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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 26, 2020

OR

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

For the transition period from __________ to __________

Commission file number: 001-32598

Entegris, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**41-1941551**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
129 Concord Road, Billerica, Massachusetts	**01821**
(Address of principal executive offices)	**(Zip Code)**

(978) 436-6500
(Registrant's telephone number, including area code)

None
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, $0.01 par value per share	**ENTG**	**The Nasdaq Stock Market LLC**

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

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

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

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

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

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

As of October 19, 2020, there were 134,992,425 shares of the registrant's common stock outstanding.

ENTEGRIS, INC. AND SUBSIDIARIES
FORM 10-Q
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FOR THE QUARTER ENDED SEPTEMBER 26, 2020

Cautionary Statements

This Quarterly Report on Form 10-Q contains “forward-looking statements.” The words “believe,” “expect,” “anticipate,” “intend,” “estimate,” “forecast,” “project,” “should,” “may,” “will,” “would” or the negative thereof and similar expressions are intended to identify such forward-looking statements. These forward-looking statements may include statements about future period guidance or projections; the Company’s performance relative to its markets, including the drivers of such performance; market and technology trends, including the duration and drivers of any growth trends and the impact of the COVID-19 pandemic; the development of new products and the success of their introductions; the focus of the Company’s engineering, research and development projects; the Company’s ability to execute on its business strategies; the Company’s capital allocation strategy, which may be modified at any time for any reason, including share repurchases, dividends, debt repayments and potential acquisitions; the impact of the acquisitions the Company has made and commercial partnerships the Company has established; future capital and other expenditures, including estimates thereof; the Company’s expected tax rate; the impact, financial or otherwise, of any organizational changes; the impact of accounting pronouncements; quantitative and qualitative disclosures about market risk; and other matters. These forward-looking statements are based on current management expectations and assumptions only as of the date of this Quarterly Report, are not guarantees of future performance and involve substantial risks and uncertainties that are difficult to predict and that could cause actual results to differ materially from the results expressed in, or implied by, these forward-looking statements. These risks and uncertainties include, but are not limited to, risks related to the COVID-19 pandemic on the global economy and financial markets, as well as on the Company, our customers and suppliers, which may impact our sales, gross margin, customer demand and our ability to supply our products to our customers; weakening of global and/or regional economic conditions, generally or specifically in the semiconductor industry, which could decrease the demand for the Company’s products and solutions; the Company’s ability to meet rapid demand shifts; the Company’s ability to continue technological innovation and introduce new products to meet customers’ rapidly changing requirements; the Company’s concentrated customer base; the Company’s ability to identify, complete and integrate acquisitions, joint ventures or other transactions; the Company’s ability to effectively implement any organizational changes; the Company’s ability to protect and enforce intellectual property rights; operational, political and legal risks of the Company’s international operations; the Company’s dependence on sole source and limited source suppliers; the increasing complexity of certain manufacturing processes; raw material shortages, supply constraints and price increases; changes in government regulations of the countries in which the Company operates; fluctuation of currency exchange rates; fluctuations in the market price of the Company's stock; the level of, and obligations associated with, the Company's indebtedness; and other risk factors and additional information described in the Company's filings with the Securities and Exchange Commission, including under the heading "Risks Factors" in Item 1A of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed on February 7, 2020, under the heading "Risk Factors" in Item 1A of this Quarterly Report and in the Company's other periodic filings. Except as required under the federal securities laws and the rules and regulations of the Securities and Exchange Commission, the Company undertakes no obligation to update publicly any forward-looking statements or information contained herein, which speak as of their respective dates.

PART 1. FINANCIAL INFORMATION
Item 1. Financial Statements

ENTEGRIS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

(In thousands, except share and per share data)	September 26, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 447,972	$ 351,911
Trade accounts and notes receivable, net of allowance for doubtful accounts of $3,370 and $1,145	300,489	234,409
Inventories, net	329,741	287,098
Deferred tax charges and refundable income taxes	38,100	24,552
Other current assets	30,148	34,427
Total current assets	1,146,450	932,397
Property, plant and equipment, net of accumulated depreciation of $571,199 and $522,424	490,298	479,544
Other assets:		
Right-of-use assets	46,655	50,160
Goodwill	744,470	695,044
Intangible assets, net of accumulated amortization of $449,454 and $409,328	349,066	333,952
Deferred tax assets and other noncurrent tax assets	12,179	11,245
Other	12,510	13,744
Total assets	$ 2,801,628	$ 2,516,086
LIABILITIES AND EQUITY		
Current liabilities:		
Long-term debt, current maturities	$ —	$ 4,000
Accounts payable	69,918	84,207
Accrued payroll and related benefits	77,585	62,340
Other accrued liabilities	74,264	87,778
Income taxes payable	25,606	26,108
Total current liabilities	247,373	264,433
Long-term debt, excluding current maturities, net of unamortized discount and debt issuance costs of $9,620 and $9,516	1,085,380	932,484
Pension benefit obligations and other liabilities	38,064	37,867
Deferred tax liabilities and other noncurrent tax liabilities	88,103	71,586
Long-term lease liability	40,407	43,827
Commitments and contingent liabilities	—	—
Equity:		
Preferred stock, par value $.01; 5,000,000 shares authorized; none issued and outstanding as of September 26, 2020 and December 31, 2019	—	—
Common stock, par value $.01; 400,000,000 shares authorized; issued and outstanding shares as of September 26, 2020: 135,238,325 and 135,035,925, respectively; issued and outstanding shares as of December 31, 2019: 134,929,768 and 134,727,368, respectively	1,352	1,349
Treasury stock, at cost: 202,400 shares held as of September 26, 2020 and December 31, 2019	(7,112)	(7,112)
Additional paid-in capital	835,953	842,784
Retained earnings	516,111	366,127
Accumulated other comprehensive loss	(44,003)	(37,259)
Total equity	1,302,301	1,165,889
Total liabilities and equity	$ 2,801,628	$ 2,516,086

See the accompanying notes to condensed consolidated financial statements.

ENTEGRIS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

(In thousands, except per share data)	Three months ended September 26, 2020	Three months ended September 28, 2019	Nine months ended September 26, 2020	Nine months ended September 28, 2019
Net sales	$ 480,987	$ 394,147	$ 1,341,719	$ 1,164,068
Cost of sales	254,987	223,797	722,869	650,051
Gross profit	226,000	170,350	618,850	514,017
Selling, general and administrative expenses	71,195	71,232	196,958	217,636
Engineering, research and development expenses	36,295	31,173	98,499	90,788
Amortization of intangible assets	11,749	15,152	41,176	50,400
Operating income	106,761	52,793	282,217	155,193
Interest expense	12,781	11,388	36,345	33,587
Interest income	(130)	(1,172)	(664)	(4,020)
Other (income) expense, net	(1,752)	934	(1,351)	(121,329)
Income before income tax expense	95,862	41,643	247,887	246,955
Income tax expense	16,559	876	39,542	49,533
Net income	$ 79,303	$ 40,767	$ 208,345	$ 197,422
Basic earnings per common share	$ 0.59	$ 0.30	$ 1.55	$ 1.46
Diluted earnings per common share	$ 0.58	$ 0.30	$ 1.53	$ 1.45
Weighted shares outstanding:				
Basic	134,957	135,092	134,801	135,256
Diluted	136,252	136,530	136,209	136,601

See the accompanying notes to condensed consolidated financial statements.

ENTEGRIS, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three months ended		Nine months ended	
(In thousands)	**September 26, 2020**	**September 28, 2019**	**September 26, 2020**	**September 28, 2019**
Net income	$ 79,303	$ 40,767	$ 208,345	$ 197,422
Other comprehensive income (loss), net of tax				
Foreign currency translation adjustments	4,765	(6,005)	(6,772)	(10,504)
Pension liability adjustments	9	17	28	27
Other comprehensive income (loss)	4,774	(5,988)	(6,744)	(10,477)
Comprehensive income	$ 84,077	$ 34,779	$ 201,601	$ 186,945

See the accompanying notes to condensed consolidated financial statements.

ENTEGRIS, INC. AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF EQUITY

(Unaudited)

(In thousands)	**Common shares outstanding**	**Common stock**	**Treasury shares**	**Treasury stock**	**Additional paid-in capital**	**Retained earnings**	**Foreign currency translation adjustments**	**Defined benefit pension adjustments**	**Total**
Balance at December 31, 2018	136,179	$ 1,362	(202)	$ (7,112)	$ 837,658	$ 213,753	$ (32,776)	$ (860)	$ 1,012,025
Shares issued under stock plans	572	5	—	—	(6,817)	—	—	—	(6,812)
Share-based compensation expense	—	—	—	—	4,653	—	—	—	4,653
Repurchase and retirement of common stock	(1,035)	(10)	—	—	(6,364)	(23,413)	—	—	(29,787)
Dividends declared ($0.07 per share)	—	—	—	—	7	(9,517)	—	—	(9,510)
Pension liability adjustment	—	—	—	—	—	—	—	24	24
Foreign currency translation	—	—	—	—	—	—	(2,787)	—	(2,787)
Net income	—	—	—	—	—	32,658	—	—	32,658
Balance at March 30, 2019	135,716	$ 1,357	(202)	$ (7,112)	$ 829,137	$ 213,481	$ (35,563)	$ (836)	$ 1,000,464
Shares issued under stock plans	49	—		—	(572)	—	—	—	(572)
Share-based compensation expense	—	—	—	—	4,936	—	—	—	4,936
Repurchase and retirement of common stock	(422)	(4)	—	—	(2,579)	(12,417)	—	—	(15,000)
Dividends declared ($0.07 per share)	—	—	—	—	—	(9,550)	—	—	(9,550)
Pension liability adjustment	—	—	—	—	—	—	—	(14)	(14)
Foreign currency translation	—	—	—	—	—	—	(1,712)	—	(1,712)
Net income	—	—	—	—	—	123,997	—	—	123,997
Balance at June 29, 2019	135,343	$ 1,353	(202)	$ (7,112)	$ 830,922	$ 315,511	$ (37,275)	$ (850)	$ 1,102,549
Shares issued under stock plans	156	2		—	3,156	—	—	—	3,158
Share-based compensation expense	—	—	—	—	5,326	—	—	—	5,326
Repurchase of common stock	(358)	(4)	—	—	(2,206)	(12,790)	—	—	(15,000)
Dividends declared ($0.08 per share)	—	—	—	—	14	(10,909)	—	—	(10,895)
Pension liability adjustment	—	—	—	—	—	—	—	17	17
Foreign currency translation	—	—	—	—	—	—	(6,005)	—	(6,005)
Net income	—	—	—	—	—	40,767	—	—	40,767
Balance at September 28, 2019	135,141	$ 1,351	(202)	$ (7,112)	$ 837,212	$ 332,579	$ (43,280)	$ (833)	$ 1,119,917

