UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

FOR THE QUARTERLY PERIOD ENDED June 26, 2021

OR

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

FOR THE TRANSITION PERIOD FROM TO

Commission File No. 001-15943

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

(Exact Name of Registrant as Specified in Its Charter)

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

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

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

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

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

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

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

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

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

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

As of July 23, 2021, there were 50,396,622 shares of the Registrant’s common stock outstanding.

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTERLY PERIOD ENDED JUNE 26, 2021

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Special Note on Factors Affecting Future Results

This Quarterly Report on Form 10-Q contains forward-looking statements regarding future events and the future results of Charles River Laboratories International, Inc. that are based on our current expectations, estimates, forecasts and projections about the industries in which we operate and the beliefs and assumptions of our management. Words such as “expect,” “anticipate,” “target,” “goal,” “project,” “intend,” “plan,” “believe,” “seek,” “estimate,” “will,” “likely,” “may,” “designed,” “would,” “future,” “can,” “could,” and other similar expressions which are predictions of, indicate future events and trends or which do not relate to historical matters, are intended to identify such forward-looking statements. These statements are based on our current expectations and beliefs and involve a number of risks, uncertainties and assumptions that are difficult to predict.

For example, we may use forward-looking statements when addressing topics such as: the COVID-19 pandemic, its duration, its impact on our business, results of operations, financial condition, liquidity, use of our borrowings, business practices, operations, suppliers, third party service providers, customers, employees, industry, ability to meet future performance obligations, ability to efficiently implement advisable safety precautions, and internal controls over financial reporting; the COVID-19 pandemic’s impact on demand, the global economy and financial markets; changes and uncertainties in the global economy; 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; the impact of unauthorized access into our information systems, including the timing and effectiveness of any enhanced security and monitoring; 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; our expectations with respect to revenue growth and operating synergies (including the impact of specific actions intended to cause related improvements); the impact of specific actions intended to improve overall operating efficiencies and profitability (and our ability to accommodate future demand with our infrastructure), including gains and losses attributable to businesses we plan to close, consolidate, divest or repurpose; changes in our expectations regarding future stock option, restricted stock, performance share units, and other equity grants to employees and directors; expectations with respect to foreign currency exchange; assessing (or changing our assessment of) our tax positions for financial statement purposes; and our liquidity. In addition, these statements include the impact of economic and market conditions on us and our clients; the effects of our cost saving actions and the steps to optimize returns to shareholders on an effective and timely basis; and our ability to withstand the current market conditions.

Forward-looking statements 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 26, 2020, under the sections entitled “Our Strategy,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and in this Quarterly Report on Form 10-Q, under the sections entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors,” in our press releases, and other financial filings with the Securities and Exchange Commission. We have no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or risks. New information, future events, or risks may cause the forward-looking events we discuss in this report not to occur.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

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

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Service revenue	$ 715,320	$ 550,561	$ 1,341,901	$ 1,097,153
Product revenue	199,287	132,023	397,272	292,490
Total revenue	914,607	682,584	1,739,173	1,389,643
Costs and expenses:				
Cost of services provided (excluding amortization of intangible assets)	476,762	374,938	900,737	747,762
Cost of products sold (excluding amortization of intangible assets)	95,824	75,408	188,137	157,582
Selling, general and administrative	171,501	127,712	327,234	257,613
Amortization of intangible assets	32,970	27,758	61,812	55,637
Operating income	137,550	76,768	261,253	171,049
Other income (expense):				
Interest income	171	276	206	592
Interest expense	(16,190)	(19,352)	(45,909)	(34,419)
Other income (expense), net	5,965	26,260	(21,752)	2,189
Income before income taxes	127,496	83,952	193,798	139,411
Provision for income taxes	37,580	16,284	39,947	20,906
Net income	89,916	67,668	153,851	118,505
Less: Net income attributable to noncontrolling interests	1,468	233	3,873	301
Net income attributable to common shareholders	$ 88,448	$ 67,435	$ 149,978	$ 118,204
Earnings per common share				
Net income attributable to common shareholders:				
Basic	$ 1.76	$ 1.36	$ 2.99	$ 2.39
Diluted	$ 1.72	$ 1.34	$ 2.93	$ 2.36
Weighted-average number of common shares outstanding:				
Basic	50,297	49,553	50,138	49,371
Diluted	51,334	50,246	51,225	50,118

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
Net income	$ 89,916	$ 67,668	$ 153,851	$ 118,505
Other comprehensive income (loss):				
Foreign currency translation adjustment	20,827	6,750	30,656	(38,105)
Amortization of net loss and prior service benefit included in net periodic cost for pension and other post-retirement benefit plans	993	1,365	1,981	2,739
Comprehensive income, before income taxes related to items of other comprehensive income	111,736	75,783	186,488	83,139
Less: Income tax expense (benefit) related to items of other comprehensive income	2,449	1,862	1,424	(177)
Comprehensive income, net of income taxes	109,287	73,921	185,064	83,316
Less: Comprehensive income (loss) related to noncontrolling interests, net of income taxes	1,843	284	4,233	(192)
Comprehensive income attributable to common shareholders, net of income taxes	$ 107,444	$ 73,637	$ 180,831	$ 83,508

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	June 26, 2021	December 26, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 222,969	$ 228,424
Trade receivables and contract assets, net of allowances for doubtful accounts of $7,538 and $6,702, respectively	644,027	617,740
Inventories	194,341	185,695
Prepaid assets	84,610	96,712
Other current assets	121,966	72,560
Total current assets	1,267,913	1,201,131
Property, plant and equipment, net	1,189,120	1,124,358
Operating lease right-of-use assets, net	276,820	178,220
Goodwill	2,540,067	1,809,168
Client relationships, net	964,324	721,505
Other intangible assets, net	92,451	66,094
Deferred tax assets	31,863	37,729
Other assets	357,794	352,626
Total assets	$ 6,720,352	$ 5,490,831
Liabilities, Redeemable Noncontrolling Interests and Equity		
Current liabilities:		
Current portion of long-term debt and finance leases	$ 3,021	$ 50,214
Accounts payable	110,926	122,475
Accrued compensation	223,063	206,823
Deferred revenue	231,329	207,942
Accrued liabilities	228,972	149,820
Other current liabilities	132,299	102,477
Total current liabilities	929,610	839,751
Long-term debt, net and finance leases	2,727,240	1,929,571
Operating lease right-of-use liabilities	239,484	155,595
Deferred tax liabilities	262,562	217,031
Other long-term liabilities	207,377	205,215
Total liabilities	4,366,273	3,347,163
Commitments and contingencies (Notes 2, 9, 11, 12, 16 and 17)		
Redeemable noncontrolling interests	30,799	25,499
Equity:		
Preferred stock, $0.01 par value; 20,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.01 par value; 120,000 shares authorized; 50,538 shares issued and 50,391 shares outstanding as of June 26, 2021, and 49,767 shares issued and outstanding as of December 26, 2020	505	498
Additional paid-in capital	1,690,861	1,627,564
Retained earnings	775,392	625,414
Treasury stock, at cost, 147 and 0 shares, as of June 26, 2021 and December 26, 2020, respectively	(40,297)	—
Accumulated other comprehensive loss	(108,021)	(138,874)
Total equity attributable to common shareholders	2,318,440	2,114,602
Noncontrolling interest	4,840	3,567
Total equity	2,323,280	2,118,169
Total liabilities, redeemable noncontrolling interests and equity	$ 6,720,352	$ 5,490,831

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Six Months Ended	
	June 26, 2021	**June 27, 2020**
Cash flows relating to operating activities		
Net income	$ 153,851	$ 118,505
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	129,613	114,468
Stock-based compensation	30,266	24,103
Debt extinguishment and financing costs	27,980	—
Deferred income taxes	8,891	148
Loss (gain) on venture capital and strategic equity investments, net	6,910	(11,876)
Other, net	(475)	10,487
Changes in assets and liabilities:		
Trade receivables and contract assets, net	(5,224)	(19,371)
Inventories	(7,107)	(1,901)
Accounts payable	(13,383)	(25,619)
Accrued compensation	13,932	8,728
Deferred revenue	502	(3,273)
Customer contract deposits	(2,032)	8,276
Other assets and liabilities, net	13,095	8,221
Net cash provided by operating activities	356,819	230,896
Cash flows relating to investing activities		
Acquisition of businesses and assets, net of cash acquired	(1,000,505)	(382,250)
Capital expenditures	(74,461)	(52,521)
Purchases of investments and contributions to venture capital investments	(23,266)	(12,064)
Proceeds from sale of investments	5,204	5,681
Other, net	839	(1,157)
Net cash used in investing activities	(1,092,189)	(442,311)
Cash flows relating to financing activities		
Proceeds from long-term debt and revolving credit facility	4,999,942	1,411,953
Proceeds from exercises of stock options	35,298	36,608
Payments on long-term debt, revolving credit facility, and finance lease obligations	(4,241,772)	(1,045,235)
Purchase of treasury stock	(40,297)	(23,793)
Payment of debt extinguishment and financing costs	(38,166)	—
Other, net	(2,330)	(4,417)
Net cash provided by financing activities	712,675	375,116
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	17,066	295
Net change in cash, cash equivalents, and restricted cash	(5,629)	163,996
Cash, cash equivalents, and restricted cash, beginning of period	233,119	240,046
Cash, cash equivalents, and restricted cash, end of period	$ 227,490	$ 404,042
Supplemental cash flow information:		
Cash and cash equivalents	$ 222,969	$ 402,020
Restricted cash included in Other current assets	3,118	465
Restricted cash included in Other assets	1,403	1,557
Cash, cash equivalents, and restricted cash, end of period	$ 227,490	$ 404,042

See Notes to Unaudited Condensed Consolidated Financial Statements.

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

	Common Stock					Treasury Stock				
	Shares	Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Shares	Amount	Total Equity Attributable to Common Shareholders	Noncontrolling Interest	Total Equity
December 26, 2020	**49,767**	**$ 498**	**$ 1,627,564**	**$ 625,414**	**$ (138,874)**	**—**	**$ —**	**$ 2,114,602**	**$ 3,567**	**$ 2,118,169**
Net income	—	—	—	61,530	—	—	—	61,530	690	62,220
Other comprehensive income	—	—	—	—	11,857	—	—	11,857	—	11,857
Adjustment of redeemable noncontrolling interest to redemption value	—	—	(835)	—	—	—	—	(835)	—	(835)
Issuance of stock under employee compensation plans	583	6	19,606	—	—	—	—	19,612	—	19,612
Acquisition of treasury shares	—	—	—	—	—	134	(36,028)	(36,028)	—	(36,028)
Stock-based compensation	—	—	13,189	—	—	—	—	13,189	—	13,189
March 27, 2021	**50,350**	**504**	**1,659,524**	**686,944**	**(127,017)**	**134**	**(36,028)**	**2,183,927**	**4,257**	**2,188,184**
Net income	—	—	—	88,448	—	—	—	88,448	583	89,031
Other comprehensive income	—	—	—	—	18,996	—	—	18,996	—	18,996
Adjustment of redeemable noncontrolling interest to redemption value	—	—	(1,506)	—	—	—	—	(1,506)	—	(1,506)
Issuance of stock under employee compensation plans	188	1	15,766	—	—	—	—	15,767	—	15,767
Acquisition of treasury shares		—	—	—	—	13	(4,269)	(4,269)	—	(4,269)
Stock-based compensation	—	—	17,077	—	—	—	—	17,077	—	17,077
June 26, 2021	**50,538**	**$ 505**	**$ 1,690,861**	**$ 775,392**	**$ (108,021)**	**147**	**$ (40,297)**	**$ 2,318,440**	**$ 4,840**	**$ 2,323,280**

	Common Stock					Treasury Stock				
	Shares	Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Shares	Amount	Total Equity Attributable to Common Shareholders	Noncontrolling Interest	Total Equity
December 28, 2019	**48,936**	**$ 489**	**$ 1,531,785**	**$ 280,329**	**$ (178,019)**	**—**	**$ —**	**$ 1,634,584**	**$ 3,244**	**$ 1,637,828**
Net income	—	—	—	50,769	—	—	—	50,769	399	51,168
Other comprehensive loss	—	—	—	—	(40,898)	—	—	(40,898)	—	(40,898)
Purchase of a 10% redeemable noncontrolling interest and recognition of related contingent consideration	—	—	(2,379)	—	—	—	—	(2,379)	—	(2,379)
Issuance of stock under employee compensation plans	694	7	22,616	—	—	—	—	22,623	—	22,623
Acquisition of treasury shares	—	—	—	—	—	144	(23,675)	(23,675)	—	(23,675)
Stock-based compensation	—	—	10,960	—	—	—	—	10,960	—	10,960
March 28, 2020	**49,630**	**496**	**1,562,982**	**331,098**	**(218,917)**	**144**	**(23,675)**	**1,651,984**	**3,643**	**1,655,627**
Net income	—	—	—	67,435	—	—	—	67,435	441	67,876
Other comprehensive income	—	—	—	—	6,203	—	—	6,203	—	6,203
Issuance of stock under employee compensation plans	174	2	13,992	—	—	—	—	13,994	—	13,994
Acquisition of treasury shares	—	—	—	—	—	1	(118)	(118)	—	(118)
Stock-based compensation	—	—	13,143	—	—	—	—	13,143	—	13,143
June 27, 2020	**49,804**	**$ 498**	**$ 1,590,117**	**$ 398,533**	**$ (212,714)**	**145**	**$ (23,793)**	**$ 1,752,641**	**$ 4,084**	**$ 1,756,725**

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 2020. The unaudited condensed consolidated financial statements, in the opinion of management, reflect all normal and recurring adjustments necessary for a fair statement of the Company's financial position and results of operations.

