling, general and administrative		21.6		20.4		1.2	5.9 %	
Amortization of intangible asse	ets	2.3		2.3		_	 %	
Operating income	\$	31.5	\$	28.5	\$	3.0	10.5 %	
Operating income % of revenue		27.8%		28.5%			(0.7)%	

Manufacturing revenue increased \$13.2 million due primarily to higher demand for bioburden products and services, endotoxin products, and species identification services 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 \$3.0 million during the three months ended March 30, 2019 compared to the corresponding period in 2018. Manufacturing operating income as a percentage of revenue for the three months ended March 30, 2019 was 27.8%, a decrease of 0.7% from 28.5% 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 personnel (staffing levels and hourly wage increases), and increased investments related to facility expansions (primarily in Biologics). These increased costs collectively decreased operating income as a percentage of revenue in the three months ended March 30, 2019 compared to the same period in 2018.

		Three Mo	nths l	Ended	-				
	Marc	March 30, 2019 March 31, 2018 \$ change				% change			
				percenta	iges)	_			
Unallocated corporate	\$	46.2	\$	40.1	\$	6.1	15.2%		

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 \$6.1 million is consistent with the allocated selling, general, and administrative expense increases discussed above and are primarily related to an increase in compensation, benefits, and other employee-related expenses and an increase in costs associated with the evaluation and integration of our recent acquisitions to support the growth of the Company. Costs as a percentage of revenue for the three months ended March 30, 2019 was 7.6%, a decrease of 0.5% from 8.1% for the corresponding period in 2018.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits remained consistent at \$0.2 million and \$0.3 million for the three months ended March 30, 2019 and the corresponding period in 2018, respectively.

Interest Expense

Interest expense for the three months ended March 30, 2019 was \$10.0 million, a decrease of \$1.2 million, or 10.8%, compared to \$11.2 million for the corresponding period in 2018. The decrease was due primarily to a foreign currency gain recognized in connection with an interest rate forward contract; partially offset by an increase in interest expense due to the higher borrowings associated with our \$2.3B Credit Facility and our Senior Notes.

Other Income, Net

Other income, net, was \$6.3 million for the three months ended March 30, 2019, an increase of \$0.2 million, or 3.0%, compared to \$6.1 million for the corresponding period in 2018. The increase was due to higher net gains on our venture capital investments and life insurance policy investments compared to corresponding period in 2018; partially offset by a foreign currency loss recognized in connection with a U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency.

Income Taxes

Income tax expense for the three months ended March 30, 2019 was \$10.6 million, an increase of \$0.8 million compared to \$9.8 million for the corresponding period in 2018. Our effective tax rate was 16.0% for the three months ended March 30, 2019, compared to 15.5% for the corresponding period in 2018. The slight increase in the 2019 period compared to the 2018 period was primarily attributable to tax benefits from favorable tax authority rulings in the 2018 period, partially offset by increased tax benefits from stock-based compensation deductions in the 2019 period.

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:

	Mar	ch 30, 2019	Dece	ember 29, 2018			
	(in millions)						
Cash and cash equivalents:							
Held in U.S. entities	\$	5.0	\$	67.3			
Held in non-U.S. entities		121.3		128.1			
Total cash and cash equivalents		126.3		195.4			
Investments:							
Held in non-U.S. entities		0.9		0.9			
Total cash, cash equivalents and investments	\$	127.2	\$	196.3			

Borrowings

On March 26, 2018, we amended and restated our \$1.65 billion credit facility, creating our \$2.3B Credit Facility which extended the maturity date for the credit facility. The \$2.3B Credit Facility provides 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 April 3, 2018, we entered into an indenture (Indenture) with MUFG Union Bank, N.A., in connection with the offering of \$500.0 million in aggregate principal amount of the Senior Notes due in 2026 in an unregistered offering. Under the terms of the Indenture, interest on the Senior Notes is payable semi-annually on April 1 and October 1, beginning on October 1, 2018.

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

	Ma	March 30, 2019		ecember 29, 2018		
		(in millions)				
Term loans	\$	721.9	\$	731.3		
Revolving facility		336.0		397.5		
Senior Notes		500.0		500.0		
Total	\$	1,557.9	\$	1,628.8		

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. The interest rates applicable to the term loan and revolving facility under the \$2.3B 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.

The acquisition of Citoxlab on April 29, 2019 for €448 million in cash (or approximately \$500 million) was funded through a combination of cash on hand and proceeds from our \$2.3B Credit Facility under the multi-currency revolving facility.

Repurchases of Common Stock

During the three months ended March 30, 2019, we did not repurchase any shares under our authorized stock repurchase program. As of March 30, 2019, we had \$129.1 million remaining on the authorized \$1.3 billion stock repurchase program. Our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements. During the three months ended March 30, 2019, we acquired 0.1 million shares for \$17.8 million through such netting.