(In thousands)	Common shares outstanding	Common stock	Treasury shares	Treasury stock	Additional paid-in capital	Retained earnings	Foreign currency translation adjustments	Defined benefit pension adjustments	Total
Balance at December 31, 2019	134,930	$ 1,349	(202)	$ (7,112)	$ 842,784	$ 366,127	$ (36,468)	$ (791)	$ 1,165,889
Shares issued under stock plans	483	5	—	—	(10,894)	—	—	—	(10,889)
Share-based compensation expense	—	—	—	—	4,994	—	—	—	4,994
Repurchase and retirement of common stock	(604)	(6)	—	—	(3,740)	(25,818)	—	—	(29,564)
Dividends declared ($0.08 per share)	—	—	—	—	15	(10,773)	—	—	(10,758)
Pension liability adjustment	—	—	—	—	—	—	—	10	10
Foreign currency translation	—	—	—	—	—	—	(9,361)	—	(9,361)
Net income	—	—	—	—	—	61,006	—	—	61,006
Balance at March 28, 2020	134,809	$ 1,348	(202)	$ (7,112)	$ 833,159	$ 390,542	$ (45,829)	$ (781)	$ 1,171,327
Shares issued under stock plans	139	1		—	(83)	—	—	—	(82)
Share-based compensation expense	—	—	—	—	5,655	—	—	—	5,655
Dividends declared ($0.08 per share)	—	—	—	—	8	(10,988)	—	—	(10,980)
Pension liability adjustment	—	—	—	—	—	—	—	9	9
Foreign currency translation	—	—	—	—	—	—	(2,176)	—	(2,176)
Net income	—	—	—	—	—	68,036	—	—	68,036
Balance at June 27, 2020	134,948	$ 1,349	(202)	$ (7,112)	$ 838,739	$ 447,590	$ (48,005)	$ (772)	$ 1,231,789
Shares issued under stock plans	290	3		—	(8,689)	—	—	—	(8,686)
Share-based compensation expense	—	—	—	—	5,903	—	—	—	5,903
Dividends declared ($0.08 per share)	—	—	—	—	—	(10,782)	—	—	(10,782)
Pension liability adjustment	—	—	—	—	—	—	—	9	9
Foreign currency translation	—	—	—	—	—	—	4,765	—	4,765
Net income	—	—	—	—	—	79,303	—	—	79,303
Balance at September 26, 2020	135,238	$ 1,352	(202)	$ (7,112)	$ 835,953	$ 516,111	$ (43,240)	$ (763)	$ 1,302,301

See the accompanying notes to condensed consolidated financial statements.

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

	Nine months ended	
(In thousands)	**September 26, 2020**	**September 28, 2019**
Operating activities:		
Net income	$ 208,345	$ 197,422
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	62,064	54,623
Amortization	41,176	50,400
Share-based compensation expense	16,552	14,915
Provision for deferred income taxes	14,958	(2,123)
Charge for excess and obsolete inventory	11,933	4,646
Other	6,214	9,605
Changes in operating assets and liabilities:		
Trade accounts and notes receivable	(65,367)	(30,405)
Inventories	(54,278)	(5,689)
Accounts payable and accrued liabilities	10,076	(31,911)
Other current assets	2,189	11,284
Income taxes payable and refundable income taxes	(11,995)	(20,574)
Other	789	1,461
Net cash provided by operating activities	242,656	253,654
Investing activities:		
Acquisition of property, plant and equipment	(79,560)	(86,423)
Acquisition of businesses, net of cash acquired	(111,145)	(266,373)
Other	265	2,815
Net cash used in investing activities	(190,440)	(349,981)
Financing activities:		
Proceeds from short-term borrowings	217,000	—
Payments of short-term borrowings	(217,000)	—
Proceeds from long-term debt	400,000	—
Payments of long-term debt	(251,000)	(2,000)
Payments for debt issuance costs	(3,964)	—
Payments for dividends	(32,446)	(29,779)
Issuance of common stock	4,899	4,351
Repurchase and retirement of common stock	(29,564)	(65,321)
Taxes paid related to net share settlement of equity awards	(24,556)	(8,577)
Deferred acquisition payments	(16,125)	—
Other	(2,892)	(502)
Net cash provided by (used in) financing activities	44,352	(101,828)
Effect of exchange rate changes on cash and cash equivalents	(507)	(1,159)
Increase (decrease) in cash and cash equivalents	96,061	(199,314)
Cash and cash equivalents at beginning of period	351,911	482,062
Cash and cash equivalents at end of period	$ 447,972	$ 282,748

See the accompanying notes to condensed consolidated financial statements.

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

Supplemental Cash Flow Information **(unaudited)** ***(In thousands)***	**Nine months ended**	
	September 26, 2020	**September 28, 2019**
Non-cash transactions:		
Deferred acquisition payments	$ 2,785	$ 32,462
Contingent consideration obligation	—	686
Equipment purchases in accounts payable	7,543	3,431
Changes in dividends payable	74	307
Schedule of interest and income taxes paid:		
Interest paid	33,164	37,366
Income taxes paid, net of refunds received	35,544	66,474

See the accompanying notes to condensed consolidated financial statements.

ENTEGRIS, INC. AND SUBSIDIARIES
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations Entegris, Inc. (“Entegris”, “the Company”, “us”, “we”, or “our”) is a leading global developer, manufacturer and supplier of microcontamination control products, specialty chemicals and advanced materials handling solutions for manufacturing processes in the semiconductor and other high-technology industries.

Principles of Consolidation The condensed consolidated financial statements include the accounts of the Company and its majority-owned subsidiaries. Intercompany profits, transactions and balances have been eliminated in consolidation.

Use of Estimates The preparation of condensed consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, particularly receivables, inventories, property, plant and equipment, right-of-use assets, goodwill, intangibles, accrued expenses, short-term and long-term lease liability, income taxes and related accounts, and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Basis of Presentation The condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States and contain all adjustments considered necessary, and are of a normal recurring nature, to present fairly the financial position as of September 26, 2020 and December 31, 2019, and the results of operations and comprehensive income for the three and nine months ended September 26, 2020 and September 28, 2019, the equity statements as of and for the three and nine months ended September 26, 2020 and September 28, 2019, and cash flows for the nine months ended September 26, 2020 and September 28, 2019.

The condensed consolidated financial statements and accompanying notes are presented as permitted by Form 10-Q and do not contain certain information included in the Company’s annual consolidated financial statements and notes. The information included in this Form 10-Q should be read in conjunction with Management’s Discussion and Analysis and consolidated financial statements and notes thereto included in the Company’s Form 10-K for the year ended December 31, 2019. The results of operations for the three and nine months ended September 26, 2020 are not necessarily indicative of the results to be expected for the full year.

Fair Value of Financial Instruments The carrying value of cash equivalents, accounts receivable, accounts payable, accrued payroll and related benefits, and other accrued liabilities approximates fair value due to the short maturity of those items. The fair value of long-term debt, including current maturities, was $1,108.4 million at September 26, 2020, compared to the carrying amount of long-term debt, including current maturities, of $1,085.4 million at September 26, 2020.

Recent Accounting Pronouncements Adopted in 2020 In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. ASU 2016-13 changes the impairment model for most financial assets and certain other instruments. For trade and other receivables, held-to-maturity debt securities, loans and other instruments, entities are required to use a new forward-looking “expected loss” model that replaces the current “incurred loss” model and generally will result in the earlier recognition of allowances for losses.

The Company adopted ASU No. 2016-13 on January 1, 2020, and there was no material effect on its condensed consolidated financial statements.

Recent Accounting Pronouncements In December 2019, the FASB issued ASU No. 2019-12, “Simplifying the Accounting for Income Taxes” under ASC 740, which simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and amends existing guidance to improve consistent application. This guidance is effective for fiscal years beginning after December 15, 2021, including interim periods within that fiscal year. Early adoption is permitted. The Company is in the process of evaluating the impacts of this guidance on its consolidated financial statements and related disclosures.

2. REVENUES

Revenue Recognition Revenue is measured based on consideration specified in a contract with a customer, and excludes any sales incentives and amounts collected on behalf of third parties. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer.

Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by the Company from a customer, are excluded from revenue.

Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as a fulfillment cost and are included in cost of goods sold.

The Company recognizes the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that the Company otherwise would have recognized is one year or less.

When the Company receives consideration, or such consideration is unconditionally due, from a customer prior to transferring goods or services to the customer under the terms of a sales contract, the Company records deferred revenue, which represents a contract liability. Such deferred revenue typically results from advance payments received on sales of the Company's products. The Company makes the required disclosures below.