Use of Estimates

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

On March 11, 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. The COVID-19 pandemic is dynamic, and its ultimate scope, duration and effects are uncertain. This pandemic has and continues to result in, and any future epidemic or pandemic crises may potentially result in, direct and indirect adverse effects on the Company's industry and customers, which in turn has (with respect to COVID-19) and may (with respect to future epidemics or crises) impact the Company's business, results of operations and financial condition. Further, the COVID-19 pandemic may also affect the Company's operating and financial results in a manner that is not presently known to the Company or that the Company currently does not expect to present significant risks to its operations or financial results. As of the date of issuance of these unaudited condensed consolidated financial statements, the Company is not aware of any specific event or circumstance that would require the Company to update estimates, judgments or revise the carrying value of any assets or liabilities. These estimates may change, as new events occur and additional information is obtained, and are recognized in the condensed consolidated financial statements as soon as they become known. Actual results could differ from those estimates and any such differences may be material to the Company's condensed consolidated financial statements.

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.

Segment Reporting

The Company reports its results in three reportable segments: Research Models and Services (RMS), Discovery and Safety Assessment (DSA), and Manufacturing Solutions (Manufacturing). The Company's RMS reportable segment includes the Research Models, Research Model Services, and Research Products 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 its clients' research operations (including recruitment, training, staffing, and management services). Research Products supplies controlled, consistent, customized primary cells and blood components derived from normal and mobilized peripheral blood, bone marrow, and cord blood. The Company's 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. The Company's Manufacturing reportable segment includes Microbial Solutions, which provides *in vitro* (non-animal) lot-release testing products, microbial detection products, and species identification services; Biologics Solutions (Biologics), which performs specialized testing of biologics as well as contract development and manufacturing; and Avian Vaccine Services (Avian), which supplies specific-pathogen-free chicken eggs and chickens.

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 2020.

Newly Adopted Accounting Pronouncements
In January 2020, the Financial Accounting Standards Board (FASB) issued ASU 2020-01, "Investments-Equity Securities (Topic 321), Investments-Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)." ASU 2020-01 states any equity security transitioning from the alternative method of accounting under Topic 321 to the equity method, or vice versa, due to an observable transaction will be remeasured immediately before the transition. In addition, the ASU clarifies the accounting for certain non-derivative forward contracts or purchased call options to acquire equity securities stating such instruments will be measured using the fair value principles of Topic 321 before settlement or exercise. This standard became effective for the Company in the three months ended March 27, 2021 and did not have a significant impact on the unaudited condensed consolidated financial statements and related disclosures.

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes." ASU 2019-12 simplifies the accounting for income taxes by removing exceptions within the general principles of Topic 740 regarding the calculation of deferred tax liabilities, the incremental approach for intraperiod tax allocation, and calculating income taxes in an interim period. In addition, the ASU adds clarifications to the accounting for franchise tax (or similar tax), which is partially based on income, evaluating tax basis of goodwill recognized from a business combination, and reflecting the effect of any enacted changes in tax laws or rates in the annual effective tax rate computation in the interim period that includes the enactment date. This standard became effective for the Company in the three months ended March 27, 2021 and did not have a significant impact on the unaudited condensed consolidated financial statements and related disclosures.

Newly Issued Accounting Pronouncements
In March 2020, the FASB issued ASU 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting." The ASU, including subsequently issued updates, offers temporary optional expedients and exceptions for applying U.S. GAAP to modifications to agreements such as loans, debt securities, derivatives, and borrowings which reference LIBOR or another reference rate that will partially discontinue after December 31, 2021 and fully cease by June 30, 2023. The expedients and exceptions provided by the standard do not apply to modifications made and hedging relationships entered into or evaluated after that, except for hedging relationships existing as of the phase-out date that an entity has elected certain optional expedients for and are retained through the end of the hedging relationship. The ASU is effective until the replacement for LIBOR is completed. The interest rate on the Company's revolving credit facility, which was amended and restated in April 2021 (see Note 9. Long-term debt and finance lease obligations) and matures in fiscal year 2026, is linked to LIBOR and alternative interest rates when LIBOR is discontinued. The Company is currently evaluating the impact this new standard will have on the consolidated financial statements and related disclosures, but does not believe there will be a material impact upon adoption.

2. BUSINESS COMBINATIONS

Vigene Biosciences, Inc.
On June 28, 2021 (third fiscal quarter of 2021), the Company acquired Vigene Biosciences, Inc. (Vigene), a gene therapy contract development and manufacturing organization (CDMO), providing viral vector-based gene delivery solutions. The acquisition enables clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner. The preliminary purchase price of Vigene was $292.5 million in cash, subject to customary closing adjustments, with additional contingent payments of up to $57.5 million based on future performance. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business will be reported as part of the Company's Manufacturing reportable segment. Due to the limited time between the acquisition date and the filling of this Quarterly Report on Form 10-Q, it is not practicable for the Company to disclose the preliminary allocation of the purchase price to assets acquired and liabilities assumed. The Company incurred transaction and integration costs in connection with the acquisition of $2.5 million for both the three and six months ended June 26, 2021, which were included in Selling, general and administrative expenses within the unaudited condensed consolidated statements of

income.

Retrogenix Limited
On March 30, 2021 (second fiscal quarter of 2021), the Company acquired Retrogenix Limited (Retrogenix), an early-stage contract research organization providing specialized bioanalytical services utilizing its proprietary cell microarray technology. The acquisition of Retrogenix enhances the Company’s scientific expertise with additional large molecule and cell therapy discovery capabilities. The preliminary purchase price of Retrogenix was $53.1 million, net of $8.5 million in cash, subject to certain post-closing adjustments that may change the purchase price. Included in the preliminary purchase price are additional contingent payments fair valued at $6.9 million, which is the maximum potential payout, and is based on a probability-weighted approach. The acquisition was funded through a combination of available cash and proceeds from the Company’s Credit Facility. This business is reported as part of the Company’s DSA reportable segment.

The preliminary purchase price allocation of $53.1 million, net of $8.5 million of cash acquired was as follows:

	March 30, 2021 (in thousands)
Trade receivables	$ 2,266
Other current assets (excluding cash)	209
Property, plant and equipment	400
Goodwill	33,625
Definite-lived intangible assets	22,126
Other long-term assets	1,385
Current liabilities	(1,569)
Deferred tax liabilities	(4,174)
Other long-term liabilities	(1,205)
Total purchase price allocation	$ 53,063

The preliminary purchase price allocation is subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. Any additional adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition.

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

	Definite-Lived Intangible Assets (in thousands)	Weighted Average Amortization Life (in years)
Client relationships	$ 17,340	13
Developed technology	3,685	3
Other intangible assets	1,101	2
Total definite-lived intangible assets	$ 22,126	11

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

The Company incurred transaction and integration costs in connection with the acquisition of $0.9 million and $1.7 million for the three and six months ended June 26, 2021, 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 the disclosure of actual revenue and operating income (loss) have not been included because Retrogenix’s financial results are not significant when compared to the Company’s consolidated financial results.

Cognate BioServices, Inc.

On March 29, 2021 (second fiscal quarter of 2021), the Company acquired Cognate BioServices, Inc. (Cognate), a cell and gene therapy CDMO offering comprehensive manufacturing solutions for cell therapies, as well as for the production of plasmid DNA and other inputs in the CDMO value chain. The acquisition of Cognate establishes the Company as a scientific partner for cell and gene therapy development, testing, and manufacturing, providing clients with an integrated solution from basic research and discovery through cGMP production. The preliminary purchase price of Cognate was $876.1 million, net of $70.5 million in cash, subject to certain post-closing adjustments and includes $15.7 million of consideration for an approximate 2% ownership interest not acquired, which will be redeemed in 2022 with the ultimate payout tied to performance in 2021. The acquisition was funded through a combination of available cash and proceeds from the Company's Credit Facility and recently issued Senior Notes. This business is reported as part of the Company's Manufacturing reportable segment.

The preliminary purchase price allocation of $876.1 million, net of $70.5 million of cash acquired was as follows:

	March 29, 2021 (in thousands)
Trade receivables	$ 16,564
Inventories	4,231
Other current assets (excluding cash)	9,840
Property, plant and equipment	52,082
Operating lease right-of-use assets, net	34,349
Goodwill	603,379
Definite-lived intangible assets	266,700
Other long-term assets	6,098
Deferred revenue	(18,582)
Current liabilities	(32,517)
Operating lease right-of-use liabilities	(31,383)
Deferred tax liabilities	(34,256)
Other long-term liabilities	(414)
Total purchase price allocation	$ 876,091

The preliminary purchase price allocation is subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. Any additional adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition.

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

	Definite-Lived Intangible Assets (in thousands)	Weighted Average Amortization Life (in years)
Client relationships	$ 252,900	14
Other intangible assets	4,900	2
Backlog	8,900	1
Total definite-lived intangible assets	$ 266,700	13

The goodwill resulting from the transaction is primarily attributable to the potential growth of the Company's Manufacturing business from new customers introduced to Cognate and the assembled workforce of the acquired business. The goodwill attributable to Cognate is not deductible for tax purposes.

The Company incurred transaction and integration costs in connection with the acquisition of $11.2 million and $18.4 million for the three and six months ended June 26, 2021, respectively, which were included in Selling, general and administrative expenses within the unaudited condensed consolidated statements of income.

Beginning on March 29, 2021, Cognate has been included in the operating results of the Company. Cognate revenue and operating income during the three months ended June 26, 2021 was $34.8 million and $1.1 million, respectively.

The following selected unaudited pro forma consolidated results of operations are presented as if the Cognate acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition, which is December 29, 2019, after giving effect to certain adjustments. For the six months ended June 26, 2021, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of $9.5 million, additional interest expense on borrowing of $2.2 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments. For the six months ended June 27, 2020, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of $10.2 million, additional interest expense on borrowing of $4.1 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands) (unaudited)			
Revenue	$ 914,607	$ 706,250	$ 1,767,096	$ 1,434,708
Net income attributable to common shareholders	96,365	74,408	138,712	85,249

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.

Distributed Bio, Inc.

On December 31, 2020, the Company acquired Distributed Bio, Inc. (Distributed Bio), a next-generation antibody discovery company with technologies specializing in enhancing the probability of success for delivering high-quality, readily formattable antibody fragments to support antibody and cell and gene therapy candidates to biopharmaceutical clients. The acquisition of Distributed Bio expands the Company’s capabilities with an innovative, large-molecule discovery platform, and creates an integrated, end-to-end platform for therapeutic antibody and cell and gene therapy discovery and development. The preliminary purchase price of Distributed Bio was $97.0 million, net of $0.8 million in cash, subject to certain post-closing adjustments that may change the purchase price. The total consideration includes $80.8 million cash paid, settlement of $3.0 million in convertible promissory notes previously invested by the Company during prior fiscal years, and $14.0 million of contingent consideration, which is estimated using a Monte Carlo Simulation model (the maximum contingent contractual payments are up to $21.0 million based on future performance and milestone achievements over a one-year period). The acquisition was funded through a combination of available cash and proceeds from the Company’s Credit Facility. This business is reported as part of the Company’s DSA reportable segment.

The preliminary purchase price allocation of $97.0 million, net of $0.8 million of cash acquired was as follows:

	December 31, 2020
	(in thousands)
Trade receivables	$ 2,722
Other current assets (excluding cash)	221
Property, plant and equipment	2,382
Goodwill	71,585
Definite-lived intangible assets	24,540
Other long-term assets	2,055
Current liabilities	(2,823)
Deferred tax liabilities	(2,529)
Other long-term liabilities	(1,123)
Total purchase price allocation	$ 97,030

The preliminary purchase price allocation is subject to change as additional information becomes available concerning the fair value and tax basis of the assets acquired and liabilities assumed, including certain contracts and obligations. Any additional adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition.

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

	Definite-Lived Intangible Assets (in thousands)	Weighted Average Amortization Life (in years)
Client relationships	$ 16,080	9
Developed technology	3,940	5
Other intangible assets	4,520	4
Total definite-lived intangible assets	$ 24,540	7

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

The Company incurred transaction and integration costs in connection with the acquisition of $0.2 million and $0.9 million for the three and six months ended June 26, 2021, 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 the disclosure of actual revenue and operating income (loss) have not been included because Distributed Bio's financial results are not significant when compared to the Company's consolidated financial results.

Cellero, LLC

On August 6, 2020, the Company acquired Cellero, LLC (Cellero), a provider of cellular products for cell therapy developers and manufacturers worldwide. The addition of Cellero enhances the Company's unique, comprehensive solutions for the high-growth cell therapy market, strengthening the ability to help accelerate clients' critical programs from basic research and proof-of-concept to regulatory approval and commercialization. It also expands the Company's access to high-quality, human-derived biomaterials with Cellero's donor sites in the United States. The purchase price for Cellero of $36.9 million, net of $0.5 million in cash, was funded through available cash. This business is reported as part of the Company's RMS reportable segment.

The purchase price allocation of $36.9 million, net of $0.5 million of cash acquired was as follows:

	August 6, 2020 (in thousands)
Trade receivables	$ 1,500
Inventories	551
Other current assets (excluding cash)	182
Property, plant and equipment	1,648
Goodwill	19,457
Definite-lived intangible assets	16,230
Other long-term assets	849
Current liabilities	(1,360)
Deferred tax liabilities	(1,467)
Other long-term liabilities	(740)
Total purchase price allocation	$ 36,850

From the date of the acquisition through June 26, 2021, 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 (in thousands)	Weighted Average Amortization Life (in years)
Client relationships	$ 14,740	13
Other intangible assets	1,490	3
Total definite-lived intangible assets	$ 16,230	12

The goodwill resulting from the transaction, $10.8 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 RMS business from customers introduced through Cellero and the assembled workforce of the acquired business.

The Company incurred integration costs in connection with the acquisition of $0.2 million and $0.6 million for the three and six months ended June 26, 2021, 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 the disclosure of actual revenue and operating income (loss) have not been included because Cellero's financial results are not significant when compared to the Company's consolidated financial results.

HemaCare Corporation

On January 3, 2020, the Company acquired HemaCare Corporation (HemaCare), a business specializing in the production of human-derived cellular products for the cell therapy market. The acquisition of HemaCare expands the Company's comprehensive portfolio of early-stage research and manufacturing support solutions to encompass the production and customization of high-quality, human derived cellular products to better support clients' cell therapy programs. The purchase price of HemaCare was $376.7 million, net of $3.1 million in cash, which was funded through a combination of available cash and proceeds from the Company's Credit Facility. This business is reported as part of the Company's RMS reportable segment.