Cash Flows

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

	Three Months Ended						
	March 30, 2019 N			March 31, 2018			
	(in millions)						
Income from continuing operations	\$	55.7	\$	53.3			
Adjustments to reconcile net income from continuing operations to net cash provided by operating activities		55.1		40.5			
Changes in assets and liabilities		(95.9)		(33.7)			
Net cash provided by operating activities	\$	14.9	\$	60.1			

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, and impairment charges, 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 three months ended March 30, 2019, compared to the three months ended March 31, 2018, the decrease in cash provided by operating activities was primarily driven by unfavorable changes in operating assets and liabilities, specifically related to net contract balances from contracts with customers (collectively trade receivables, net; deferred revenue; and customer contract deposits) resulting from the integration of the information systems of MPI Research (having since been completed), which the Company acquired in 2018, and accrued compensation compared to the prior year period.

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

		Three Months Ended					
	March 30, 2019 March 31,			rch 31, 2018			
	(in millions)						
Acquisitions of businesses and assets, net of cash acquired	\$	(1.0)	\$	(20.2)			
Capital expenditures		(16.7)		(27.7)			
Investments, net		(2.4)		23.3			
Other, net		(0.7)		(0.1)			
Net cash used in investing activities	\$	(20.8)	\$	(24.7)			

For the three months ended March 30, 2019, the primary use of cash used in investing activities related to our capital expenditures to support the growth of the business. For the three months ended March 31, 2018, the primary use of cash used in investing activities related to our capital expenditures to support the growth of the business, and our acquisition of KWS BioTest; 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 used in financing activities:

		Three Months Ended						
		March 30, 2019		March 31, 2018				
		(in mi)					
Proceeds from long-term debt and revolving credit facility	\$	290.1	\$	1,080.3				
Proceeds from exercises of stock options		21.8		20.0				
Payments on long-term debt, revolving credit facility and finance lease obligation	ıs	(360.7)		(1,096.8)				
Payments on debt financing costs		_		(4.9)				
Purchase of treasury stock		(17.8)		(13.5)				
Other, net		(2.5)		_				
Net cash used in financing activities	\$	(69.1)	\$	(14.9)				

For the three months ended March 30, 2019, net cash used in financing activities reflected the net payments of \$70.6 million on our \$2.3B Credit Facility and finance lease obligations; and treasury stock purchases of \$17.8 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements; partially offset by proceeds from exercises of employee stock options of \$21.8 million.

For the three months ended March 31, 2018, net cash used in financing activities reflected the refinancing of our previous \$1.65 Billion Credit Facility to the \$2.3 Billion Credit Facility of which the proceeds from the new credit facility were used to repay the previous facility of approximately \$1.1 billion; treasury stock purchases of \$13.5 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements; partially offset by proceeds from exercises of employee stock options of \$20.0 million.

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 March 30, 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.

Citoxlab

On February 13, 2019, we announced that we signed a binding offer to acquire Citoxlab. On April 29, 2019, the Company acquired Citoxlab for €448 million in cash (or approximately \$500 million), subject to certain post-closing adjustments. As

of March 30, 2019, if the acquisition was terminated under specified circumstances, we may have been required to pay a termination fee of €18.2 million. Refer to Note 2 "Business Acquisitions" in our notes to the unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q for additional information.

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 March 30, 2019 was \$124.4 million, of which we funded \$71.4 million through March 30, 2019. Refer to Note 6, "Venture Capital 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 March 30, 2019 were \$6.5 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 three months ended March 30, 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 March 30, 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 \$10.6 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 three months ended March 30, 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, and Chinese Yuan Renminbi.

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 the three months ended March 30,

2019, our revenue would have increased by \$19.4 million and our operating income would have increased by \$0.5 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 three months ended March 30, 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 \$2.3B Credit Facility. We did not have any foreign currency contracts open related to intercompany loans as of March 30, 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 March 30, 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 the three months ended March 30, 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 March 30, 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 future 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 March 30, 2019.

	Total Number of Shares Purchased		Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs		pproximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
						(in thousands)
December 30, 2018 to January 26, 2019	_	\$	_	_	\$	129,105
January 27, 2019 to February 23, 2019	95,497		123.60	_		129,105
February 24, 2019 to March 30, 2019	41,443		143.76	_		129,105
Total	136,940					

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 March 30, 2019, we did not repurchase any shares of common stock under our stock repurchase program or in open market trading. As of March 30, 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
2.1	Share Sale and Purchase Agreement dated April 27, 2019
31.1+	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer
31.2+	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1+	Certification of the Principal Executive Officer and the Principal Financial Officer required by Rule 13a-14(a) of 15d-14(a) of the Exchange Act
101.INS	eXtensible Business Reporting Language (XBRL) Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document

⁺ Furnished herein.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

May 7, 2019 /s/ JAMES C. FOSTER

James C. Foster

Chairman, President and Chief Executive Officer

May 7, 2019 /s/ DAVID R. SMITH

David R. Smith

 $Corporate\ Executive\ Vice\ President\ and\ Chief\ Financial\ Officer$

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 March 30, 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.

May 7, 2019

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 March 30, 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.

May 7, 2019

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

In connection with the quarterly report on Form 10-Q for the quarter ended March 30, 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

James C. Foster

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

May 7, 2019

/s/ David R. Smith

David R. Smith

Corporate Executive Vice President and Chief Financial Officer

Charles River Laboratories International, Inc.

May 7, 2019

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.