The Company does not disclose information about remaining performance obligations that have original expected durations of one year or less.

Nature of goods and services The following is a description of principal activities from which the Company generates its revenues. The Company has three reportable segments. For more detailed information about reportable segments, see note 10 to the condensed consolidated financial statements. For each of the three reportable segments, the recognition of revenue regarding the nature of goods and services provided by the segments are similar and described below. The Company recognizes revenue for product sales at a point in time following the transfer of control of such products to the customer, which generally occurs upon shipment or delivery, depending on the terms of the underlying contracts. For product sales contracts that contain multiple performance obligations, the Company allocates the transaction price to each performance obligation identified in the contract based on relative standalone selling prices, or estimates of such prices, and recognizes the related revenue as control of each individual product is transferred to the customer, in satisfaction of the corresponding performance obligations.

The Company generally recognizes revenue for sales of services when the Company has satisfied the performance obligation.

The Company also enters into arrangements to license its intellectual property. These arrangements typically permit the customer to use a specialized manufacturing process and in return the Company receives a royalty fee. If applicable, the Company recognizes revenue when the subsequent sale or usage occurs.

The Company offers certain customers cash discounts and volume rebates as sales incentives. The discounts and volume rebates are recorded as a reduction in sales at the time revenue is recognized in an amount estimated based on historical experience and contractual obligations. The Company periodically reviews the assumptions underlying its estimates of discounts and volume rebates and adjusts its revenues accordingly.

In addition, the Company offers free product rebates to certain customers. The Company utilizes an adjusted market approach to estimate the stand-alone selling price of the loyalty program and allocates a portion of the consideration received to the free product offering. The free product offering is redeemable upon future purchases of the Company's products. The amount associated with free product rebates is deferred in the balance sheet and is recognized as revenue when the free product is redeemed or when the likelihood of redemption is remote. The Company deems the amount immaterial for disclosure.

The Company provides for the estimated costs of fulfilling our obligations under product warranties at the time the related revenue is recognized. The Company estimates the costs based on historical failure rates, projected repair costs, and knowledge of specific product failures (if any). The specific warranty terms and conditions vary depending upon the product sold and the country in which we do business, but generally include parts and labor over a period generally ranging from 90 days to one year. The Company regularly reevaluates its estimates to assess the adequacy of the recorded warranty liabilities and adjust the amounts as necessary.

The Company's contracts are generally short-term in nature. Most contracts' terms do not exceed twelve months. Payment terms vary by the type and location of the Company's customers and the products or services offered. The term between invoicing and when payment is due is not significant. For certain products or services and customer types, the Company requires payment before the products or services are delivered to the customer. Those customers that prepay are represented by the contract liabilities below until the performance obligations are satisfied.

The following table provides information about contract liabilities from contracts with customers. The contract liabilities are included in other accrued liabilities balance in the condensed consolidated balance sheet.

(In thousands)	September 26, 2020	December 31, 2019
Contract liabilities - current	$ 13,930	$ 13,022

Significant changes in the contract liabilities balances during the period are as follows:

(In thousands)	Nine months ended September 26, 2020
Revenue recognized that was included in the contract liability balance at the beginning of the period	$ (9,571)
Increases due to cash received, excluding amounts recognized as revenue during the period	10,479

3. ACQUISITIONS

Global Measurement Technologies, Inc.

On July 10, 2020, the Company acquired Global Measurement Technologies, Inc. ("GMTI"), an analytical instrument provider for critical processes in semiconductor production, and its manufacturing partner Clean Room Plastics, Inc. GMTI reports into the Advanced Materials Handling segment of the Company. The acquisition was accounted for under the acquisition method of accounting, and GMTI's results of operations are included in the Company's condensed consolidated financial statements as of and since July 10, 2020. Costs associated with the acquisition of GMTI were $0.4 million and $1.0 million for the three and nine months ended September 26 2020, respectively, and were expensed as incurred. These costs are included in the selling, general and administrative expenses in the Company's condensed consolidated statement of operations. The acquisition does not constitute a material business combination.

The purchase price for GMTI includes cash consideration of $36.3 million, net of cash acquired, which was funded from the Company's existing cash on hand.

The purchase price of GMTI exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $16.1 million. Cash flows used to determine the purchase price included strategic and synergistic benefits (investment value) specific to the Company, which resulted in a purchase price in excess of the fair value of identifiable net assets. This additional investment value resulted in goodwill, which is expected to be non-deductible for income tax purposes.

During the quarter ended September 26, 2020, the Company finalized its fair value determination of the assets acquired and the liabilities assumed. The following table summarizes the final allocations of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of the acquisition, respectively:

(In thousands):	July 10, 2020
Trade accounts and note receivable, net	$ 937
Inventories, net	1,079
Identifiable intangible assets	18,180
Right-of-use assets	337
Accounts payable and accrued liabilities	(28)
Short-term lease liability	(150)
Long-term lease liability	(187)
Net assets acquired	20,168
Goodwill	16,099
Total purchase price, net of cash acquired	$ 36,267

The Company recognized the following finite-lived intangible assets as part of the acquisition of GMTI:

(In thousands)	Amount	Weighted average life in years
Developed technology	$ 3,570	6.5
Trademarks and trade names	1,010	11.5
Customer relationships	13,600	15.5
	$ 18,180	13.5

Sinmat

On January 10, 2020, the Company acquired Sinmat, a chemical mechanical polishing slurry manufacturer. Sinmat reports into the Specialty Chemicals and Engineered Materials segment of the Company. The acquisition was accounted for under the acquisition method of accounting and Sinmat's results of operations are included in the Company's condensed consolidated financial statements as of and since January 10, 2020. Costs associated with the acquisition of Sinmat were $0.7 million for the nine months ended September 26, 2020 and were expensed as incurred. These costs are included in the selling, general and administrative expenses in the Company's condensed consolidated statement of operations. The acquisition does not constitute a material business combination.

The purchase price for Sinmat includes cash consideration of $76.2 million, or $75.6 million net of cash acquired, which was funded from the Company's existing cash on hand.

The purchase price of Sinmat exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $31.7 million. Cash flows used to determine the purchase price included strategic and synergistic benefits (investment value) specific to the Company, which resulted in a purchase price in excess of the fair value of identifiable net assets. This additional investment value resulted in goodwill, which is expected to be non-deductible for income tax purposes.

During the quarter ended June 27, 2020, the Company finalized its fair value determination of the assets acquired and the liabilities assumed. The following table summarizes the provisional and final allocations of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of the acquisition date and as adjusted as of June 27, 2020, respectively:

(In thousands):	As of January 10, 2020	As of June 27, 2020
Trade accounts and note receivable, net	$ 1,189	$ 1,189
Inventories, net	1,010	1,010
Other current assets	8	8
Property, plant and equipment	63	63
Identifiable intangible assets	41,680	41,680
Right-of-use assets	1,712	1,712
Deferred tax asset	—	102
Accounts payable and accrued liabilities	(58)	(58)
Short-term lease liability	(150)	(150)
Long-term lease liability	(1,562)	(1,562)
Net assets acquired	43,892	43,994
Goodwill	31,751	31,651
Total purchase price, net of cash acquired	$ 75,643	$ 75,645

The Company recognized the following finite-lived intangible assets as part of the acquisition of Sinmat:

(In thousands)	Amount	Weighted average life in years
Developed technology	$ 7,650	7.0
Trademarks and trade names	130	1.3
Customer relationships	33,900	15.0
	$ 41,680	13.5

Hangzhou Anow Microfiltration Co., Ltd.

On September 17, 2019, the Company acquired Hangzhou Anow Microfiltration Co., Ltd. ("Anow"), a filtration company for diverse industries including semiconductor, pharmaceutical, and medical. Anow reports into the Microcontamination Control segment of the Company. The acquisition was accounted for under the acquisition method of accounting and Anow's results of operations are included in the Company's condensed consolidated financial statements as of and since September 17, 2019. Costs associated with the acquisition of Anow were $2.0 million and $2.3 million for the three and nine months ended September 28, 2019, respectively, and were expensed as incurred. The acquisition does not constitute a material business combination.

The purchase price for Anow is $72.8 million, net of cash acquired. The purchase price includes (1) cash consideration of $73.0 million, or $69.3 million net of cash acquired, which was funded from the Company's existing cash on hand, and (2) a $3.5

million deferred payment due to the seller no earlier than September 18, 2021, at which time either the seller or the Company can exercise its option to receive or pay the deferred payment, respectively.

The purchase price of Anow exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $49.5 million. Cash flows used to determine the purchase price included strategic and synergistic benefits (investment value) specific to the Company, which resulted in a purchase price in excess of the fair value of identifiable net assets. This additional investment value resulted in goodwill, which is expected to be non-deductible for income tax purposes.

During the quarter ended September 26, 2020, the Company finalized its fair value determination of the assets acquired and the liabilities assumed. The following table summarizes the provisional and final allocations of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of the acquisition date and as adjusted as of September 26, 2020, respectively.

(In thousands):	As of September 17, 2019	As of September 26, 2020
Trade accounts and note receivable, net	$ 3,455	$ 3,455
Inventories, net	4,242	4,459
Other current assets	202	739
Property, plant and equipment	8,863	8,257
Identifiable intangible assets	42,179	16,439
Right-of-use assets	—	2,328
Other noncurrent assets	1,565	74
Accounts payable and accrued liabilities	(1,814)	(5,217)
Short-term lease liability	—	(88)
Long-term lease liability	—	(107)
Noncurrent deferred tax liabilities	(10,890)	(3,751)
Other noncurrent liabilities	—	(3,270)
Net assets acquired	47,802	23,318
Goodwill	25,212	49,480
Total purchase price, net of cash acquired	$ 73,014	$ 72,798

The change in the allocation of the purchase price is due to the acquisition occurring near the quarter end date of September 29, 2019, which required an estimated allocation of values.