The purchase price allocation of $376.7 million, net of $3.1 million of cash acquired was as follows:

	January 3, 2020 (in thousands)
Trade receivables	$ 6,451
Inventories	8,468
Other current assets (excluding cash)	3,494
Property, plant and equipment	10,033
Goodwill	210,196
Definite-lived intangible assets	183,540
Other long-term assets	5,920
Current liabilities	(5,188)
Deferred tax liabilities	(38,529)
Other long-term liabilities	(7,664)
Total purchase price allocation	$ 376,721

From the date of the acquisition through December 26, 2020, 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 (in thousands)	Weighted Average Amortization Life (in years)
Client relationships	$ 170,390	19
Trade name	7,330	10
Other intangible assets	5,820	3
Total definite-lived intangible assets	$ 183,540	18

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

The Company incurred transaction and integration costs in connection with the acquisition of $0.3 million and $0.1 million for the three months ended June 26, 2021 and June 27, 2020, respectively, which were included in Selling, general and administrative expenses within the unaudited condensed consolidated statements of income. The Company incurred transaction and integration costs in connection with the acquisition of $0.4 million and $5.8 million for the six months ended June 26, 2021 and June 27, 2020, respectively, which were 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 HemaCare acquisition had occurred as of the beginning of the period immediately preceding the period of acquisition, which is December 30, 2018, after giving effect to certain adjustments. For the six months ended June 27, 2020, these adjustments included additional amortization of intangible assets and depreciation of fixed assets of $0.4 million, elimination of intercompany activity and other one-time costs, and the tax impacts of these adjustments.

	June 27, 2020			
	Three Months Ended		Six Months Ended	
	(unaudited)		(unaudited)	
Revenue	$	682,584	$	1,389,661
Net income attributable to common shareholders		67,383		123,088

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.

Other Acquisition

On March 3, 2021, the Company acquired certain assets from a distributor that supports the Company’s DSA reportable segment. The preliminary purchase price was $35.4 million, which includes $19.5 million in cash paid ($5.5 million of which was paid in fiscal 2020), and $15.9 million of contingent consideration, which is estimated using a Monte Carlo Simulation model (the maximum contingent contractual payments are up to $17.5 million based on future performance over a three-year period). The fair value of the net assets acquired included $17.3 million of goodwill, $15.2 million attributed to supplier relationships (to be amortized over a 4-year period), and $3.0 million of property, plant, and equipment. The business is reported as part of the Company’s DSA reportable segment. Pro forma information and transaction and integration costs have not been presented because such information is not material to the financial statements.

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregation of Revenue

The following table disaggregates the Company’s revenue by major business line and timing of transfer of products or services:

	Three Months Ended				Six Months Ended			
	June 26, 2021		June 27, 2020		June 26, 2021		June 27, 2020	
	(in thousands)							
Timing of Revenue Recognition:								
RMS								
Services and products transferred over time	$	66,334	$	57,357	$	131,230	$	117,39
Services and products transferred at a point in time		110,360		59,192		222,374		145,14
Total RMS revenue		176,694		116,549		353,604		262,54
DSA								
Services and products transferred over time		539,790		442,447		1,040,258		881,01
Services and products transferred at a point in time		304		117		1,014		23
Total DSA revenue		540,094		442,564		1,041,272		881,24
Manufacturing								
Services and products transferred over time		95,974		41,317		146,542		78,63
Services and products transferred at a point in time		101,845		82,154		197,755		167,22
Total Manufacturing revenue		197,819		123,471		344,297		245,85
Total revenue	$	914,607	$	682,584	$	1,739,173	$	1,389,64

RMS

The RMS business generates revenue through the commercial production and sale of research models, research products, 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 and products 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 DSA 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. DSA 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 Solutions (Biologics), which performs specialized testing of biologics as well as contract development and manufacturing; 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 June 26, 2021. Excluded from the disclosure is the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less (ii) contracts for which revenue is recognized at the amount to which the Company has the right to invoice for services performed and (iii) service revenue recognized in accordance with ASC 842, “Leases” (see additional disclosure for Other Performance Obligations). The Company has assessed future performance obligations with respect to the COVID-19 pandemic uncertainties and believes there is an insignificant impact on the ability to meet future performance obligations and the amount of revenue to be recognized.

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 June 26, 2021:

	Revenue Expected to be Recognized in Future Periods				
	Less than 1 Year	1 to 3 Years	4 to 5 Years	Beyond 5 Years	Total
	(in thousands)				
DSA	$ 287,948	$ 211,364	$ 8,893	$ 359	$ 508,56
Manufacturing	7,561	923	—	—	8,48
Total	$ 295,509	$ 212,287	$ 8,893	$ 359	$ 517,04

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), and contract liabilities (current and long-term deferred revenue and customer contract 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:

	June 26, 2021	December 26, 2020
	(in thousands)	
Balances from contracts with customers:		
Client receivables	$ 480,533	$ 489,042
Contract assets (unbilled revenue)	171,032	135,400
Contract liabilities (current and long-term deferred revenue)	249,585	227,417
Contract liabilities (customer contract deposits)	44,981	42,244

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. The Company excluded approximately $19 million and $16 million of unpaid advanced client billings from both client receivables and deferred revenue in the accompanying unaudited condensed consolidated balance sheets as of June 26, 2021 and December 26, 2020, respectively. Advanced client payments of approximately $45 million and $42 million have been presented as customer contract deposits within other current liabilities in the accompanying unaudited condensed consolidated balance sheets as of June 26, 2021 and December 26, 2020, respectively.

Other changes in the contract asset and the contract liability balances during the six months ended June 26, 2021 and June 27, 2020 were as follows:

(i) Changes due to business combinations:

See Note 2. “Business Combinations” for the Company’s recent acquisitions.

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

During the six months ended June 26, 2021 and June 27, 2020, immaterial cumulative catch-up adjustments to revenue were recorded.

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

Approximately 80% of unbilled revenue as of December 26, 2020, which was $135 million, was billed during the six months ended June 26, 2021. Approximately 75% of unbilled revenue as of December 28, 2019, which was $122 million, was billed during the six months ended June 27, 2020.

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

Approximately 75% of contract liabilities as of December 26, 2020, which was $227 million, were recognized as revenue during the six months ended June 26, 2021. Approximately 75% of contract liabilities as of December 28, 2019, which was $193 million, were recognized as revenue during the six months ended June 27, 2020.

Other Performance Obligations

As part of the Company’s service offerings, primarily in the Manufacturing segment, the Company has identified performance obligations related to leasing Company owned assets. In certain arrangements, customers obtain substantially all of the economic benefits of the identified assets, which may include manufacturing suites and related equipment, and have the right to direct the assets’ use over the term of the contract. The associated revenue is recognized on a straight-line basis over the term of the lease, which is generally less than one year. For the three and six months ended June 26, 2021, the Company recognized lease revenue of $6.3 million, which is recorded within service revenue, which is transferred over time, within the unaudited condensed consolidated statements of income. Due to the nature of these arrangements and timing of the contractual lease term, the remaining revenue to be recognized related to these lease performance obligations is not material to the unaudited condensed consolidated financial statements.

4. SEGMENT INFORMATION

The Company's three reportable segments are RMS, DSA, and Manufacturing. The following table presents revenue and other financial information by reportable segment:

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
RMS				
Revenue	$ 176,694	$ 116,549	$ 353,604	$ 262,545
Operating income	42,580	3,844	87,515	31,217
Depreciation and amortization	9,844	9,126	19,523	17,878
Capital expenditures	8,512	6,621	11,495	12,033
DSA				
Revenue	$ 540,094	$ 442,564	$ 1,041,272	$ 881,247
Operating income	104,514	72,241	195,463	144,524
Depreciation and amortization	43,588	41,101	88,196	82,431
Capital expenditures	20,473	16,175	37,513	30,904
Manufacturing				
Revenue	$ 197,819	$ 123,471	$ 344,297	$ 245,851
Operating income	56,717	42,930	106,154	84,042
Depreciation and amortization	13,952	6,236	20,521	12,602
Capital expenditures	13,602	3,037	20,712	8,198

Reconciliations of segment operating income, depreciation and amortization, and capital expenditures to the respective consolidated amounts are as follows:

	Operating Income		Depreciation and Amortization		Capital Expenditures	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)					
Three Months Ended:						
Total reportable segments	$ 203,811	$ 119,015	$ 67,384	$ 56,463	$ 42,587	$ 25,833
Unallocated corporate	(66,261)	(42,247)	722	745	3,844	967
Total consolidated	$ 137,550	$ 76,768	$ 68,106	$ 57,208	$ 46,431	$ 26,800
Six Months Ended:						
Total reportable segments	$ 389,132	$ 259,783	$ 128,240	$ 112,911	$ 69,720	$ 51,135
Unallocated corporate	(127,879)	(88,734)	1,373	1,557	4,741	1,386
Total consolidated	$ 261,253	$ 171,049	$ 129,613	$ 114,468	$ 74,461	$ 52,521

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

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
RMS	$ 176,694	$ 116,549	$ 353,604	$ 262,545
DSA	540,094	442,564	1,041,272	881,247
Manufacturing	197,819	123,471	344,297	245,851
Total revenue	$ 914,607	$ 682,584	$ 1,739,173	$ 1,389,643

A summary of unallocated corporate expense consists of the following:

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Stock-based compensation	$ 10,417	$ 8,203	$ 18,059	$ 14,907
Compensation, benefits, and other employee-related expenses	25,924	20,749	53,286	42,729
External consulting and other service expenses	6,301	4,917	13,657	7,386
Information technology	4,117	4,235	8,212	7,951
Depreciation	722	745	1,373	1,557
Acquisition and integration	15,036	869	25,596	7,852
Other general unallocated corporate	3,744	2,529	7,696	6,352
Total unallocated corporate expense	$ 66,261	$ 42,247	$ 127,879	$ 88,734

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

Revenue by geographic area is as follows:

	U.S.	Europe	Canada	Asia Pacific	Other	Consolidated
	(in thousands)					
Three Months Ended:						
June 26, 2021	$ 491,619	$ 275,706	$ 90,565	$ 55,133	$ 1,584	$ 914,607
June 27, 2020	382,918	190,935	71,543	35,965	1,223	682,584
Six Months Ended:						
June 26, 2021	$ 940,101	$ 513,241	$ 167,672	$ 114,579	$ 3,580	$ 1,739,173
June 27, 2020	789,630	381,197	148,176	67,794	2,846	1,389,643

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 and contract assets, net is as follows:

	June 26, 2021	December 26, 2020
	(in thousands)	
Client receivables	$ 480,533	$ 489,042
Unbilled revenue	171,032	135,400
Total	651,565	624,442
Less: Allowance for doubtful accounts	(7,538)	(6,702)
Trade receivables and contract assets, net	$ 644,027	$ 617,740

The composition of inventories is as follows:

	June 26, 2021	December 26, 2020
	(in thousands)	
Raw materials and supplies	$ 32,071	$ 28,317
Work in process	28,314	36,755
Finished products	133,956	120,623
Inventories	$ 194,341	$ 185,695

The composition of other current assets is as follows:

	June 26, 2021	December 26, 2020
	(in thousands)	
Prepaid income tax	$ 117,811	$ 68,462
Short-term investments	1,037	1,024
Restricted cash	3,118	3,074
Other current assets	$ 121,966	$ 72,560

The composition of other assets is as follows:

	June 26, 2021	December 26, 2020
	(in thousands)	
Venture capital investments	$ 174,420	$ 197,100
Strategic equity investments	39,342	24,704
Life insurance policies	48,715	43,827
Other long-term income tax assets	23,153	23,485
Restricted cash	1,403	1,621
Long-term pension assets	34,362	31,915
Other	36,399	29,974
Other assets	$ 357,794	$ 352,626

The composition of other current liabilities is as follows:

	June 26, 2021	December 26, 2020
	(in thousands)	
Current portion of operating lease right-of-use liabilities	$ 31,741	$ 24,674
Accrued income taxes	39,066	24,884
Customer contract deposits	44,981	42,244
Other	16,511	10,675
Other current liabilities	$ 132,299	$ 102,477

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

	June 26, 2021	December 26, 2020
	(in thousands)	
U.S. Transition Tax	$ 43,057	$ 48,781
Long-term pension liability, accrued executive supplemental life insurance retirement plan and deferred compensation plan	75,221	74,233
Long-term deferred revenue	18,256	19,475
Other	70,843	62,726
Other long-term liabilities	$ 207,377	$ 205,215

6. VENTURE CAPITAL AND STRATEGIC EQUITY INVESTMENTS

Venture capital investments were $174.4 million and $197.1 million as of June 26, 2021 and December 26, 2020, respectively. The Company's total commitment to the venture capital funds as of June 26, 2021 was $149.5 million, of which the Company funded $105.2 million through that date. The Company received distributions totaling $18.2 million and $2.4 million for the three months ended June 26, 2021 and June 27, 2020, respectively. The Company received distributions totaling $27.5 million and $3.3 million for the six months ended June 26, 2021 and June 27, 2020, respectively.

The Company recognized net gains on venture capital investments of $11.0 million for the three months ended June 26, 2021, driven primarily by increases in fair value of private investments, and $23.9 million for the three months ended June 27, 2020, driven primarily by increases in fair value of public investments. The Company recognized net losses on venture capital investments of $5.3 million for the six months ended June 26, 2021, driven by the decrease in the fair value of publicly-held investments offset by increases from private investments, and net gains of $11.9 million for the six months ended June 27, 2020, predominantly driven by increases in fair value of public investments.

The Company also invests, with minority positions, directly in equity of predominantly privately-held companies. Strategic equity investments were $39.3 million and $24.7 million as of June 26, 2021 and December 26, 2020, respectively. The Company recognized insignificant gains and losses for the three and six months ended June 26, 2021 and June 27, 2020.