The Company recognized the following finite-lived intangible assets as part of the acquisition of Anow:

(In thousands)	Amount	Weighted average life in years
Developed technology	$ 6,764	6.8
Trademarks and trade names	2,019	7.3
Customer relationships	7,656	14.3
	$ 16,439	10.3

MPD Chemicals

On July 15, 2019, the Company acquired MPD Chemicals ("MPD"), a provider of advanced materials to the specialty chemical, technology, and life sciences industries. MPD reports into the Specialty Chemicals and Engineered Material segment of the Company. The acquisition was accounted for under the acquisition method of accounting and MPD's results of operations are included in the Company's condensed consolidated financial statements as of and since July 15, 2019. Costs associated with the acquisition of MPD were $2.9 million and $4.0 million for the three and nine months ended September 28, 2019 and were expensed as incurred. The acquisition does not constitute a material business combination.

The purchase price for MPD is $162.9 million, net of cash acquired. The purchase price includes (1) cash consideration of $158.4 million, which was funded from the Company's existing cash on hand, and (2) a fixed deferred payment of $5.0 million that is due on January 15, 2022, recorded at $4.5 million, which represents the fair value of this fixed deferred payment as of the acquisition date.

The fair value of the fixed deferred payment was determined by taking the present value of this fixed deferred payment based on the term and a discount factor. The fixed deferred payment is reflected in pension benefit obligations and other liabilities in the Company's condensed consolidated balance sheets.

The purchase price of MPD exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $63.2 million. Cash flows used to determine the purchase price included strategic and synergistic benefits (investment value) specific to the Company, which resulted in a purchase price in excess of the fair value of identifiable net assets. This additional investment value resulted in goodwill, which is expected to be deductible for income tax purposes.

During the quarter ended June 27, 2020, the Company finalized its fair value determination of the assets acquired and liabilities assumed. The following table summarizes the provisional and final allocations of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of the acquisition date and adjusted as of June 27, 2020, respectively:

(In thousands):	As of July 15, 2019	As of June 27, 2020
Trade accounts and note receivable, net	$ 3,575	$ 3,575
Inventories, net	21,899	8,689
Other current assets	318	313
Property, plant and equipment	14,571	11,465
Identifiable intangible assets	74,900	79,390
Right-of-use assets	3,677	3,621
Accounts payable and accrued liabilities	(2,440)	(1,874)
Short-term lease liabilities	(144)	(88)
Long-term lease liabilities	(4,016)	(4,016)
Other noncurrent liabilities	(1,416)	(1,416)
Net assets acquired	110,924	99,659
Goodwill	51,457	63,246
Total purchase price, net of cash acquired	$ 162,381	$ 162,905

The Company recognized the following finite-lived intangible assets as part of the acquisition of MPD:

(In thousands)	Amount	Weighted average life in years
Developed technology	$ 12,750	11.0
Trademarks and trade names	620	2.0
Customer relationships	66,020	17.0
	$ 79,390	16.0

Digital Specialty Chemicals

On March 8, 2019, the Company acquired Digital Specialty Chemicals Limited ("DSC"), a Toronto, Canada-based provider of advanced materials to the specialty chemical, technology, and pharmaceutical industries. DSC reports into the Specialty Chemicals and Engineered Materials segment of the Company. The acquisition was accounted for under the acquisition method of accounting and the results of operations of DSC are included in the Company's condensed consolidated financial statements as of and since March 8, 2019. Costs associated with the acquisition of DSC were $2.1 million for the nine months ended September 28, 2019 and were expensed as incurred. These costs were included in selling, general and administrative expense in the Company's condensed consolidated statements of operations. The acquisition does not constitute a material business combination.

The purchase price for DSC is $64.1 million, net of cash acquired. The purchase price includes (1) cash consideration of $49.9 million, or $49.4 million net of cash acquired, which was funded from the Company's existing cash on hand, (2) a fixed deferred payment of $16.1 million that is due on March 31, 2022, recorded at $14.0 million representing the fair value of this fixed deferred payment as of the acquisition date, and (3) an earnout-based contingent consideration of $0.7 million based on the operating performance of DSC for a twelve-month period ending March 31, 2021.

The fair value of the fixed deferred payment was determined by taking the present value of this fixed deferred payment based on the term and a discount factor. The fixed deferred payment is reflected in pension benefit obligations and other liabilities in the Company's condensed consolidated balance sheets.

Upon closing the acquisition, the Company recorded a contingent consideration obligation of $0.7 million, which represents the fair value of the earnout-based contingent consideration. This amount was estimated based on a Black-Scholes model. Subsequent changes in the fair value of this obligation will be recognized as adjustments to the contingent consideration obligation and reflected within the Company's condensed consolidated statements of operations.

On December 3, 2019 the Company entered into a settlement agreement to accelerate the fixed deferred payment of $16.1 million to no later than March 8, 2020. This payment was made in the first quarter of 2020. The Company adjusted the fair value of the fixed deferred payment from its fair value to the full value resulting in an additional $1.6 million charge to interest expense in the fourth quarter of 2019 and the liability was adjusted from other long-term liabilities to other accrued liabilities in the condensed consolidated balance sheet as of December 31, 2019. In addition to the acceleration of the fixed deferred payment, it was determined that the earnout-based contingent consideration of $0.7 million will never become owed to the sellers under the original purchase agreement. The Company removed the liability and credited selling, general and administrative expenses in the fourth quarter of 2019.

The purchase price of DSC exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $36.5 million. Cash flows used to determine the purchase price included strategic and synergistic benefits (investment value) specific to the Company, which resulted in a purchase price in excess of the fair value of identifiable net assets. This additional investment value resulted in goodwill, which is expected to be non-deductible for income tax purposes.

During the year ended December 31, 2019, the Company finalized its fair value determination of the assets acquired and liabilities assumed. The following table summarizes the final allocation of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of the acquisition:

(In thousands):		As of March 8, 2019
Trade accounts and note receivable, net	$	1,840
Inventories, net		4,307
Other current assets		1,437
Property, plant and equipment		16,654
Identifiable intangible assets		6,870
Right-of-use assets		79
Deferred tax asset		1,066
Other noncurrent assets		28
Accounts payable and accrued liabilities		(2,861)
Deferred tax liabilities		(1,802)
Long-term lease liability		(37)
Net assets acquired		27,581
Goodwill		36,540
Total purchase price, net of cash acquired	$	64,121

4. INVENTORIES

Inventories consist of the following:

(In thousands)		September 26, 2020		December 31, 2019
Raw materials	$	98,157	$	92,849
Work-in process		43,618		30,856
Finished goods		187,966		163,393
Total inventories, net	$	329,741	$	287,098

5. GOODWILL AND INTANGIBLE ASSETS

Goodwill activity for each period was as follows:

(In thousands)	Specialty Chemicals and Engineered Materials	Microcontamination Control	Advanced Materials Handling	Total
December 31, 2019	$ 397,952	$ 240,021	$ 57,071	$ 695,044
Addition due to acquisitions	31,751	—	16,099	47,850
Purchase accounting adjustments	1,276	1,769	—	3,045
Foreign currency translation	(3,275)	1,806	—	(1,469)
September 26, 2020	$ 427,704	$ 243,596	$ 73,170	$ 744,470

Identifiable intangible assets at September 26, 2020 and December 31, 2019 consist of the following:

September 26, 2020			
(In thousands)	Gross carrying Amount	Accumulated amortization	Net carrying value
Developed technology	$ 282,951	$ 218,900	$ 64,051
Trademarks and trade names	30,004	17,788	12,216
Customer relationships	449,270	184,851	264,419
Other	36,295	27,915	8,380
	$ 798,520	$ 449,454	$ 349,066

December 31, 2019			
(In thousands)	Gross carrying amount	Accumulated amortization	Net carrying value
Developed technology	$ 272,334	$ 204,689	$ 67,645
Trademarks and trade names	29,106	16,326	12,780
Customer relationships	405,537	161,551	243,986
Other	36,303	26,762	9,541
	$ 743,280	$ 409,328	$ 333,952

Future amortization expense during the remainder of 2020, the next four years and thereafter relating to intangible assets currently recorded in the Company's condensed consolidated balance sheets is estimated at September 26, 2020 to be the following:

(In thousands)	Remaining 2020	2021	2022	2023	2024	Thereafter	Total
Future amortization expense	$ 12,365	45,828	45,062	45,105	31,674	169,032	$ 349,066

6. DEBT

Long-term debt as of September 26, 2020 and December 31, 2019 consists of the following:

(In thousands)	September 26, 2020	December 31, 2019
Senior unsecured notes due 2028	$ 400,000	$ —
Senior secured term loan facility due 2025	145,000	396,000
Senior unsecured notes due 2026	550,000	550,000
	1,095,000	946,000
Unamortized discount and debt issuance costs	9,620	9,516
Total long-term debt	1,085,380	936,484
Less current maturities of long-term debt	—	4,000
Long-term debt less current maturities	$ 1,085,380	$ 932,484

Annual maturities of long-term debt, excluding unamortized discount and issuance costs, due as of September 26, 2020 are as follows:

(In thousands)	2020	2021	2022	2023	2024	Thereafter	Total
Contractual debt obligation maturities*	$ —	—	—	—	—	1,095,000	$ 1,095,000

*Subject to Excess Cash Flow payments to the lenders.

2028 Senior Unsecured Notes

On April 30, 2020, the Company issued $400 million aggregate principal amount of 4.375% senior unsecured notes due April 15, 2028 (the “2028 Notes”). The 2028 Notes were issued under an indenture dated as of April 30, 2020 (the “2028 Notes Indenture”) by and among the Company, certain subsidiaries of the Company and Wells Fargo Bank, National Association, as trustee (the “2028 Notes Trustee”). Interest on the 2028 Notes is payable semi-annually in arrears on April 15 and October 15 of each year, commencing on October 15, 2020. The Company incurred debt issuance costs of $4.0 million in connection with the 2028 Notes. These costs are reported in the condensed consolidated balance sheet as a direct deduction from the face amount of the 2028 Notes.

The 2028 Notes are guaranteed, jointly and severally, fully and unconditionally, on a senior unsecured basis, by the Company’s existing and future domestic subsidiaries, other than certain excluded subsidiaries, to the extent that such entities guarantee indebtedness under the Company’s senior secured term loan facility due 2025 and senior secured revolving credit facility due 2023 (together, the “Senior Secured Credit Facilities”) or the Company’s 4.625% senior unsecured notes due 2026 (the “2026 Notes”) and any other subsidiary of the Company to the extent it incurs certain additional indebtedness (collectively, the “Guarantors”).

The 2028 Notes and the guarantees thereof are the Company’s and the Guarantors’ senior unsecured obligations, respectively, and will (i) rank equally in right of payment with all of the Company’s and the Guarantors’ existing and future senior indebtedness (including the 2026 Notes); (ii) rank senior to any subordinated indebtedness that the Company or the Guarantors may incur; (iii) be effectively subordinated to all of the Company’s or the Guarantors’ existing and future secured indebtedness (including the Senior Secured Credit Facilities), in each case, to the extent of the value of the assets securing such indebtedness; and (iv) be structurally subordinated in right of payment to all existing and future obligations of the Company’s subsidiaries that do not guarantee the 2028 Notes.

At any time prior to April 15, 2023, the Company may, at its option, on any one or more occasions, redeem up to 40% of the aggregate principal amount of the 2028 Notes, at a redemption price equal to 104.375% of the principal amount of the 2028 Notes redeemed, plus accrued and unpaid interest, if any, to, but not including, the date of redemption, with an amount of cash equal to the net cash proceeds of an equity offering, as defined in the 2028 Notes Indenture, by the Company; provided that (1) at least 60% of the aggregate principal amount of 2028 Notes issued under the 2028 Notes Indenture remains outstanding immediately after the occurrence of each such redemption; and (2) the redemption occurs within 120 days of the date of the closing of such equity offering.

Additionally, at any time prior to April 15, 2023, the 2028 Notes may be redeemed, in whole or in part, at the option of the Company, at a redemption price equal to 100% of the principal amount of the 2028 Notes redeemed, plus a “make whole” premium, plus accrued and unpaid interest to, but not including, the applicable redemption date.

On or after April 15, 2023, the Company may on any one or more occasions redeem all or a part of the 2028 Notes, at its option, at the redemption prices (expressed as percentages of principal amount) set forth below, plus accrued and unpaid interest, if any, on the 2028 Notes redeemed, to, but not including, the applicable date of redemption, if redeemed during the 12-month period beginning on April 15 of the years indicated below:

Year	Percentage
2023	102.188 %
2024	101.094 %
2025 and thereafter	100.000 %

Upon the occurrence of certain change of control events accompanied by certain ratings events, the Company will be required to offer to repurchase all of the outstanding 2028 Notes at a purchase price of 101% of the principal amount thereof, plus accrued and unpaid interest, if any, to, but not including, the date of repurchase.

The 2028 Notes Indenture that governs the 2028 Notes contains covenants that, among other things, limit the Company’s ability and/or the ability of the Company’s subsidiaries to incur liens, engage in sale and leaseback transactions and consolidate, merge with or convey, transfer or lease all or substantially all of the Company’s and its subsidiaries’ assets to another person. The 2028 Notes Indenture also, subject to certain exceptions, limits the ability of any non-Guarantor subsidiary of the Company to incur indebtedness. These covenants are subject to a number of other limitations and exceptions as set forth in the 2028 Notes Indenture.

The 2028 Notes Indenture provides for events of default which, if certain of them occur, would permit the 2028 Notes Trustee or the holders of at least 25% in aggregate principal amount of the then outstanding 2028 Notes to declare the principal of, and interest or premium, if any, and any other monetary obligations on, all the then-outstanding 2028 Notes to be due and payable immediately.

7. EARNINGS PER COMMON SHARE

The following table presents a reconciliation of the denominators used in the computation of basic and diluted earnings per common share (EPS):

	Three months ended		Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Basic—weighted common shares outstanding	134,957	135,092	134,801	135,256
Weighted common shares assumed upon exercise of stock options and vesting of restricted common stock	1,295	1,438	1,408	1,345
Diluted—weighted common shares and common shares equivalent outstanding	136,252	136,530	136,209	136,601

The Company excluded the following shares underlying stock-based awards from the calculations of diluted EPS because their inclusion would have been anti-dilutive for the three and nine months ended September 26, 2020 and September 28, 2019:

	Three months ended		Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Shares excluded from calculations of diluted EPS	223	6	245	261

8. OTHER (INCOME) EXPENSE, NET

Other (income) expense, net for the three and nine months ended September 26, 2020 and September 28, 2019 consists of the following:

	Three months ended		Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Versum termination fee, net	$ —	$ —	$ —	$ (122,000)
(Gain) loss on foreign currency remeasurement	(2,881)	701	(4,213)	(222)
Loss on extinguishment of debt	908	—	2,378	—
Other, net	221	233	484	893
Other (income) expense, net	$ (1,752)	$ 934	$ (1,351)	$ (121,329)

Versum termination fee, net

On January 28, 2019, the Company and Versum Materials, Inc. ("Versum") announced that they had entered into an Agreement and Plan of Merger, dated as of January 27, 2019 (the "Merger Agreement"), pursuant to which they agreed to combine in a merger of equals. On April 8, 2019, Versum announced that its Board of Directors had received a proposal from Merck KGaA to acquire Versum and that its Board of Directors had deemed such proposal as a "Superior Proposal," as defined in the Merger Agreement. On April 12, 2019, the Company received a termination notice from Versum terminating the Merger Agreement. In accordance with the terms of the Merger Agreement, Entegris received a $140.0 million termination fee from Versum in the second quarter of 2019. Also in the second quarter of 2019, the Company paid a fee of $18.0 million to the third-party financial adviser it had engaged to assist with the transaction.

9. LEASES

As of September 26, 2020, the Company was obligated under operating lease agreements for certain sales offices and manufacturing facilities, manufacturing equipment, vehicles, information technology equipment and warehouse space. As of September 26, 2020, the Company does not have material finance leases. Our leases have remaining lease terms of 1 year to 14 years, some of which may include options to extend the lease for up to 6 years, and some of which may include options to terminate the leases within 1 year.

As of September 26, 2020 and December 31, 2019, the Company's operating lease components with initial or remaining terms in excess of one year were classified on the condensed consolidated balance sheet and other supplemental balance sheet information was as follows:

(In thousands, except lease term and discount rate)	Classification	September 26, 2020	December 31, 2019
Assets			
Right-of-use assets	Right-of-use assets	$ 46,655	$ 50,160
Liabilities			
Short-term lease liability	Other accrued liabilities	9,920	10,025
Long-term lease liability	Long-term lease liability	40,407	43,827
Total lease liabilities		$ 50,327	$ 53,852
Lease Term and Discount Rate			
Weighted average remaining lease term (years)		8.1	8.4
Weighted average discount rate		5.0 %	4.9 %

Expense for leases less than 12 months for the three and nine months ended September 26, 2020 and September 28, 2019 were not material. The components of lease expense for the three and nine months ended September 26, 2020 and September 28, 2019 are as follows:

	Three months ended		Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Operating lease cost	$ 3,421	$ 3,334	$ 10,073	$ 9,146

The Company combines the amortization of the Right-of-use assets and the change in the operating lease liability in the same line item in the condensed consolidated statement of cash flows. Other information related to the Company's operating leases was as follows:

(In thousands)	September 26, 2020	September 28, 2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from leases	$ 8,049	$ 8,107
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 3,132	$ 5,751

Future minimum lease payments for noncancellable operating leases as of September 26, 2020, were as follows:

(In thousands)	Operating Leases
Remaining 2020	$ 3,239
2021	11,540
2022	7,669
2023	6,586
2024	5,501
Thereafter	28,207
Total	62,742
Less: Interest	12,415
Present value of lease liabilities	$ 50,327

10. SEGMENT REPORTING

The Company's financial segment reporting reflects an organizational alignment intended to leverage the Company's unique portfolio of capabilities to create value for its customers by developing mission-critical solutions to maximize manufacturing yields and enable higher performance of devices. While these segments have separate products and technical know-how, they share common business systems and processes, technology centers, and strategic and technology roadmaps. The Company leverages its expertise from these three segments to create new and increasingly integrated solutions for its customers. The Company's business is reported in the following segments:

- **Specialty Chemicals and Engineered Materials (SCEM):** SCEM provides high-performance and high-purity process chemistries, gases, and materials, and safe and efficient delivery systems to support semiconductor and other advanced manufacturing processes.
- **Microcontamination Control (MC):** MC offers solutions to filter and purify critical liquid chemistries and gases used in semiconductor manufacturing processes and other high-technology industries.
- **Advanced Materials Handling (AMH):** AMH develops solutions to monitor, protect, transport, and deliver critical liquid chemistries, wafers, and other substrates for a broad set of applications in the semiconductor industry and other high-technology industries.

Summarized financial information for the Company's reportable segments is shown in the following tables.