7. FAIR VALUE

The Company has certain financial 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 six months ended June 26, 2021 and June 27, 2020, 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;
- 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 values of the Company's Senior Notes, which are fixed rate debt, are carried at amortized cost. Fair values of the Senior Notes are 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:

	June 26, 2021			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 1,592	$ —	$ 1,592
Other assets:				
Life insurance policies	—	40,652	—	40,652
Total assets measured at fair value	$ —	$ 42,244	$ —	$ 42,244
Other current liabilities measured at fair value:				
Contingent consideration	$ —	$ —	$ 23,531	$ 23,531
Other long-term liabilities measured at fair value:				
Contingent consideration	—	—	13,776	13,776
Total liabilities measured at fair value	$ —	$ —	$ 37,307	$ 37,307

	December 26, 2020			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Cash equivalents	$ —	$ 2,273	$ —	$ 2,273
Other assets:				
Life insurance policies	—	35,770	—	35,770
Total assets measured at fair value	$ —	$ 38,043	$ —	$ 38,043
Other liabilities measured at fair value:				
Contingent consideration	$ —	$ —	$ 2,328	$ 2,328
Total liabilities measured at fair value	$ —	$ —	$ 2,328	$ 2,328

Contingent Consideration

The following table provides a rollforward of the contingent consideration related to the Company's business combinations. See Note 2, "Business Combinations."

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in thousands)	
Beginning balance	$ 2,328	$ 712
Additions	37,983	2,131
Payments	(2,889)	(230)
Adjustment of previously recorded contingent liability	—	(468)
Foreign currency	(115)	(3)
Ending balance	$ 37,307	$ 2,142

The Company estimates the fair value of contingent consideration obligations through valuation models, such as probability-weighted and option pricing models, that incorporate probability adjusted assumptions and simulations related to the achievement of the milestones and the likelihood of making related payments. The unobservable inputs used in the fair value measurements include the probabilities of successful achievement of certain financial targets, forecasted results or targets, volatility, discount rates, and risk-free rates. Increases or decreases in these assumptions may result in a higher or lower 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.

The book value of the Company's Senior Notes are fixed rate obligations carried at amortized cost. 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. The book value and fair value of the Company's Senior Notes is summarized below:

	June 26, 2021		December 26, 2020	
	Book Value	Fair Value	Book Value	Fair Value
5.5% Senior Notes due 2026	$ —	$ —	$ 500,000	$ 523,100
4.25% Senior Notes due 2028	500,000	516,850	500,000	523,750
3.75% Senior Notes due 2029	500,000	505,000	—	—
4.0% Senior Notes due 2031	500,000	515,000	—	—

8. GOODWILL AND INTANGIBLE ASSETS

Goodwill

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

		Adjustments to Goodwill		
	December 26, 2020	Acquisitions	Foreign Exchange	June 26, 2021
		(in thousands)		
RMS	$ 287,759	$ —	$ 97	$ 287,856
DSA	1,378,130	122,227	994	1,501,351
Manufacturing	143,279	603,379	4,202	750,860
Goodwill	$ 1,809,168	$ 725,606	$ 5,293	$ 2,540,067

The increase in goodwill during the six months ended June 26, 2021 related primarily to the acquisitions of Cognate in the Manufacturing reportable segment and Distributed Bio and Retrogenix in the DSA reportable segment.

Intangible Assets, Net

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

	June 26, 2021			December 26, 2020		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
			(in thousands)			
Backlog	$ 9,844	$ (4,291)	$ 5,553	$ 29,233	$ (29,233)	$ —
Technology	138,207	(89,911)	48,296	130,907	(81,305)	49,602
Trademarks and trade names	13,568	(2,704)	10,864	15,870	(5,648)	10,222
Other	33,327	(5,589)	27,738	20,903	(14,633)	6,270
Other intangible assets	194,946	(102,495)	92,451	196,913	(130,819)	66,094
Client relationships	1,431,254	(466,930)	964,324	1,137,331	(415,826)	721,505
Intangible assets	$ 1,626,200	$ (569,425)	$ 1,056,775	$ 1,334,244	$ (546,645)	$ 787,599

The increase in intangible assets, net during the six months ended June 26, 2021 related primarily to the acquisitions of Cognate, Distributed Bio and Retrogenix.

9. LONG-TERM DEBT AND FINANCE LEASE OBLIGATIONS

Long-term debt, net and finance leases consists of the following:

	June 26, 2021	December 26, 2020
	(in thousands)	
Term loans	$ —	$ 146,875
Revolving facility	1,225,383	814,752
5.5% Senior Notes due 2026	—	500,000
4.25% Senior Notes due 2028	500,000	500,000
3.75% Senior Notes due 2029	500,000	—
4.0% Senior Notes due 2031	500,000	—
Other debt	372	3,457
Finance leases (Note 16)	29,153	29,047
Total debt and finance leases	2,754,908	1,994,131
Less:		
Current portion of long-term debt	108	47,196
Current portion of finance leases (Note 16)	2,913	3,018
Current portion of long-term debt and finance leases	3,021	50,214
Long-term debt and finance leases	2,751,887	1,943,917
Debt discount and debt issuance costs	(24,647)	(14,346)
Long-term debt, net and finance leases	$ 2,727,240	$ 1,929,571

As of June 26, 2021 and December 26, 2020, the weighted average interest rate on the Company’s debt was 2.74% and 3.11%, respectively.

Term Loans and Revolving Facility (Credit Facility)

As of and for the three months ended March 27, 2021, the Company had a credit facility consisting of a $750 million term loan and a $2.05 billion multi-currency revolving facility. The term loan facility matured in 19 quarterly installments with the last installment due March 26, 2023. During the three months ended March 27, 2021, the Company prepaid the remaining amount of the term loan, or $146.9 million, with proceeds from an unregistered private offering (see 2029 and 2031 Senior Notes below). The revolving facility matured on March 26, 2023, and required no scheduled payment before that date. Approximately $0.2 million of deferred financing costs were expensed upon prepayment of the term loan.

During the three months ended June 26, 2021, the Company amended and restated the Credit Facility increasing the capacity of the revolving credit facility and extending the maturity date to April 2026, which requires no scheduled payment before that date. The amended and restated Credit Facility provides for a $3.0 billion multi-currency revolving facility. No additional term loan was borrowed. Amendments were made in connection with the prospective discontinuation of LIBOR and other changes in law since the execution of the Company’s existing credit agreement and makes other amendments to certain other covenants and terms.

The interest rates applicable to the amended and restated revolving facility are equal to (A) for revolving loans denominated in U.S. dollars, at the Company’s option, either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1%) or the adjusted LIBOR rate, (B) for revolving loans denominated in euros, the adjusted EURIBOR rate and (C) for revolving loans denominated in sterling, the daily simple SONIA rate, in each case, plus an interest rate margin based upon the Company’s leverage ratio.

The Credit Facility includes certain customary representations and warranties, events of default, notices of material adverse changes to the Company’s business and negative and affirmative covenants. These covenants include (1) maintenance of a ratio of consolidated earnings before interest, taxes, depreciation and amortization (EBITDA) less capital expenditures to consolidated cash interest expense, for any period of four consecutive fiscal quarters, of no less than 3.50 to 1.0 as well as (2) maintenance of a ratio of consolidated indebtedness to consolidated EBITDA for any period of four consecutive fiscal quarters, of no more than 4.25 to 1.0. As of June 26, 2021, the Company was compliant with all financial covenants under the Credit Agreement.

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

During the six months ended June 26, 2021 and June 27, 2020, the Company had multiple U.S. dollar denominated loans borrowed by a non-U.S. Euro functional currency entity under the Company's Credit Facility, which were $400 million each. This resulted in foreign currency losses recognized in Other income, net of $18.3 million and $4.2 million during the six months ended June 26, 2021 and June 27, 2020, respectively, related to the remeasurement of the underlying debt. The Company entered into foreign exchange forward contracts to limit its foreign currency exposures related to these borrowings and recognized gains of $19.3 million and $6.1 million during the six months ended June 26, 2021 and June 27, 2020, respectively, within Interest expense. As of June 26, 2021, the Company did not have any outstanding borrowings in a currency different than its respective functional currency. See Note 14, "Foreign Currency Contracts", for further discussion.

Base Indenture for Senior Notes

The Company enters into certain indentures in order to issue senior notes and is subject to certain affirmative and negative covenants. The Company has the following Senior Notes in the current and prior fiscal periods.

2026 Senior Notes

In fiscal year 2018, the Company issued $500 million of 5.5% Senior Notes due in 2026 (2026 Senior Notes) in an unregistered offering. Interest on the 2026 Senior Notes was payable semi-annually on April 1 and October 1. During the three months ended March 27, 2021, the Company prepaid the $500 million 2026 Seniors Notes along with $21 million of related debt extinguishment costs and $13 million of accrued interest using proceeds from additional senior notes issued on the same day (see 2029 and 2031 Senior Notes). The payment of the 2026 Senior Notes was accounted for as a debt extinguishment. Approximately $21 million of debt extinguishment costs and $5 million of deferred financing costs write-offs were recorded in Interest expense during the three months ended March 27, 2021.

2028 Senior Notes

In fiscal year 2019, the Company issued $500 million of 4.25% Senior Notes due in 2028 (2028 Senior Notes) in an unregistered offering. Interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1.

2029 Senior Notes and 2031 Senior Notes

In the three months ended March 27, 2021, the Company issued $1 billion of debt split between $500 million of 3.75% Senior Notes due in 2029 (2029 Senior Notes), and $500 million of 4.00% Senior Notes due in 2031 (2031 Senior Notes), in an unregistered offering. Interest on the 2029 and 2031 Senior Notes is payable semi-annually on March 15 and September 15. Approximately $10 million of deferred financing costs were capitalized as part of this debt issuance. Proceeds from the 2029 and 2031 Senior Notes were used as follows: prepay the $500 million 2026 Senior Notes, $21 million of debt extinguishment costs, and $13 million of accrued interest; prepay the $146.9 million remaining term loan; pay down $135 million of the revolving facility; and pay for a portion of the Cognate acquisition, which occurred on March 29, 2021.

Principal Maturities

Principal maturities of existing debt, giving effect to the amended and restated Credit Agreement, for the periods set forth in the table below, are as follows:

	Principal (in thousands)
2021 (excluding the six months ended June 26, 2021)	$ 108
2022	—
2023	—
2024	264
2025	—
Thereafter	2,725,383
Total	$ 2,725,755

Letters of Credit

As of June 26, 2021 and December 26, 2020, the Company had $16.7 million and $16.0 million, respectively, in outstanding letters of credit.

10. EQUITY AND NONCONTROLLING INTERESTS

Earnings Per Share

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

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Numerator:				
Net income	$ 89,916	$ 67,668	$ 153,851	$ 118,5[illegible]
Less: Net income attributable to noncontrolling interests	1,468	233	3,873	3[illegible]
Net income attributable to common shareholders	$ 88,448	$ 67,435	$ 149,978	$ 118,2[illegible]
Denominator:				
Weighted-average shares outstanding - Basic	50,297	49,553	50,138	49,3[illegible]
Effect of dilutive securities:				
Stock options, restricted stock units and performance share units	1,037	693	1,087	7[illegible]
Weighted-average shares outstanding - Diluted	51,334	50,246	51,225	50,1[illegible]

Options to purchase 0.2 million and 0.6 million shares for the three months ended June 26, 2021 and June 27, 2020, respectively, as well as a non-significant number of restricted stock units (RSUs) and performance share units (PSUs), were not included in computing diluted earnings per share because their inclusion would have been anti-dilutive. Options to purchase 0.2 million and 0.6 million shares for the six months ended June 26, 2021 and June 27, 2020, respectively, as well as a non-significant number of 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 six months ended June 26, 2021 and June 27, 2020 excluded the impact of 0.7 million and 0.9 million shares of non-vested RSUs and PSUs, respectively.

Treasury Shares

During the six months ended June 26, 2021 and June 27, 2020, the Company did not repurchase any shares under its authorized stock repurchase program. As of June 26, 2021, 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 six months ended June 26, 2021 and June 27, 2020, the Company acquired 0.1 million shares for $40.3 million and 0.1 million shares for $23.8 million, respectively, from such netting.

Accumulated Other Comprehensive Income (Loss)

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

	Foreign Currency Translation Adjustment and Other	Pension and Other Post-Retirement Benefit Plans	Total
	(in thousands)		
December 26, 2020	$ (73,884)	$ (64,990)	$ (138,874)
Other comprehensive income before reclassifications	30,296	—	30,296
Amounts reclassified from accumulated other comprehensive income	—	1,981	1,981
Net current period other comprehensive income	30,296	1,981	32,277
Income tax expense	933	491	1,424
June 26, 2021	$ (44,521)	$ (63,500)	$ (108,021)

Nonredeemable Noncontrolling Interest

The Company has an investment in an entity whose financial results are consolidated in the Company’s unaudited condensed consolidated 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 within Equity in the accompanying unaudited condensed consolidated balance sheets. The activity within the nonredeemable noncontrolling interest was not significant during the three and six months ended June 26, 2021 and June 27, 2020.

Redeemable Noncontrolling Interests

The Company has a 92% equity interest in Vital River with an 8% redeemable noncontrolling interest. The Company has the right to purchase, and the noncontrolling interest holders have the right to sell, the remaining 8% equity interest at a contractually defined redemption value, subject to a redemption floor, which represents a derivative embedded within the equity instrument. These rights are exercisable beginning in 2022 and are accelerated in certain events. The 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 ($20.9 million as of June 26, 2021) and the carrying amount adjusted for net income (loss) attributable to the noncontrolling interest. As the noncontrolling interest holders have the ability to require the Company to purchase the remaining 8% interest, the noncontrolling interest is classified in the mezzanine section of the unaudited condensed consolidated balance sheets, which is presented above the equity section and below liabilities. The amount that the Company could be required to pay to purchase the remaining 8% equity interest is not limited.

As part of the Citoxlab acquisition in 2019, the Company acquired an approximate 90% equity interest in a subsidiary that was fully consolidated under the voting interest model, which included an approximate 10% redeemable noncontrolling interest. In February 2020, the Company purchased the remaining approximate 10% noncontrolling interest for approximately $4 million and assumption of a contingent consideration liability payable to the former shareholders. See Note 7. “Fair Value”.