	Three months ended		Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	September 26, 2020	September 28, 2019
Net sales				
SCEM	$ 150,480	$ 127,750	$ 440,907	$ 379,772
MC	193,541	155,979	536,560	463,870
AMH	144,370	117,256	386,941	340,835
Inter-segment elimination	(7,404)	(6,838)	(22,689)	(20,409)
Total net sales	$ 480,987	$ 394,147	$ 1,341,719	$ 1,164,068

(In thousands)	Three months ended September 26, 2020	Three months ended September 28, 2019	Nine months ended September 26, 2020	Nine months ended September 28, 2019
Segment profit				
SCEM	$ 32,600	$ 17,074	$ 98,208	$ 65,505
MC	64,915	46,792	177,219	137,241
AMH	33,266	17,077	76,707	54,487
Total segment profit	$ 130,781	$ 80,943	$ 352,134	$ 257,233

The following table reconciles total segment profit to income before income taxes:

(In thousands)	Three months ended September 26, 2020	Three months ended September 28, 2019	Nine months ended September 26, 2020	Nine months ended September 28, 2019
Total segment profit	$ 130,781	$ 80,943	$ 352,134	$ 257,233
Less:				
Amortization of intangible assets	11,749	15,152	41,176	50,400
Unallocated general and administrative expenses	12,271	12,998	28,741	51,640
Operating income	106,761	52,793	282,217	155,193
Interest expense	12,781	11,388	36,345	33,587
Interest income	(130)	(1,172)	(664)	(4,020)
Other (income) expense, net	(1,752)	934	(1,351)	(121,329)
Income before income tax expense	$ 95,862	$ 41,643	$ 247,887	$ 246,955

In the following tables, revenue is disaggregated by customers' country or region for the three and nine months ended September 26, 2020 and September 28, 2019, respectively.

(In thousands)	Three months ended September 26, 2020				
	SCEM	MC	AMH	Inter-segment	Total
North America	$ 45,921	$ 47,803	$ 47,748	$ (7,404)	134,068
Taiwan	26,651	37,602	18,105	—	$ 82,358
South Korea	22,389	21,780	30,201	—	74,370
Japan	18,487	30,386	11,882	—	60,755
China	20,334	29,150	16,828	—	66,312
Europe	8,111	18,237	12,903	—	39,251
Southeast Asia	8,587	8,583	6,703	—	23,873
	$ 150,480	$ 193,541	$ 144,370	$ (7,404)	$ 480,987

(In thousands)	Three months ended September 28, 2019				
	SCEM	MC	AMH	Inter-segment	Total
North America	$ 40,176	$ 31,186	$ 36,548	$ (6,838)	$ 101,072
Taiwan	23,186	32,521	19,164	—	74,871
South Korea	18,441	27,239	20,195	—	65,875
Japan	13,587	25,160	9,417	—	48,164
China	14,699	23,544	12,354	—	50,597
Europe	7,806	9,845	12,587	—	30,238
Southeast Asia	9,855	6,484	6,991	—	23,330
	$ 127,750	$ 155,979	$ 117,256	$ (6,838)	$ 394,147

(In thousands)	Nine months ended September 26, 2020				
	SCEM	MC	AMH	Inter-segment	Total
North America	$ 137,594	$ 109,937	$ 121,147	$ (22,689)	$ 345,989
Taiwan	78,079	122,443	65,240	—	265,762
South Korea	63,636	64,861	66,398	—	194,895
Japan	53,819	88,512	34,257	—	176,588
China	54,159	75,709	41,505	—	171,373
Europe	25,465	49,526	37,216	—	112,207
Southeast Asia	28,155	25,572	21,178	—	74,905
	$ 440,907	$ 536,560	$ 386,941	$ (22,689)	$ 1,341,719

(In thousands)	Nine months ended September 28, 2019				
	SCEM	MC	AMH	Inter-segment	Total
North America	$ 106,590	$ 83,860	$ 110,287	$ (20,409)	$ 280,328
Taiwan	69,943	102,216	50,027	—	222,186
South Korea	55,463	81,585	52,939	—	189,987
Japan	40,354	74,976	32,761	—	148,091
China	49,269	68,247	32,853	—	150,369
Europe	24,235	32,022	42,594	—	98,851
Southeast Asia	33,918	20,964	19,374	—	74,256
	$ 379,772	$ 463,870	$ 340,835	$ (20,409)	$ 1,164,068

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

The following discussion and analysis of the Company’s condensed consolidated financial condition and results of operations should be read along with the condensed consolidated financial statements and the accompanying notes thereto included elsewhere in this Quarterly Report on Form 10-Q. The information, except for historical information, contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q includes forward-looking statements that involve risks and uncertainties. You should review the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2019 as well as in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. The Company assumes no obligation to publicly release the results of any revision or updates to these forward-looking statements to reflect future events or unanticipated occurrences.

Overview

This overview is not a complete discussion of the Company’s financial condition, changes in financial condition or results of operations; it is intended merely to facilitate an understanding of the most salient aspects of the Company’s financial condition and operating performance and to provide a context for the detailed discussion and analysis that follows. The discussion and analysis must be read in its entirety in order to fully understand the Company’s financial condition and results of operations.

The Company is a leading global developer, manufacturer and supplier of microcontamination control products, specialty chemicals and advanced materials handling solutions for manufacturing processes in the semiconductor and other high-technology industries. We leverage our unique breadth of capabilities to create value for our customers by developing mission-critical solutions to maximize manufacturing yields, reduce manufacturing costs and enable higher device performance.

Our technology portfolio includes advanced materials and high-purity chemistries, with optimized packaging and delivery systems and in-process filtration and purification solutions that ensure high-value liquid chemistries and gases are free from contaminants before use. Our standard and customized products and solutions enable the highest levels of purity and performance that are essential to the manufacture of semiconductors, flat panel displays, light emitting diodes, high-purity chemicals, solar cells, gas lasers, optical and magnetic storage devices, and critical components for aerospace, glass manufacturing and biomedical applications. The majority of our products are consumed at various times throughout the manufacturing process, with demand driven in part by the level of semiconductor and other manufacturing activity.

Our business is organized and operated in three operating segments, which align with the key elements of the advanced semiconductor manufacturing ecosystem. The Specialty Chemicals and Engineered Materials, or SCEM, segment provides high-performance and high-purity process chemistries, gases, and materials, and safe and efficient delivery systems to support semiconductor and other advanced manufacturing processes. The Microcontamination Control, or MC, segment offers solutions to filter and purify critical liquid chemistries and gases used in semiconductor manufacturing processes and other high-technology industries. The Advanced Materials Handling, or AMH, segment develops solutions to monitor, protect, transport, and deliver critical liquid chemistries, wafers and other substrates for a broad set of applications in the semiconductor industry and other high-technology industries. While these segments have separate products and technical know-how, they share common business systems and processes, technology centers, and strategic and technology roadmaps. We leverage our expertise from these three segments and complementary product portfolios to create new and increasingly integrated solutions for our customers. See note 10 to the condensed consolidated financial statements for additional information on the Company’s three segments.

The Company’s fiscal year is the calendar period ending each December 31. The Company’s fiscal quarters consist of 13-week or 14-week periods that end on Saturday. The Company’s fiscal quarters in 2020 end March 28, 2020, June 27, 2020, September 26, 2020 and December 31, 2020. Unaudited information for the three and nine months ended September 26, 2020 and September 28, 2019 and the financial position as of September 26, 2020 and December 31, 2019 are included in this Quarterly Report on Form 10-Q.

Key operating factors Key factors, which management believes have the largest impact on the overall results of operations of the Company, include:

- ***Level of sales*** Since a significant portion of the Company’s product costs (except for raw materials, purchased components and direct labor) are largely fixed in the short-to-medium term, an increase or decrease in sales affects gross profits and overall profitability significantly. Also, increases or decreases in sales and operating profitability affect certain costs such as incentive compensation and commissions, which are highly variable in nature. The Company’s sales are subject to the effects of industry cyclicality, technological change, substantial competition, pricing pressures and foreign currency fluctuations.
- ***Variable margin on sales*** The Company’s variable margin on sales is determined by selling prices and the costs of manufacturing and raw materials. This is affected by a number of factors, which include the Company’s sales mix, purchase prices of raw materials (especially polymers, membranes, stainless steel and purchased components),

domestic and international competition, direct labor costs, and the efficiency of the Company's production operations, among others.

- ***Fixed cost structure*** The Company's operations include a number of large fixed or semi-fixed cost components, which include salaries, indirect labor and benefits, facility costs, lease expenses, and depreciation and amortization. It is not possible to vary these costs easily in the short-term as volumes fluctuate. Accordingly, increases or decreases in sales volume can have a large effect on the usage and productivity of these cost components, resulting in a large impact on the Company's profitability.

Impact of COVID-19 on our Business

A novel strain of coronavirus (COVID-19) was first identified in Wuhan, China in December 2019, and subsequently declared a pandemic by the World Health Organization. As a result of the COVID-19 pandemic, governmental authorities have implemented and are continuing to implement numerous and constantly evolving measures to try to contain the virus, such as travel bans and restrictions, limits on gatherings, quarantines, shelter-in-place orders, and business shutdowns. In some cases, governmental re-opening plans have been delayed or reversed due to spikes in the number of infections. We continue to monitor the situation regarding the COVID-19 pandemic, which remains fluid and uncertain, and to proactively manage and adapt our responses in collaboration with our employees, customers and suppliers. However, we are unable to accurately predict the full impact of COVID-19 on our business, results of operations, financial condition, liquidity and cash flows, which will depend on future developments that are highly uncertain and cannot be predicted with accuracy, including, but not limited to, the duration and continued spread of the outbreak, its severity, potential additional waves of infection, the actions to mitigate the virus or its impact, and how quickly and to what extent normal economic and operating conditions can resume.