In 2019, the Company acquired an 80% equity interest in a subsidiary that is fully consolidated under the voting interest model, which includes a 20% redeemable noncontrolling interest. The Company has the right to purchase, and the noncontrolling interest holders have the right to sell, the remaining 20% equity interest at its appraised value. These rights are exercisable beginning in 2022. The redeemable noncontrolling interest is measured at the greater of the amount that would be paid if settlement occurred as of the balance sheet date based on the appraised value and the carrying amount adjusted for net income (loss) attributable to the noncontrolling interest or a predetermined floor value. As the noncontrolling interest holders have the ability to require the Company to purchase the remaining 20% interest, the noncontrolling interest is classified in the mezzanine section of the unaudited condensed consolidated balance sheets, which is presented above the equity section and below liabilities. The amount that the Company could be required to pay to purchase the remaining 20% equity interest is not limited.

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

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in thousands)	
Beginning balance	$ 25,499	$ 28,647
Adjustment to Vital River redemption value	2,341	—
Purchase of a 10% redeemable noncontrolling interest	—	(3,732)
Net income (loss) attributable to noncontrolling interests	2,599	(538)
Foreign currency translation	360	(493)
Ending balance	$ 30,799	$ 23,884

11. INCOME TAXES

The Company's effective tax rates for the three months ended June 26, 2021 and June 27, 2020 were 29.5% and 19.4%, respectively. The Company's effective tax rates for the six months ended June 26, 2021 and June 27, 2020 were 20.6% and 15.0%, respectively. For the first half of 2021, the increases in the effective tax rates from the prior year periods were primarily attributable to deferred tax impacts of tax law changes enacted in the three months ended June 26, 2021 and higher non-deductible transaction costs, partially offset by increased tax benefit from stock-based compensation deductions in the first half of 2021 compared to the corresponding period in 2020.

For the three months ended June 26, 2021, the Company's unrecognized tax benefits increased by $1.6 million to $26.9 million, primarily due to uncertainties pertaining to acquisitions in the period, an additional quarter of Canadian Scientific Research and Experimental Development Credit reserves, partially offset by audit settlements. For the three months ended June 26, 2021, the unrecognized income tax benefits that would impact the effective tax rate increased by $2.1 million to $24.6 million, for the same reasons discussed above. The accrued interest on unrecognized tax benefits was $2.0 million at June 26, 2021. The Company estimates that it is reasonably possible that the unrecognized tax benefits will decrease by approximately $1.1 million over the next twelve-month period, primarily due to the lapse of statute of limitations.

The Company conducts business in a number of tax jurisdictions. As a result, it is subject to tax audits on a regular basis including, but not limited to, such major jurisdictions as the U.S., Canada, the U.K., France, Germany, and China. With few exceptions, the Company is no longer subject to U.S. and international income tax examinations for years before 2017.

The Company and certain of its subsidiaries have ongoing tax controversies in the U.S., Canada, France, Germany, and India. The Company does not anticipate resolution of these audits will have a material impact on its consolidated 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		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Service cost	$ 911	$ 798	$ 1,822	$ 1,595
Interest cost	1,344	2,354	2,688	4,709
Expected return on plan assets	(1,983)	(2,982)	(3,967)	(5,963)
Amortization of prior service cost (credit)	(128)	(126)	(256)	(251)
Amortization of net loss	1,110	1,586	2,220	3,172
Other adjustments	(572)	125	(572)	250
Net periodic cost	$ 682	$ 1,755	$ 1,935	$ 3,512

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 expense, net in the accompanying unaudited condensed consolidated statements of income.

The net periodic cost for the Company's other post-retirement benefit plan for the three and six months ended June 26, 2021 and June 27, 2020 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		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Cost of revenue	$ 3,012	$ 2,320	$ 5,725	$ 4,355
Selling, general and administrative	14,065	10,823	24,541	19,748
Stock-based compensation, before income taxes	17,077	13,143	30,266	24,103
Provision for income taxes	(2,465)	(1,988)	(4,452)	(3,539)
Stock-based compensation, net of income taxes	$ 14,612	$ 11,155	$ 25,814	$ 20,564

During the six months ended June 26, 2021, the Company granted stock options representing 0.2 million common shares with a per-share weighted-average grant date fair value of $108.52, RSUs representing 0.1 million common shares with a per-share weighted-average grant date fair value of $337.45, and PSUs representing 0.1 million common shares with a per-share weighted-average grant date fair value of $407.76. The maximum number of common shares to be issued upon vesting of PSUs granted during the six months ended June 26, 2021 is 0.1 million.

14. FOREIGN CURRENCY CONTRACTS

Cross currency loans

The Company periodically enters into foreign exchange forward contracts to limit its foreign currency exposure related to U.S. dollar denominated loans borrowed by a non-U.S. Euro functional currency entity under the Company's Credit Facility. These contracts are not designated as hedging instruments. Any gains or losses on these forward contracts are recognized immediately within Interest expense in the unaudited condensed consolidated statements of income.

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 June 26, 2021 or December 26, 2020.

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

	June 26, 2021		June 27, 2020	
Location of gain (loss)	Financial statement caption amount	Amount of gain (loss)	Financial statement caption amount	Amount of gain (loss)
	(in thousands)			
Three Months Ended:				
Interest expense	$ (16,190)	$ 5,355	$ (19,352)	$ —
Six Months Ended:				
Interest expense	$ (45,909)	$ 19,332	$ (34,419)	$ 6,067

Intercompany loans

The Company periodically enters into foreign exchange forward contracts to limit its foreign currency exposure related to certain intercompany loans. These contracts are not designated as hedging instruments. Any gains or losses on forward contracts associated with intercompany loans are recognized immediately in Other income (expense), net and are largely offset by the remeasurement of the underlying intercompany loans.

The Company did not enter into foreign currency forward contracts related to certain intercompany loans during 2021 and 2020. The Company settled one foreign currency forward contract related to certain intercompany loans in 2020, and recognized an immaterial loss during the six months ended June 27, 2020 recognized in Other expense, net.

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., Canada, Europe, and China. This includes workforce right-sizing and scalability initiatives, resulting in severance and transition costs; and cost related to the consolidation of facilities, resulting in asset impairment and accelerated depreciation charges

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

	June 26, 2021			June 27, 2020		
	Severance and Transition Costs	Asset Impairments and Other Costs	Total	Severance and Transition Costs	Asset Impairments and Other Costs	Total
	(in thousands)					
Three Months Ended:						
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 393	$ —	$ 393	$ 3,299	$ 30	$ 3,329
Selling, general and administrative	1,070	146	1,216	2,089	2,933	5,022
Total	$ 1,463	$ 146	$ 1,609	$ 5,388	$ 2,963	$ 8,351
Six Months Ended:						
Cost of services provided and products sold (excluding amortization of intangible assets)	$ 916	$ 40	$ 956	$ 3,545	$ 259	$ 3,804
Selling, general and administrative	1,109	293	1,402	2,172	2,933	5,105
Total	$ 2,025	$ 333	$ 2,358	$ 5,717	$ 3,192	$ 8,909

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

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
RMS	$ —	$ 769	$ 7	$ 759
DSA	1,074	6,186	1,633	6,498
Manufacturing	535	1,396	869	1,652
Unallocated corporate	—	—	(151)	—
Total	$ 1,609	$ 8,351	$ 2,358	$ 8,909

Rollforward of restructuring activities

The following table provides a rollforward for all of the Company’s severance and transition costs and certain lease related costs related to all restructuring activities:

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Beginning balance	$ 2,221	$ 2,531	$ 5,816	$ 6,405
Expense (excluding non-cash charges)	1,609	6,357	2,358	6,874
Payments / utilization	(999)	(1,674)	(3,465)	(5,917)
Other non-cash adjustments	—	—	(1,831)	—
Foreign currency adjustments	11	(15)	(36)	(163)
Ending balance	$ 2,842	$ 7,199	$ 2,842	$ 7,199

As of June 26, 2021 and June 27, 2020, $2.8 million and $7.0 million, respectively, of severance and other personnel related costs liabilities and lease obligation liabilities were included in accrued compensation and accrued liabilities within the Company’s unaudited condensed consolidated balance sheets. As of June 27, 2020, $0.2 million was included in other long-term liabilities within the Company’s unaudited condensed consolidated balance sheets.

16. LEASES

Operating and Finance Leases

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

	June 26, 2021	December 26, 2020
	(in thousands)	
Operating leases		
Operating lease right-of-use assets, net	$ 276,820	$ 178,220
Other current liabilities	$ 31,741	$ 24,674
Operating lease right-of-use liabilities	239,484	155,595
Total operating lease liabilities	$ 271,225	$ 180,269
Finance leases		
Property, plant and equipment, net	$ 31,684	$ 31,614
Current portion of long-term debt and finance leases	$ 2,913	$ 3,018
Long-term debt, net and finance leases	26,240	26,029
Total finance lease liabilities	$ 29,153	$ 29,047

The components of operating and finance lease costs were as follows:

	Three Months Ended		Six Months Ended	
	June 26, 2021	June 27, 2020	June 26, 2021	June 27, 2020
	(in thousands)			
Operating lease costs	$ 11,025	$ 7,893	$ 20,376	$ 15,971
Finance lease costs:				
Amortization of right-of-use assets	840	937	1,688	1,888
Interest on lease liabilities	327	323	655	663
Short-term lease costs	1,332	525	2,282	1,114
Variable lease costs	751	1,067	1,635	2,112
Sublease income	(580)	(190)	(954)	(776)
Total lease costs	$ 13,695	$ 10,555	$ 25,682	$ 20,972

Other information related to leases was as follows:

Supplemental cash flow information

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in thousands)	
Cash flows included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 18,578	$ 14,149
Operating cash flows from finance leases	656	663
Finance cash flows from finance leases	1,705	2,467
Non-cash leases activity:		
Right-of-use lease assets obtained in exchange for new operating lease liabilities	$ 107,306	$ 46,493
Right-of-use lease assets obtained in exchange for new finance lease liabilities	842	735

Lease term and discount rate

	As of June 26, 2021		As of June 27, 2020	
Weighted-average remaining lease term (in years)				
Operating lease	9.4		8.4	
Finance lease	12.1		12.6	
Weighted-average discount rate				
Operating lease	3.7	%	4.2	%
Finance lease	4.4	%	4.5	%

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, which is based on the information available at the lease commencement date and represents a rate that would be incurred to borrow, on a collateralized basis, over a similar term, an amount equal to the lease payments in a similar economic environment.

As of June 26, 2021, maturities of operating and finance lease liabilities for each of the following five years and a total thereafter were as follows:

	Operating Leases		Finance Leases	
	(in thousands)			
2021 (excluding the six months ended June 26, 2021)	$	20,787	$	2,131
2022		39,976		3,912
2023		36,660		3,526
2024		35,208		3,294
2025		33,112		3,012
Thereafter		159,581		22,219
Total minimum future lease payments		325,324		38,094
Less: Imputed interest		54,099		8,941
Total lease liabilities	$	271,225	$	29,153

Total minimum future lease payments (predominantly operating leases) of approximately $120 million for leases that have not commenced as of June 26, 2021, as the Company does not yet control the underlying assets, are not included in the unaudited condensed consolidated financial statements. These leases are expected to commence between fiscal years 2021 and 2024 with lease terms of approximately 8 to 15 years.

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 2020. 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" included elsewhere within this Form 10-Q. 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 Solutions (Manufacturing). Our RMS reportable segment includes the Research Models, Research Model Services, and Research Products 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). Research Products supplies controlled, consistent, customized primary cells and blood components derived from normal and mobilized peripheral blood, bone marrow, and cord blood. 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 Solutions (Biologics), which performs specialized testing of biologics as well as contract development and manufacturing; and Avian Vaccine Services (Avian), which supplies specific-pathogen-free chicken eggs and chickens.

COVID-19

On March 11, 2020, the World Health Organization declared the outbreak of a strain of novel coronavirus disease, COVID-19, a global pandemic. The COVID-19 pandemic is dynamic, and its ultimate scope, duration and effects are uncertain. This pandemic has had and may continue to result in direct and indirect adverse effects on our industry and customers, which in turn has impacted our business, results of operations, and financial condition. Further, the COVID-19 pandemic may also affect our operating and financial results in ways that are and are not presently known to us, or that we currently do not expect to present significant risks to our operations or financial results but which may in fact turn out to negatively affect us to a magnitude greater than anticipated. Refer to Item 1A, Risk Factors disclosed in our Annual Report on Form 10-K for fiscal 2020 for risk factors reflecting the impact of the COVID-19 pandemic. Additionally, refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations disclosed in our Annual Report on Form 10-K for fiscal 2020 for our assessment of the impact of the COVID-19 pandemic experienced during fiscal 2020 regarding our business continuity plans and actions taken; supply chain; financial condition and results of global operations; liquidity, capital and financial resources; recoverability and/or impairment of assets; and internal controls over financial reporting in a remote work environment. There have been no material changes to our assessment of the COVID-19 pandemic during the six months ended June 26, 2021 and how it may continue to affect us in subsequent periods.

Recent Acquisitions

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

On June 28, 2021 (third fiscal quarter of 2021), we acquired Vigene Biosciences, Inc. (Vigene), a gene therapy contract development and manufacturing organization (CDMO), providing viral vector-based gene delivery solutions. The acquisition enables clients to seamlessly conduct analytical testing, process development, and manufacturing for advanced modalities with the same scientific partner. The preliminary purchase price of Vigene was $292.5 million in cash, subject to customary closing adjustments, with additional contingent payments of up to $57.5 million based on future performance. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business will be reported as part of our Manufacturing reportable segment.

On March 30, 2021 (second fiscal quarter of 2021), we acquired Retrogenix Limited (Retrogenix), an early-stage CRO providing specialized bioanalytical services utilizing its proprietary cell microarray technology. The acquisition of Retrogenix enhances our scientific expertise with additional large molecule and cell therapy discovery capabilities. The preliminary purchase price of Retrogenix was $53.1 million, net of $8.5 million in cash, subject to certain post-closing adjustments. Included in the preliminary purchase price are additional payments up to $6.9 million, which are contingent on future performance. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our DSA reportable segment.