Health and Safety

From the earliest signs of the outbreak, we have taken, and continue to take, proactive, aggressive action to protect the health and safety of our employees, customers, partners and suppliers. We enacted rigorous safety measures in all of our sites in accordance with applicable laws, including social distancing protocols, encouraging employees who do not need to be physically present on the manufacturing floor or in a lab to perform their work to work from home, suspending non-essential travel, implementing temperature checks at the entrances to our facilities, extensively and frequently disinfecting our workspaces and providing masks to employees who are physically present at our facilities. We expect to continue to implement these measures until the COVID-19 pandemic is adequately contained, and we may take further actions as government authorities require or recommend or as we determine to be in the best interests of our employees, customers, partners and suppliers. We expect that the pandemic may abate at different times in different regions, and accordingly our health and safety protocols may vary across regions.

Operations

We have important manufacturing operations in the U.S., Japan, Korea, China, Malaysia, and Taiwan, all of which have been affected by the outbreak and have taken measures to try to contain it. Measures providing for business shutdowns have generally excluded certain essential services, and those essential services have commonly included critical infrastructure and the businesses that support that critical infrastructure. While all of our facilities currently remain operational, these measures have impacted and may further impact our workforce and operations, as well as those of our customers, suppliers and other third parties with which we do business. For example, the government of Malaysia issued an order that significantly reduced the number of employees who could be physically present to operate our Malaysian plant, which had reduced the productivity of that plant for a period of time. As of the date of this filing, our Malaysian plant is back to full capacity. In addition to reduced productivity, constraints and limits imposed on our operations may slow or diminish our research and development and customer qualification activities. We also experienced brief interruptions in operations at our sites in Hangzhou, China, San Luis Obispo, California and Bedford, Massachusetts. While governmental measures may be modified, extended or reimposed, we expect that, absent a significant surge in infections in the relevant local area, our manufacturing and research and development facilities will remain operational, largely at or near full capacity. In connection with the COVID-19 pandemic, we have experienced limited absenteeism from employees who are required to be on-site to perform their jobs, and we have incurred incremental employee compensation related to the COVID-19 pandemic. We do not currently expect that our operations will be adversely affected by significant absenteeism.

Supply

We have not yet experienced any significant impacts or interruptions to our supply chain as a result of the COVID-19 pandemic. However, certain of our suppliers have faced and, as the pandemic continues, may continue to face, difficulties maintaining operations in light of government-ordered restrictions and shelter-in-place mandates and may face challenges in maintaining their level of supply. For example, earlier in the year, one of our critical valve suppliers was shut down and was unable to supply us with valves for certain of our gas purification products. In this instance we were able to procure this critical part from a second, pre-qualified source. Although we regularly monitor the financial health of companies in our supply chain, financial hardship on our suppliers or sub-suppliers caused by the COVID-19 pandemic could cause a disruption in our ability to obtain raw materials or components required to manufacture our products, adversely affecting our operations. To mitigate the risk of potential supply interruptions from the COVID-19 pandemic, earlier in the year we chose to increase certain inventory levels, causing us to hold more inventory than we might have otherwise maintained. We may decide to take similar actions going forward, which may result in increased charges for excess or obsolete inventory, which would have the effect of reducing our profitability. Additionally, restrictions or disruptions of transportation, such as reduced availability of air transport, port closures and increased border controls or closures, have resulted, in certain instances, in higher costs and delays, both on obtaining raw materials and shipping finished goods to customers. If these restrictions and disruptions continue, they could harm our profitability, make our products less competitive, or cause our customers to seek alternative suppliers.

Demand

The COVID-19 pandemic has significantly increased economic and demand uncertainty. During the first three quarters of 2020, we have seen strong demand from leading-edge customers associated with end-uses in servers and other data center applications. We believe that a portion of recent orders we have received may be a result of customers increasing their inventory to reduce their exposure to risks of future supply disruptions, which could offset demand for our products in the future. We continue to see weakness in some mainstream fabs associated with the slowdown in sales of automotive, aerospace, mobile phone, and other applications. We anticipate that the pandemic will continue to contribute to the current global economic slowdown, and it is possible that it could cause a global recession. In the event of a recession, demand for our products would decline and our business would be adversely affected.

Liquidity

Although there is uncertainty related to the anticipated impact of the COVID-19 pandemic on our future results, we believe our business model, our current cash reserves and our balance sheet leave us well-positioned to manage our business through this crisis as we expect it to unfold. We have taken recent steps to strengthen our balance sheet. On April 30, 2020, we issued $400 million aggregate principal amount of 4.375% senior unsecured notes due April 15, 2028. We used a portion of the net proceeds of the offering to repay approximately $142 million of borrowings under our senior secured revolving facility due 2023, or the Revolving Facility, representing the entire aggregate principal amount outstanding thereunder. We also used a portion of the net proceeds of the offering to repay approximately $251 million of outstanding borrowings under our senior secured term loan facility, or the Term Loan Facility.

We have reviewed numerous potential scenarios in connection with the impact of COVID-19 on the global economy and the semiconductor industry. Based on our analysis, we believe our existing balances of domestic cash and cash equivalents and our currently anticipated operating cash flows will be sufficient to meet our cash needs arising in the ordinary course of business for the next twelve months.

We continue to monitor the rapidly evolving situation and guidance from international and domestic authorities, including federal, state and local public health authorities, and may take additional actions based on their recommendations. In these circumstances, there may be developments outside our control requiring us to adjust our operating plan. As such, given the dynamic nature of this situation, we cannot reasonably estimate the impacts that COVID-19 may have on our financial condition, results of operations or cash flows in the future. In addition, see Part II—Item 1A, “Risk Factors,” included herein for updates to our risk factors regarding risks associated with the COVID-19 pandemic.

Overall Summary of Financial Results

For the three months ended September 26, 2020, net sales increased 22% to $481.0 million, compared to $394.1 million for the three months ended September 28, 2019. Net sales for the three months ended September 26, 2020 included sales of $9.7 million from acquired businesses and favorable foreign currency translation effects of $2.0 million. In addition to these factors, the increase in revenue primarily resulted from strong customer demand from the semiconductor market compared to the year-ago quarter.

Sales were up $32.6 million, or 7%, on a sequential basis over sales of $448.4 million in the second quarter of 2020, including favorable foreign currency translation effects of $2.2 million and sales attributable to acquired businesses of $3.0 million. The increase in revenue resulted primarily from strong customer demand from the semiconductor market compared to the previous quarter.

The Company’s gross profit for the three months ended September 26, 2020 increased to $226.0 million, up from $170.4 million for the three months ended September 28, 2019. The Company experienced a 47.0% gross margin for the three months ended September 26, 2020, compared to 43.2% in the comparable year-ago period. The gross profit and gross margin increases reflect higher factory utilization associated with higher sales levels and a favorable sales mix.

As a result of the aforementioned factors, the Company reported net income of $79.3 million, or $0.58 per diluted share, for the quarter ended September 26, 2020, compared to net income of $40.8 million, or $0.30 per diluted share, a year ago.

On July 10, 2020, the Company acquired Global Measurement Technologies, Inc., or GMTI, an analytical instrument provider for critical processes in semiconductor production, and its manufacturing partner Clean Room Plastics, Inc., for an aggregate purchase price of $36.3 million in cash. The Company funded the acquisition from its available cash on hand. GMTI will be a part of the AMH segment. The acquisition does not constitute a material business combination.

Cash and cash equivalents were $448.0 million at September 26, 2020, compared with cash and cash equivalents of $351.9 million at December 31, 2019. The Company had outstanding debt of $1,085.4 million at September 26, 2020, compared to $936.5 million at December 31, 2019.

Critical Accounting Policies

Management's discussion and analysis of financial condition and results of operations are based upon the Company's condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these condensed consolidated financial statements requires the Company to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions.

The critical accounting policies affected most significantly by estimates, assumptions and judgments used in the preparation of the Company's condensed consolidated financial statements are described in Item 7 of its Annual Report on Form 10-K for the year ended December 31, 2019 filed with the Securities and Exchange Commission. On an ongoing basis, the Company evaluates the critical accounting policies used to prepare its condensed consolidated financial statements, including, but not limited to, those related to impairment of long-lived assets, goodwill, income taxes and business acquisitions. There have been no material changes in these aforementioned critical accounting policies.

Three and Nine Months Ended September 26, 2020 Compared to Three and Nine Months Ended September 28, 2019 and Three Months Ended June 27, 2020

The following table compares operating results for the three and nine months ended September 26, 2020 with results for the three and nine months ended September 28, 2019 and three months ended June 27, 2020 both in dollars and as a percentage of net sales, for each caption.