On March 29, 2021 (second fiscal quarter of 2021), we acquired Cognate BioServices, Inc. (Cognate), a cell and gene therapy CDMO offering comprehensive manufacturing solutions for cell therapies, as well as for the production of plasmid DNA and other inputs in the CDMO value chain. The acquisition of Cognate establishes us as a scientific partner for cell and gene therapy development, testing, and manufacturing, providing clients with an integrated solution from basic research and discovery through cGMP production. The preliminary purchase price of Cognate was $876.1 million, net of $70.5 million in cash, subject to certain post-closing adjustments and includes $15.7 million of consideration for an approximate 2% ownership interest not acquired. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility and recently issued Senior Notes. This business is reported as part of our Manufacturing reportable segment.

On March 3, 2021, we acquired certain assets from a distributor that supports our DSA reportable segment. The preliminary purchase price was $35.4 million, which includes $19.5 million in cash paid ($5.5 million of which was paid in fiscal 2020), and $15.9 million of contingent consideration (the maximum contingent contractual payments are up to $17.5 million). The business is reported as part of our DSA reportable segment.

On December 31, 2020, we acquired Distributed Bio, Inc. (Distributed Bio), a next-generation antibody discovery company with technologies specializing in enhancing the probability of success for delivering high-quality, readily formattable antibody fragments to support antibody and cell and gene therapy candidates to biopharmaceutical clients. The acquisition of Distributed Bio expands our capabilities with an innovative, large-molecule discovery platform, and creates an integrated, end-to-end platform for therapeutic antibody and cell and gene therapy discovery and development. The preliminary purchase price of Distributed Bio was $97.0 million, net of $0.8 million in cash, subject to certain post-closing adjustments. The total consideration includes $80.8 million cash paid, settlement of $3.0 million in convertible promissory notes previously invested by us during prior fiscal years, and $14.0 million of contingent consideration (the maximum contingent contractual payments are up to $21.0 million). The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our DSA reportable segment.

On August 6, 2020, we acquired Cellero, LLC (Cellero), a provider of cellular products for cell therapy developers and manufacturers worldwide. The addition of Cellero enhances our unique, comprehensive solutions for the high-growth cell therapy market, strengthening our ability to help accelerate clients' critical programs from basic research and proof-of-concept to regulatory approval and commercialization. It also expands our access to high-quality, human-derived biomaterials with Cellero's donor sites in the United States. The purchase price for Cellero was $36.9 million, net of $0.5 million in cash. The acquisition was funded through available cash. This business is reported as part of our RMS reportable segment.

On January 3, 2020, we acquired HemaCare Corporation (HemaCare), a business specializing in the production of human-derived cellular products for the cell therapy market. The acquisition of HemaCare expands our comprehensive portfolio of early-stage research and manufacturing support solutions to encompass the production and customization of high-quality, human derived cellular products to better support clients' cell therapy programs. The purchase price of HemaCare was $376.7 million, net of $3.1 million in cash. The acquisition was funded through a combination of available cash and proceeds from our Credit Facility. This business is reported as part of our RMS reportable segment.

Overview of Results of Operations and Liquidity

Revenue for the three months ended June 26, 2021 increased $232.0 million, or 34.0%, to $914.6 million compared to $682.6 million in the corresponding period in 2020. Revenue for the six months ended June 26, 2021 increased $349.6 million, or 25.2%, to $1.7 billion compared to $1.4 billion in the corresponding period in 2020. The increase in revenue in both periods was primarily due to the increased demand across all of our reporting segments, principally within DSA and the impact of RMS recovering from the impact of the COVID-19 pandemic in the prior periods; the impact of our recent acquisitions, principally within our Manufacturing reporting segment; and by the positive effect of changes in foreign currency exchange rates which increased revenue by $26.4 million, or 3.9%, when compared to the corresponding three month period in 2020 and increased revenue by $47.5 million, or 3.4%, when compared to the corresponding six month period in 2020.

In the three months ended June 26, 2021, our operating income and operating income margin were $137.5 million and 15.0%, respectively, compared with $76.8 million and 11.2%, respectively, in the corresponding period of 2020. In the six months ended June 26, 2021, our operating income and operating income margin were $261.3 million and 15.0%, respectively, compared with $171.0 million and 12.3%, respectively, in the corresponding period of 2020. The increases in operating income and operating income margin were principally due to the contribution of the higher revenue described above.

Net income attributable to common shareholders increased to $88.4 million in the three months ended June 26, 2021, from $67.4 million in the corresponding period of 2020. The increase in Net income attributable to common shareholders was primarily due to the increase in operating income described above, partially offset by lower venture capital investment and life insurance investment gains in the three months ended June 26, 2021 as compared to the corresponding period in 2020; and a higher income tax provision recognized in connection with certain tax law changes enacted and higher non-deductible transaction costs incurred in the three months ended June 26, 2021 as compared to the corresponding period of 2020.

Net income attributable to common shareholders increased to $150.0 million in the six months ended June 26, 2021, from $118.2 million in the corresponding period of 2020. The increase in Net income attributable to common shareholders was primarily due to the increase in operating income described above, partially offset by debt extinguishment costs associated with the repayment of the 2026 Senior Notes and related write-off of deferred financing costs, as compared to the corresponding period in 2020; venture capital investment losses in the six months ended June 26, 2021 as compared to gains incurred for the corresponding period in 2020; and a higher income tax provision recognized in connection with certain tax law changes enacted and higher non-deductible transaction costs incurred in the six months ended June 26, 2021 as compared to the corresponding period of 2020.

During the first six months of 2021, our cash flows from operations was $356.8 million compared with $230.9 million for the same period in 2020. The increase was driven by higher net income and certain favorable changes in working capital items, including the timing of vendor and supplier payments and collections of net contract balances from contracts with customers (collectively trade receivables and contract assets, net; deferred revenue; and customer contract deposits) compared to the same period in 2020.

During the first six months of 2021, we issued $1 billion of debt split between $500 million of 3.75% Senior Notes due in 2029 (2029 Senior Notes), and $500 million of 4.00% Senior Notes due in 2031 (2031 Senior Notes), in an unregistered offering. Interest on the 2029 and 2031 Senior Notes is payable semi-annually on March 15 and September 15. Proceeds from the 2029 and 2031 Senior Notes were used as follows: prepay the $500 million 2026 Senior Notes, $21 million of debt extinguishment costs, and $13 million of accrued interest; prepay the $146.9 million remaining term loan; pay down $135 million of the revolving facility; and pay for a portion of the Cognate acquisition. Additionally, in April, 2021, we amended and restated our Credit Facility by extending the maturity date to April 2026 and increasing the amount of our multi-currency revolving facility from $2.05 billion to $3.0 billion.

Results of Operations

Three Months Ended June 26, 2021 Compared to the Three Months Ended June 27, 2020

Revenue and Operating Income

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

	Three Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
Service revenue	$ 715.3	$ 550.6	$ 164.7	29.9 %
Product revenue	199.3	132.0	67.3	50.9 %
Total revenue	$ 914.6	$ 682.6	$ 232.0	34.0 %

	Three Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
RMS	$ 176.7	$ 116.5	$ 60.2	51.6 %	5.2 %
DSA	540.1	442.6	97.5	22.0 %	3.0 %
Manufacturing	197.8	123.5	74.3	60.2 %	5.4 %
Total revenue	$ 914.6	$ 682.6	$ 232.0	34.0 %	3.9 %

The following table presents operating income by reportable segment:

	Three Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
RMS	$ 42.6	$ 3.8	$ 38.8	1,007.7 %
DSA	104.5	72.2	32.3	44.7 %
Manufacturing	56.7	42.9	13.8	32.1 %
Unallocated corporate	(66.3)	(42.1)	(24.2)	56.8 %
Total operating income	$ 137.5	$ 76.8	$ 60.7	79.2 %
Operating income % of revenue	15.0 %	11.2 %		380 bps

The following presents and discusses our consolidated financial results by each of our reportable segments:

RMS

	Three Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 176.7	$ 116.5	$ 60.2	51.6 %	5.2 %
Cost of revenue (excluding amortization of intangible assets)	106.0	89.0	17.0	19.1 %	
Selling, general and administrative	24.0	19.8	4.2	21.2 %	
Amortization of intangible assets	4.1	3.9	0.2	5.2 %	
Operating income	$ 42.6	$ 3.8	$ 38.8	1,007.7 %	
Operating income % of revenue	24.1 %	3.3 %		2080 bps	

RMS revenue increased $60.2 million due primarily to higher research model product revenue across all geographies, most notably North America and China, as we recovered from the impact of the COVID-19 pandemic compared to the corresponding period in 2020 when many of our academic clients experienced closures; higher research model services revenue, specifically our RADS and GEMS business; the acquisition of Cellero, which contributed $2.2 million to product revenue; and the effect of changes in foreign currency exchange rates.

RMS operating income increased $38.8 million compared to the corresponding period in 2020. RMS operating income as a percentage of revenue for the three months ended June 26, 2021 was 24.1%, an increase of 2080 bps from 3.3% for the corresponding period in 2020. Operating income and operating income as a percentage of revenue increased primarily due to the contribution of higher revenue described above as we recovered from the COVID-19 pandemic.

DSA

	Three Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
			(in millions, except percentages)		
Revenue	$ 540.1	$ 442.6	$ 97.5	22.0 %	3.0 %
Cost of revenue (excluding amortization of intangible assets)	365.9	302.9	63.0	20.8 %	
Selling, general and administrative	48.6	45.7	2.9	6.2 %	
Amortization of intangible assets	21.1	21.8	(0.7)	(2.7)%	
Operating income	$ 104.5	$ 72.2	$ 32.3	44.7 %	
Operating income % of revenue	19.4 %	16.3 %		310 bps	

DSA revenue increased $97.5 million due primarily to service revenue which increased in both the Safety Assessment and Discovery Services businesses due to demand from biotechnology and global biopharmaceutical clients; increased pricing of services; the acquisitions of Distributed Bio and Retrogenix, which contributed $0.7 million and $3.2 million to Discovery Services revenue, respectively; and the effect of changes in foreign currency exchange rates. DSA revenue was not significantly impacted by the COVID-19 pandemic during the three months ended June 26, 2021 and June 27, 2020.

DSA operating income increased $32.3 million during the three months ended June 26, 2021 compared to the corresponding period in 2020. DSA operating income as a percentage of revenue for the three months ended June 26, 2021 was 19.4%, an increase of 310 bps from 16.3% for the corresponding period in 2020. Operating income and operating income as a percentage of revenue increased primarily due to the contribution of higher revenue described above, partially offset by the impact of foreign currency. These increases were also attributable to decreased costs in both cost of revenue and selling, general, and administrative expenses related to certain 2020 site closures, which resulted in lower severance costs, site consolidation costs, and asset impairments; and lower amortization of intangible assets during the three months ended June 26, 2021 compared to the corresponding period in 2020.

Manufacturing

	Three Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
			(in millions, except percentages)		
Revenue	$ 197.8	$ 123.5	$ 74.3	60.2 %	5.4 %
Cost of revenue (excluding amortization of intangible assets)	100.6	58.4	42.2	72.1 %	
Selling, general and administrative	32.7	19.9	12.8	64.5 %	
Amortization of intangible assets	7.8	2.3	5.5	252.2 %	
Operating income	$ 56.7	$ 42.9	$ 13.8	32.1 %	
Operating income % of revenue	28.7 %	34.8 %		(610) bps	

Manufacturing revenue increased $74.3 million due primarily to the acquisition of Cognate, which contributed $34.8 million, and higher service revenue both in our Biologics business; increased demand for endotoxin products in our Microbial Solutions business; and the effect of changes in foreign currency exchange rates. Overall, Manufacturing revenue was not significantly impacted by the COVID-19 pandemic during the three months ended June 26, 2021 and June 27, 2020.

Manufacturing operating income increased $13.8 million during the three months ended June 26, 2021 compared to the corresponding period in 2020. The increase in operating income was due primarily to the contribution of higher revenue in our Biologics business in the three months ended June 26, 2021 compared to the same period in 2020. Manufacturing operating income as a percentage of revenue for the three months ended June 26, 2021 was 28.7%, a decrease of (610) bps from 34.8% for the corresponding period in 2020. The decrease in operating income as a percentage of revenue was due to the acquisition of Cognate, principally due to the higher amortization of intangible assets associated with the acquisition, as well as higher production costs in our Microbial Solutions business during the three months ended June 26, 2021 compared to the corresponding period in 2020.

Unallocated Corporate

	Three Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
Unallocated corporate	$ 66.3	$ 42.1	$ 24.2	56.8 %
Unallocated corporate % of revenue	7.2 %	6.2 %		100 bps

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 $24.2 million, or 56.8%, compared to the corresponding period in 2020 is primarily related to increased costs associated with the evaluation and integration of our recent acquisition activity, and an increase in compensation, benefits, and other employee-related expenses. Costs as a percentage of revenue for the three months ended June 26, 2021 was 7.2%, an increase of 100 bps from 6.2% for the corresponding period in 2020.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits was $0.2 million and $0.3 million for the three months ended June 26, 2021 and the corresponding period in 2020, respectively.

Interest Expense

Interest expense for the three months ended June 26, 2021 was $16.2 million, a decrease of $3.2 million, or 16.3%, compared to $19.4 million for the corresponding period in 2020. The decrease was due primarily to a foreign currency gain recognized in connection with a debt-related foreign exchange forward contract in the three months ended June 26, 2021, partially offset by higher interest expense in the three months ended June 26, 2021 as compared to the corresponding period in 2020.

Other Income (Expense), Net

Other income, net, was $6.0 million for the three months ended June 26, 2021, a decrease of $20.3 million compared to $26.3 million for the corresponding period in 2020. The decrease was due primarily to lower venture capital and life insurance investment gains in the three months ended June 26, 2021 and a higher 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 in the three months ended June 26, 2021, as compared to the corresponding period in 2020.

Income Taxes

Income tax expense for the three months ended June 26, 2021 was $37.6 million, an increase of $21.3 million compared to $16.3 million for the corresponding period in 2020. Our effective tax rate was 29.5% for the three months ended June 26, 2021, compared to 19.4% for the corresponding period in 2020. The increase in our effective tax rate in the 2021 period compared to the 2020 period was primarily attributable to deferred tax impacts of tax law changes enacted in the three months ended June 26, 2021 and higher non-deductible transaction costs, partially offset by increased tax benefit from stock-based compensation deductions in the three months ended June 26, 2021 compared to the corresponding period in 2020.

Six Months Ended June 26, 2021 Compared to the Six Months Ended June 27, 2020

Revenue and Operating Income

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

	Six Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
Service revenue	$ 1,341.9	$ 1,097.1	$ 244.8	22.3 %
Product revenue	397.3	292.5	104.8	35.8 %
Total revenue	$ 1,739.2	$ 1,389.6	$ 349.6	25.2 %

	Six Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
RMS	$ 353.6	$ 262.5	$ 91.1	34.7 %	4.6 %
DSA	1,041.3	881.2	160.1	18.2 %	2.7 %
Manufacturing	344.3	245.9	98.4	40.0 %	4.7 %
Total revenue	$ 1,739.2	$ 1,389.6	$ 349.6	25.2 %	3.4 %

The following table presents operating income by reportable segment:

	Six Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
RMS	$ 87.5	$ 31.2	$ 56.3	180.3 %
DSA	195.5	144.5	51.0	35.2 %
Manufacturing	106.2	84.0	22.2	26.3 %
Unallocated corporate	(127.9)	(88.7)	(39.2)	44.1 %
Total operating income	$ 261.3	$ 171.0	$ 90.3	52.7 %
Operating income % of revenue	15.0 %	12.3 %		270 bps

The following presents and discusses our consolidated financial results by each of our reportable segments:

RMS

	Six Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 353.6	$ 262.5	$ 91.1	34.7 %	4.6 %
Cost of revenue (excluding amortization of intangible assets)	211.4	184.9	26.5	14.3 %	
Selling, general and administrative	46.6	39.0	7.6	19.6 %	
Amortization of intangible assets	8.1	7.4	0.7	9.0 %	
Operating income	$ 87.5	$ 31.2	$ 56.3	180.3 %	
Operating income % of revenue	24.7 %	11.9 %		1280 bps	

RMS revenue increased $91.1 million due primarily to higher research model product revenue across all geographies, most notably North America and China, as we recovered from the impact of the COVID-19 pandemic compared to the corresponding period in 2020 when many of our academic clients experienced closures; higher research model services revenue, specifically our GEMS and RADS business; the acquisition of Cellero, which contributed $4.8 million to product revenue; and the effect of changes in foreign currency exchange rates.

RMS operating income increased $56.3 million compared to the corresponding period in 2020. RMS operating income as a percentage of revenue for the six months ended June 26, 2021 was 24.7%, an increase of 1280 bps from 11.9% for the corresponding period in 2020. Operating income and operating income as a percentage of revenue increased primarily due to the contribution of higher revenue described above as we recovered from the COVID-19 pandemic.

DSA

	Six Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 1,041.3	$ 881.2	$ 160.1	18.2 %	2.7 %
Cost of revenue (excluding amortization of intangible assets)	706.0	604.0	102.0	16.9 %	
Selling, general and administrative	96.2	89.0	7.2	8.1 %	
Amortization of intangible assets	43.6	43.7	(0.1)	(0.1)%	
Operating income	$ 195.5	$ 144.5	$ 51.0	35.2 %	
Operating income % of revenue	18.8 %	16.4 %		240 bps	

DSA revenue increased $160.1 million due primarily to service revenue which increased in both the Safety Assessment and Discovery Services businesses due to demand from biotechnology and global biopharmaceutical clients; increased pricing of services; the acquisitions of Distributed Bio and Retrogenix, which contributed $2.2 million and $3.2 million to Discovery Services revenue, respectively; and the effect of changes in foreign currency exchange rates. DSA revenue was not significantly impacted by the COVID-19 pandemic during the six months ended June 26, 2021 and June 27, 2020.

DSA operating income increased $51.0 million during the six months ended June 26, 2021 compared to the corresponding period in 2020. DSA operating income as a percentage of revenue for the six months ended June 26, 2021 was 18.8%, an increase of 240 bps from 16.4% for the corresponding period in 2020. Operating income and operating income as a percentage of revenue increased primarily due to the contribution of higher revenue described above, partially offset by the impact of foreign currency. These increases were also attributable to decreased costs in both cost of revenue and selling, general, and administrative expenses related to certain 2020 site closures, which resulted in lower severance costs, site consolidation costs, and asset impairments during the six months ended June 26, 2021 compared to the corresponding period in 2020.

Manufacturing

	Six Months Ended				
	June 26, 2021	June 27, 2020	$ change	% change	Impact of FX
	(in millions, except percentages)				
Revenue	$ 344.3	$ 245.9	$ 98.4	40.0 %	4.7 %
Cost of revenue (excluding amortization of intangible assets)	171.3	116.5	54.8	47.2 %	
Selling, general and administrative	56.8	40.9	15.9	38.7 %	
Amortization of intangible assets	10.0	4.5	5.5	124.5 %	
Operating income	$ 106.2	$ 84.0	$ 22.2	26.3 %	
Operating income % of revenue	30.8 %	34.2 %		(340) bps	

Manufacturing revenue increased $98.4 million due primarily to the acquisition of Cognate, which contributed $34.8 million, and higher service revenue both in our Biologics business; increased demand for endotoxin products in our Microbial Solutions business; and the effect of changes in foreign currency exchange rates. Overall, Manufacturing revenue was not significantly impacted by the COVID-19 pandemic during the six months ended June 26, 2021 and June 27, 2020.

Manufacturing operating income increased $22.2 million during the six months ended June 26, 2021 compared to the corresponding period in 2020. The increase in operating income was due primarily to the contribution of higher revenue in our Biologics business in the six months ended June 26, 2021 compared to the same period in 2020. Manufacturing operating income as a percentage of revenue for the six months ended June 26, 2021 was 30.8%, a decrease of (340) bps from 34.2% for the corresponding period in 2020. The decrease in operating income as a percentage of revenue was due to the acquisition of Cognate, principally due to the higher amortization of intangible assets associated with the acquisition, as well as higher production costs in our Microbial Solutions business during the six months ended June 26, 2021 compared to the corresponding period in 2020.

Unallocated Corporate

	Six Months Ended			
	June 26, 2021	June 27, 2020	$ change	% change
	(in millions, except percentages)			
Unallocated corporate	$ 127.9	$ 88.7	$ 39.2	44.1 %
Unallocated corporate % of revenue	7.3 %	6.4 %		90 bps

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 $39.2 million, or 44.1%, compared to the corresponding period in 2020 is primarily related to increased costs associated with the evaluation and integration of our recent acquisition activity, and an increase in compensation, benefits, and other employee-related expenses. Costs as a percentage of revenue for the six months ended June 26, 2021 was 7.3%, an increase of 90 bps from 6.4% for the corresponding period in 2020.

Interest Income

Interest income, which represents earnings on cash, cash equivalents, and time deposits was $0.2 million and $0.6 million for the six months ended June 26, 2021 and the corresponding period in 2020, respectively.

Interest Expense

Interest expense for the six months ended June 26, 2021 was $45.9 million, an increase of $11.5 million, or 33.4%, compared to $34.4 million for the corresponding period in 2020. The increase was due primarily to $26 million of debt extinguishment costs associated with the repayment of the 2026 Senior Notes and related write-off of deferred financing costs incurred in the six months ended June 26, 2021, partially offset by a higher foreign currency gain recognized in connection with a debt-related foreign exchange forward contract in the six months ended June 26, 2021 compared to the corresponding period in 2020.

Other Income (Expense), Net

Other expense, net, was $21.8 million for the six months ended June 26, 2021, a decrease of $24.0 million compared to other income, net of $2.2 million for the corresponding period in 2020. The decrease was due primarily to venture capital investment losses in the six months ended June 26, 2021 as compared to gains incurred for the corresponding period in 2020, and higher foreign currency losses recognized in connection with a U.S. dollar denominated loan borrowed by a non-U.S. entity with a different functional currency in the six months ended June 26, 2021 as compared to the corresponding period in 2020; partially offset by higher gains on our life insurance investments for the six months ended June 26, 2021 as compared to losses incurred during the corresponding period in 2020.

Income Taxes

Income tax expense for the six months ended June 26, 2021 was $39.9 million, an increase of $19.0 million compared to $20.9 million for the corresponding period in 2020. Our effective tax rate was 20.6% for the six months ended June 26, 2021 compared to 15.0% for the corresponding period in 2020. The increase in our effective tax rate in the 2021 period compared to the 2020 period was primarily attributable to deferred tax impacts of tax law changes enacted in the three months ended June 26, 2021 and higher non-deductible transaction costs, partially offset by increased tax benefit from stock-based compensation deductions in the first half of 2021 compared to the corresponding period in 2020.

Liquidity and Capital Resources

We currently require cash to fund our working capital needs, capital expansion, acquisitions, and to pay our debt, lease, venture capital investment, 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 short-term investments:

	June 26, 2021	December 26, 2020
	(in millions)	
Cash and cash equivalents:		
Held in U.S. entities	$ 19.5	$ 11.8
Held in non-U.S. entities	203.5	216.6
Total cash and cash equivalents	223.0	228.4
Short-term investments:		
Held in non-U.S. entities	1.0	1.0
Total cash, cash equivalents and short-term investments	$ 224.0	$ 229.4

Borrowings

As of March 27, 2021, we had a credit facility, which consisted of a $750.0 million term loan, which was fully repaid as of March 27, 2021, and a $2.05 billion multi-currency revolving facility. The term loan facility matured in 19 quarterly installments with the last installment due March 26, 2023. The revolving facility was set to mature on March 26, 2023, and required no scheduled payment before that date.

During the three months ended June 26, 2021, we amended and restated the Credit Facility creating a $3.0 billion multi-currency revolving facility, which extends the maturity date to April 2026 and requires no scheduled payment before that date. The Credit Facility provides for a $3.0 billion multi-currency revolving facility.

We also have certain indentures that allow for senior notes offerings:

- In 2018, we raised $500.0 million of 5.5% Senior Notes due in 2026 (2026 Senior Notes) in an unregistered offering. Interest on the 2026 Senior Notes was payable semi-annually on April 1 and October 1. On March 23, 2021, we repaid the $500.0 million 2026 Senior Notes with proceeds from our 2029 and 2031 Senior Notes (see below).
- In 2019, we raised $500.0 million of 4.25% Senior Notes due in 2028 (2028 Senior Notes) in an unregistered offering. Interest on the 2028 Senior Notes is payable semi-annually on May 1 and November 1.
- In March 2021, we raised $1.0 billion of senior notes split between $500 million of 3.75% Senior Notes due in 2029 (2029 Senior Notes), and $500 million of 4.00% Senior Notes due in 2031 (2031 Senior Notes) in an unregistered offering. Interest on the 2029 and 2031 Senior Notes is payable semi-annually on March 15 and September 15.

Amounts outstanding under our Credit Facility and our Senior Notes were as follows:

	June 26, 2021	December 26, 2020
	(in millions)	
Term loans	$ —	$ 146.9
Revolving facility	1,225.4	814.8
5.5% Senior Notes due 2026	—	500.0
4.25% Senior Notes due 2028	500.0	500.0
3.75% Senior Notes due 2029	500.0	—
4.0% Senior Notes due 2031	500.0	—
Total	$ 2,725.4	$ 1,961.7

The interest rates applicable to the amended and restated revolving facility are equal to (A) for revolving loans denominated in U.S. dollars, at our option, either the base rate (which is the higher of (1) the prime rate, (2) the federal funds rate plus 0.50%, or (3) the one-month adjusted LIBOR rate plus 1%) or the adjusted LIBOR rate, (B) for revolving loans denominated in euros, the adjusted EURIBOR rate and (C) for revolving loans denominated in sterling, the daily simple SONIA rate, in each case, plus an interest rate margin based upon our leverage ratio.

Repurchases of Common Stock

During the six months ended June 26, 2021, we did not repurchase any shares under our authorized stock repurchase program. As of June 26, 2021, we had $129.1 million remaining on the authorized $1.3 billion stock repurchase program and we do not intend to repurchase shares for the remainder of 2021. Our stock-based compensation plans permit the netting of common stock upon vesting of restricted stock, restricted stock units, and performance share units in order to satisfy individual statutory tax withholding requirements. During the six months ended June 26, 2021, we acquired 0.1 million shares for $40.3 million through such netting.

Cash Flows

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

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in millions)	
Net income	$ 153.9	$ 118.5
Adjustments to reconcile net income to net cash provided by operating activities	203.2	137.3
Changes in assets and liabilities	(0.3)	(24.9)
Net cash provided by operating activities	$ 356.8	$ 230.9

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 net income for (1) non-cash operating items such as depreciation and amortization, stock-based compensation, debt extinguishment and financing costs, deferred income taxes, gains and/or losses on venture capital and strategic equity investments, as well as (2) changes in operating assets and liabilities, which reflect timing differences between the receipt and payment of cash associated with transactions and when they are recognized in our results of operations. For the six months ended June 26, 2021, compared to the six months ended June 27, 2020, the increase in net cash provided by operating activities was driven by higher net income and certain favorable changes in working capital items, including the timing of vendor and supplier payments and collections of net contract balances from contracts with customers (collectively trade receivables and contract assets, net; deferred revenue; and customer contract deposits) compared to the same period in 2020.

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

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in millions)	
Acquisitions of businesses and assets, net of cash acquired	$ (1,000.5)	$ (382.3)
Capital expenditures	(74.5)	(52.5)
Investments, net	(18.1)	(6.4)
Other, net	0.9	(1.1)
Net cash used in investing activities	$ (1,092.2)	$ (442.3)

For the six months ended June 26, 2021, the primary use of cash used in investing activities related to the acquisitions of Cognate, Distributed Bio, Retrogenix, and certain assets from a distributor, capital expenditures to support the growth of the business, and investments in certain venture capital and strategic equity investments. For the six months ended June 27, 2020, the primary use of cash used in investing activities related to the acquisition of HemaCare, capital expenditures to support the growth of the business, and investments in certain venture capital and strategic equity investments.

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

	Six Months Ended	
	June 26, 2021	June 27, 2020
	(in millions)	
Proceeds from long-term debt and revolving credit facility	$ 4,999.9	$ 1,412.0
Payments on long-term debt, revolving credit facility, and finance lease obligations	(4,241.8)	(1,045.2)
Proceeds from exercises of stock options	35.3	36.6
Purchase of treasury stock	(40.3)	(23.8)
Payment of debt extinguishment and financing costs	(38.2)	—
Other, net	(2.2)	(4.5)
Net cash provided by financing activities	$ 712.7	$ 375.1

For the six months ended June 26, 2021, net cash provided by financing activities reflected the net proceeds of $758.1 million on our Credit Facility, Senior Notes, and finance lease obligations. Included in the net proceeds are the following amounts:

- Payments of approximately $147 million on our term loan;
- Proceeds of $1.0 billion from the issuance of the 2029 and 2031 Senior Notes, which were used to prepay our $500 million 2026 Senior Notes;

- Borrowings under our Credit Facility of $1.1 billion, which were used primarily for the acquisitions of Cognate, Distributed Bio, Retrogenix and certain assets from a distributor;
- Payments of $962 million made to our Credit Facility throughout the six months ended June 26, 2021;
- Gross proceeds and borrowings of $1.5 billion, but having a net impact of zero, were incurred as part of amending and restating our Credit Facility;
- Proceeds of $1.5 billion, partially offset by $1.2 billion of payments in connection with a non-U.S. Euro functional currency entity repaying Euro loans and replacing the Euro loans with U.S. dollar denominated loans. A series of forward currency contracts were executed to mitigate any foreign currency gains or losses on the U.S. dollar denominated loans. These proceeds and payments are presented as gross financing activities.

Net cash provided by financing activities also reflected proceeds from exercises of employee stock options of $35.3 million, offset by treasury stock purchases of $40.3 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements. Additionally we paid $21 million of debt extinguishment costs associated with the 2026 Senior Notes repayment and $17 million of debt financing costs associated with the 2029 and 2031 Senior Notes issuances and amending and restating the Credit Agreement.

For the six months ended June 27, 2020, net cash provided by financing activities reflected the net proceeds of $366.8 million on our Credit Facility and finance lease obligations. Included in the net proceeds are the following amounts:

- Proceeds of approximately $415 million from our revolving Credit Facility to fund our recent acquisitions. Additionally, towards the end of the first fiscal quarter, we borrowed an additional $150 million from our revolving Credit Facility to secure cash on hand in response to uncertainties due to the COVID-19 pandemic; partially offset by,
- Payments of approximately $19 million on our term loan and payments of $178 million to our revolving Credit Facility in the normal course of business throughout the six months ended June 27, 2020;
- Additionally, we had $798 million of gross payments, partially offset by $794 million of gross proceeds in connection with a non-U.S. Euro functional currency entity repaying Euro loans and replacing the Euro loans with U.S. dollar denominated loans. A series of forward currency contracts were executed to mitigate any foreign currency gains or losses on the U.S. dollar denominated loans. These proceeds and payments are presented as gross financing activities.

Net cash provided by financing activities also reflected proceeds from exercises of employee stock options of $36.6 million, offset by treasury stock purchases of $23.8 million made due to the netting of common stock upon vesting of stock-based awards in order to satisfy individual statutory tax withholding requirements.

Contractual Commitments and Obligations

The disclosure of our contractual commitments and obligations was reported in our Annual Report on Form 10-K for fiscal 2020. There have been no material changes from the contractual commitments and obligations previously disclosed in our Annual Report on Form 10-K for fiscal 2020 other than the changes described in Note 2, “Business Combinations,” 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 June 26, 2021, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K promulgated under the Exchange Act, except as disclosed below.

Venture Capital Investments
We invest in several venture capital funds that invest in start-up companies, primarily in the life sciences industry. Our total commitment to the funds as of June 26, 2021 was $149.5 million, of which we funded $105.2 million through June 26, 2021. Refer to Note 6, “Venture Capital and Strategic Equity 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 June 26, 2021 were $16.7 million.

Critical Accounting Policies and Estimates

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

We believe that the application of our 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. Our significant accounting policies are described in Note 1, "Description of Business and Summary of Significant Accounting Policies" to our Annual Report on Form 10-K for fiscal year 2020.

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 six months ended June 26, 2021 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 June 26, 2021, 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 $12.3 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 and Canadian Dollar. During the six months ended June 26, 2021, the most significant drivers of foreign currency translation adjustment the Company recorded as part of Other comprehensive income (loss) were the Canadian Dollar, Euro, British Pound, Japanese Yen, and Chinese Yuan.

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 six months ended June 26, 2021, our revenue would have increased by $61.0 million and our operating income would have increased by $2.4 million, if the U.S. dollar exchange rate had strengthened by 10%, 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 six months ended June 26, 2021, we entered into foreign exchange forward contracts to limit our foreign currency exposure related to a U.S. dollar denominated loan borrowed by a non-U.S. Euro functional currency entity under our Credit Facility. Refer to Note 14, "Foreign Currency Contracts" in this Quarterly Report on Form 10-Q for additional information regarding this type of forward contracts.

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 June 26, 2021, 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 Over Financial Reporting

The Company continued to execute a plan to centralize certain accounting transaction processing functions to internal shared service centers during the three months ended June 26, 2021. 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 June 26, 2021 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 2020, 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 2020, except as disclosed below.

Contract development and manufacturing services create a risk of liability.

The acquisitions of Cognate and Vigene in 2021 have expanded Charles River’s business into the contract development and manufacturing organization (“CDMO”) market, which entails additional risks of liability, including potential product liability claims, errors and omissions claims in connection with Charles River’s services and potential liability under indemnification agreements between Charles River and its officers and directors.

Charles River customers’ failure to receive or maintain regulatory approval for their product candidates could negatively impact Charles River’s revenue and profitability.

Charles River will have significant business which will materially depend upon the regulatory approval of the products it will manufacture for its CDMO customers. As such, if these customers experience a delay in, or failure to receive, approval for any of their product candidates or fail to maintain regulatory approval of their products that Charles River develops or manufactures, Charles River’s revenue and profitability could be materially adversely affected. Additionally, if the Food and Drug Administration or a comparable foreign regulatory authority does not approve of Charles River’s facilities for the manufacture of a customer product, observes significant deficiencies or violations at its facilities or withdraws such approval in the future, Charles River’s customers may choose to identify alternative manufacturing facilities and/or relationships, which could significantly impact Charles River’s CDMO capacity and capabilities and results of operations therefrom.

Charles River’s CDMO business, financial condition and results of operations may be adversely affected if the products Charles River manufactures for its customers do not gain market acceptance.

If the products Charles River manufactures for its customers do not gain market acceptance or production volumes of key products that Charles River manufactures for its customers decline, financial condition and results of operations may be adversely affected. For Charles River’s CDMO business, Charles River will depend on, and have no control over, market acceptance for the products that Charles River will manufacture for its customers. Consumer demand for these products could be adversely affected by, among other things, delays in securing regulatory approvals, the emergence of competing or alternative products, including generic drugs, the emergence of new safety data for such products, the loss of patent and other intellectual property rights protection, reductions in private and government payment product subsidies or changing product marketing strategies.

Charles River has various competitors in the CDMO market which could result in a decrease in the fees paid for Charles River’s services and may adversely affect its results of operations and financial condition.

Charles River’s competition in the CDMO market includes full-service contract manufacturers and large pharmaceutical companies offering third-party manufacturing services to fill their excess capacity. Also, large pharmaceutical companies have been seeking to divest portions of their manufacturing capacity, and any such divested businesses may compete with Charles River in the future. Furthermore, many of Charles River’s CDMO competitors may have substantially greater financial, marketing, technical or other resources than Charles River does. Moreover, additional competition may emerge, particularly in lower-cost jurisdictions such as India and China, which could, among other things, result in a decrease in the fees paid for Charles River’s services, which may adversely affect Charles River’s results of operations and financial condition.

Manufacturing services are highly complex and failure to provide quality and timely services to Charles River’s CDMO customers, could adversely impact its business.

The CDMO services Charles River offers can be highly complex, due in part to strict regulatory requirements. A failure of its quality control systems in its facilities could cause problems in connection with facility operations for a variety of reasons, including equipment malfunction, viral contamination, failure to follow specific manufacturing instructions, protocols and standard operating procedures, problems with raw materials or environmental factors. Such issues could affect production of a single manufacturing run or manufacturing campaigns, requiring the destruction of products, or could halt manufacturing operations altogether. In addition, any failure to meet required quality standards may result in Charles River’s failure to timely deliver products to its customers which, in turn, could damage Charles River’s reputation for quality and service. Any such incident could, among other things, lead to increased costs, lost revenue, reimbursement to customers for lost drug substances, damage to and possibly termination of customer relationships, time and expense spent investigating and remediating the cause and, depending on the cause, similar losses with respect to other manufacturing runs. In addition, such issues could subject Charles River to litigation, the cost of which could be significant.

CDMO operations are dependent upon the supply of necessary raw materials and supplies from third parties, and any inability to obtain such raw materials or supplies could adversely impact Charles River’s business, results of operations and financial condition.

Charles River’s CDMO operations will require various raw materials supplied primarily by third parties. Charles River or its customers will specify the raw materials and other items required to manufacture their product and, in some cases, the customers will specify the suppliers from whom Charles River must purchase these raw materials. In certain instances, the raw materials and other items may only be supplied by a limited number of suppliers or in limited quantities. If third-party suppliers do not supply raw materials or other items on a timely basis, it may cause a manufacturing run to be delayed or canceled which could materially adversely affect Charles River’s results of operations and financial condition.

Furthermore, third-party suppliers may fail to provide Charles River with raw materials and other items that meet the qualifications and specifications required by Charles River or its customers. If third-party suppliers are not able to provide Charles River with raw materials that meet its or its customers’ specifications on a timely basis, Charles River may be unable to manufacture its product or it could prevent Charles River from delivering products to its customers within required time frames. Any such delay in delivering its products may create liability for Charles River to its customers for breach of contract or cause Charles River to experience order cancellations and loss of customers. In the event that Charles River manufactures products with components or raw materials that do not meet its qualifications and specifications or those of its customers or governmental or regulatory authorities, Charles River may become subject to product liability claims caused by defective raw materials or components from a third-party supplier or from a customer.

The failure to successfully obtain, maintain and enforce intellectual property rights and defend against challenges to intellectual property rights could adversely affect us.

Many of our services, products and processes rely on intellectual property. In some cases, that intellectual property is owned by another party and licensed to us, sometimes exclusively. To protect our intellectual property rights, we primarily rely upon trade secret law, confidentiality agreements and policies, invention assignments and other contractual arrangements, along with patent, copyright and trademark laws. Existing laws of certain countries outside of the United States in which we operate offer only limited protection, and these are subject to change at any time. In addition, the agreements upon which we rely to protect our intellectual property might be breached, or might not be fully enforceable. Our intellectual property rights might not prevent our competitors from independently developing intellectual property that is similar to or duplicative of ours. Also, enforcing our intellectual property rights might also require substantial time, money and oversight, and we might not be successful in enforcing our rights. If we are unable to obtain or maintain the proprietary rights to our intellectual property, if we are unable to prevent attempted infringement against our intellectual property, or if we are unable to defend against claims that we are infringing on another party’s intellectual property, we could be adversely affected. These adverse effects could include us having to abandon, alter or delay the deployment of products, services or processes that rely on such intellectual property; having to procure and pay for licenses from the holders of intellectual property rights that we seek to use; and having to pay damages, fines, court costs and attorney's fees in connection with intellectual property litigation.

Similarly, the customers of Cognate and Vigene, which we acquired in the second quarter of 2021, also rely on intellectual property for the production of their products, the manufacture of which has been contracted to them. Failure by such customers to obtain, maintain and enforce such intellectual property rights and defend against challenges to their intellectual property rights could have a material adverse effect, including reduced revenue as a result in a delay or cancellation of the manufacture of products that rely on such intellectual property, and having to pay legal expenses in connection with intellectual property litigation in which we are named as a party.

Further, the drug discovery and development industry has a history of patent and other intellectual property litigation and these lawsuits will likely continue. Legal proceedings relating to intellectual property are expensive, take significant time, and divert management’s attention from other business concerns, whether we win or lose. If we do not prevail in an infringement lawsuit brought against us, we may have to pay substantial damages, including treble damages, and we could be required to stop the infringing activity or obtain a license to use technology on unfavorable terms.

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 June 26, 2021.

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs
				(in thousands)
March 28, 2021 to April 24, 2021	—	$ —	—	$ 129,105
April 25, 2021 to May 22, 2021	288	332.45	—	129,105
May 23, 2021 to June 26, 2021	12,352	337.99	—	129,105
Total	12,640		—	

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 June 26, 2021, we did not repurchase any shares of common stock under our stock repurchase program or in open market trading. As of June 26, 2021, 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**
31.1+	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer
31.2+	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1+	Certification of the Principal Executive Officer and the Principal Financial Officer required by Rule 13a-14(a) of 15d-14(a) of the Exchange Act
101.INS	eXtensible Business Reporting Language (XBRL) Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Calculation Linkbase Document
101.DEF	XBRL Taxonomy Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document

+ Furnished herein.

SIGNATURES

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

CHARLES RIVER LABORATORIES INTERNATIONAL, INC.

August 4, 2021	/s/ JAMES C. FOSTER
	James C. Foster *Chairman, President and Chief Executive Officer*
August 4, 2021	/s/ DAVID R. SMITH
	David R. Smith *Corporate Executive Vice President and Chief Financial Officer*

Exhibit 31.1

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

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

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended June 26, 2021 of the registrant;

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

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

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

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

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

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

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

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

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

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

/s/ James C. Foster

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

August 4, 2021

Exhibit 31.2

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

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

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended June 26, 2021 of the registrant;

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

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

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

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

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

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

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

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

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

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

/s/ David R. Smith

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

August 4, 2021

Exhibit 32.1

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

In connection with the quarterly report on Form 10-Q for the quarter ended June 26, 2021 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
August 4, 2021	James C. Foster *Chairman, President and Chief Executive Officer* Charles River Laboratories International, Inc.
	/s/ David R. Smith
August 4, 2021	David R. Smith *Corporate Executive Vice President and Chief Financial Officer* Charles River Laboratories International, Inc.

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