	Three months ended						Nine months ended			
(Dollars in thousands)	September 26, 2020		September 28, 2019		June 27, 2020		September 26, 2020		September 28, 2019	
Net sales	$ 480,987	100.0 %	$ 394,147	100.0 %	$ 448,405	100.0 %	$ 1,341,719	100.0 %	$ 1,164,068	100.0 %
Cost of sales	254,987	53.0	223,797	56.8	241,033	53.8	722,869	53.9	650,051	55.8
Gross profit	226,000	47.0	170,350	43.2	207,372	46.2	618,850	46.1	514,017	44.2
Selling, general and administrative expenses	71,195	14.8	71,232	18.1	66,872	14.9	196,958	14.7	217,636	18.7
Engineering, research and development expenses	36,295	7.5	31,173	7.9	32,572	7.3	98,499	7.3	90,788	7.8
Amortization of intangible assets	11,749	2.4	15,152	3.8	13,216	2.9	41,176	3.1	50,400	4.3
Operating income	106,761	22.2	52,793	13.4	94,712	21.1	282,217	21.0	155,193	13.3
Interest expense	12,781	2.7	11,388	2.9	13,005	2.9	36,345	2.7	33,587	2.9
Interest income	(130)	—	(1,172)	(0.3)	(213)	—	(664)	—	(4,020)	(0.3)
Other (income) expense, net	(1,752)	(0.4)	934	0.2	(477)	(0.1)	(1,351)	(0.1)	(121,329)	(10.4)
Income before income taxes	95,862	19.9	41,643	10.6	82,397	18.4	247,887	18.5	246,955	21.2
Income tax expense	16,559	3.4	876	0.2	14,361	3.2	39,542	2.9	49,533	4.3
Net income	$ 79,303	16.5 %	$ 40,767	10.3 %	$ 68,036	15.2 %	$ 208,345	15.5 %	$ 197,422	17.0 %

Net sales For the three months ended September 26, 2020, net sales increased by 22% to $481.0 million, compared to $394.1 million for the three months ended September 28, 2019. An analysis of the factors underlying the increase in net sales is presented in the following table:

(In thousands)	
Net sales in the quarter ended September 28, 2019	$ 394,147
Increase associated with acquired businesses	9,736
Increase associated with volume, pricing and mix	75,147
Increase associated with effect of foreign currency translation	1,957
Net sales in the quarter ended September 26, 2020	$ 480,987

The Company’s sales increase was primarily due to strong customer demand from the semiconductor market compared to the year-ago quarter, sales of $9.7 million from the Company’s recent acquisitions and favorable foreign currency translation effects of $2.0 million.

On a geographic basis, sales percentage by customers’ country or region for the three months ended September 26, 2020 and September 28, 2019 and the percentage increase in sales for the three months ended September 26, 2020 compared to the sales for the three months ended September 28, 2019 were as follows:

	Three months ended		
	September 26, 2020	September 28, 2019	Percentage increase in sales
North America	28 %	26 %	33 %
Taiwan	17 %	19 %	10 %
South Korea	15 %	17 %	13 %
Japan	13 %	12 %	26 %
China	14 %	13 %	31 %
Europe	8 %	8 %	30 %
Southeast Asia	5 %	6 %	2 %

The increase in sales to customers in North America was primarily driven by sales from our recent acquisition of GMTI and demand for our Microcontamination Control and Advanced Materials Handling products. The increase in sales to customers in Taiwan was primarily driven by demand for our Specialty Chemicals and Engineered Materials products and Microcontamination Control products. The increase in sales to South Korea was primarily driven by demand for our Advanced Materials Handing products. The increase in sales to customers in Japan was primarily driven by demand for our Microcontamination Control and Specialty Chemicals and Engineered Materials products. The increase in sales to customers in China was due to a general increase in demand for products from each of our segments. The increase in sales to customers in Europe was driven by demand for our Microcontamination Control products.

Sales were up $32.6 million, or 7%, on a sequential basis over sales of $448.4 million for the second quarter of 2020, primarily due to strong customer demand from the semiconductor market, favorable foreign currency translation effects of $2.2 million and sales attributable to acquired businesses of $3.0 million.

Net sales for the nine months ended September 26, 2020 were $1,341.7 million, up 15% from $1,164.1 million in the comparable year-ago period. An analysis of the factors underlying the increase in net sales is presented in the following table:

(In thousands)		
Net sales in the nine months ended September 28, 2019	$	1,164,068
Increase associated with volume, pricing and mix		138,005
Increase associated with effect of foreign currency translation		2,082
Increase associated with acquired businesses		37,564
Net sales in the nine months ended September 26, 2020	$	1,341,719

The Company’s sales increase was primarily due to strong customer demand from the semiconductor market compared to the year-ago period, sales of $37.6 million from the Company’s recent acquisitions and favorable foreign currency translation effects of $2.1 million.

On a geographic basis, sales percentage by customers’ country or region for the nine months ended September 26, 2020 and September 28, 2019 and the percentage increase in sales for the nine months ended September 26, 2020 compared to the sales for the nine months ended September 28, 2019 were as follows:

	Nine months ended		
	September 26, 2020	September 28, 2019	Percentage increase in sales
North America	26 %	24 %	23 %
Taiwan	20 %	19 %	20 %
South Korea	15 %	16 %	3 %
Japan	13 %	13 %	19 %
China	13 %	13 %	14 %
Europe	8 %	8 %	14 %
Southeast Asia	6 %	6 %	1 %

The increase in sales to customers in North America was primarily driven by sales from our recent acquisitions of MPD, GMTI and Sinmat and demand for our Microcontamination Control and Specialty Chemicals and Engineered Materials products. The increase in sales to customers in Taiwan was primarily driven by demand for our Advanced Materials Handling and Microcontamination Control products. The increase in sales to customers in Japan was primarily driven by demand for our

Microcontamination Control and Specialty Chemicals and Engineered Materials products. The increase in sales to customers in China was due to a general increase in demand for products from each of our segments and sales from our recent acquisition of Anow. The increase in sales to customers in Europe was driven by demand for our Microcontamination Control products.

Gross profit The Company's gross profit increased 33% for the three months ended September 26, 2020 to $226.0 million, compared to $170.4 million for the three months ended September 28, 2019. The Company experienced a 47.0% gross margin rate for the three months ended September 26, 2020, compared to 43.2% in the comparable year-ago period. The gross profit and gross margin increases reflect higher factory utilization associated with higher sales levels and a favorable sales mix. The gross profit and gross margin figures include incremental cost of sales charges of $0.2 million and $4.5 million associated with the sale of inventory acquired in recent business acquisitions for the three months ended September 26, 2020 and September 28, 2019, respectively.

For the nine months ended September 26, 2020, the Company's gross profit increased 20% to $618.9 million, compared to $514.0 million for the nine months ended September 28, 2019. The Company experienced a 46.1% gross margin rate for the nine months ended September 26, 2020, compared to 44.2% in the comparable year-ago period. The gross profit and gross margin increases reflect higher factory utilization associated with higher sales levels and a favorable sales mix. The gross profit and gross margin figures include incremental cost of sales charges of $0.6 million and $7.3 million associated with the sale of inventory acquired in recent business acquisitions for the nine months ended September 26, 2020 and September 28, 2019, respectively.

Selling, general and administrative expenses SG&A expenses were flat at $71.2 million for both the three months ended September 26, 2020 and September 28, 2019. An analysis of the factors underlying the change in SG&A is presented in the following table:

(In thousands)		
Selling, general and administrative expenses in the quarter ended September 28, 2019	$	71,232
Deal and transaction costs		(4,249)
Integration costs		(1,138)
Employee costs		4,017
Provision for bad debt		448
Other increases, net		885
Selling, general and administrative expenses in the quarter ended September 26, 2020	$	71,195

SG&A expenses were $197.0 million for the first nine months of 2020, down 10% compared to SG&A expenses of $217.6 million in the year-ago period. An analysis of the factors underlying changes in SG&A is presented in the following table:

(In thousands)		
Selling, general and administrative expenses in the nine months ended September 28, 2019	$	217,636
Deal and transaction costs		(22,615)
Integration costs		(3,362)
Employee costs		5,101
Provision for bad debt		1,886
Other decreases, net		(1,688)
Selling, general and administrative expenses in the nine months ended September 26, 2020	$	196,958

Deal and transaction costs were $22.6 million lower in the nine months ended September 26, 2020 compared to the nine months ended September 28, 2019, mainly due to the deal costs associated with the terminated Versum transaction.

Engineering, research and development expenses The Company's engineering, research and development, or ER&D, efforts focus on the support or extension of current product lines and the development of new products and manufacturing technologies. ER&D expenses were $36.3 million in the three months ended September 26, 2020 compared to $31.2 million in the year-ago period. An analysis of the factors underlying the increase in ER&D is presented in the following table:

(In thousands)		
Engineering, research and development expenses in the quarter ended September 28, 2019	$	31,173
Employee costs		3,403
Depreciation		415
Project materials		1,218
Other increases, net		86
Engineering, research and development expenses in the quarter September 26, 2020	$	36,295

ER&D expenses increased 8% to $98.5 million in the first nine months of 2020, compared to $90.8 million in the year ago period. An analysis of the factors underlying the increase in ER&D is presented in the following table:

(In thousands)		
Engineering, research and development expenses in the nine months ended September 28, 2019	$	90,788
Employee costs		6,032
Depreciation		1,498
Project materials		967
Other decreases, net		(786)
Engineering, research and development expenses in the nine months ended September 26, 2020	$	98,499

Amortization expenses Amortization of intangible assets was $11.7 million in the three months ended September 26, 2020, compared to $15.2 million for the three months ended September 28, 2019. The decrease primarily reflects the elimination of amortization expense of $5.2 million for identifiable intangible assets acquired in acquisitions that became fully amortized in previous periods, partially offset by additional amortization expense of $2.0 million associated with recent acquisitions.

Amortization of intangible assets was $41.2 million in the nine months ended September 26, 2020, compared to $50.4 million for the nine months ended September 28, 2019. The decrease primarily reflects the elimination of amortization expense of $16.2 million for identifiable intangible assets acquired in acquisitions that became fully amortized in previous periods, partially offset by additional amortization expense of $7.1 million associated with recent acquisitions.

Interest expense Interest expense includes interest associated with debt outstanding and the amortization of debt issuance costs associated with such borrowings. Interest expense was $12.8 million in the three months ended September 26, 2020 compared to $11.4 million in the three months ended September 28, 2019. The increase primarily reflects higher average debt levels.

Interest expense was $36.3 million in the nine months ended September 26, 2020, compared to $33.6 million in the nine months ended September 28, 2019. The increase reflects higher average debt levels.

Interest income Interest income was $0.1 million in the three months ended September 26, 2020, compared to $1.2 million in the three months ended September 28, 2019. The decrease reflects lower average interest rates.

Interest income was $0.7 million in the nine months ended September 26, 2020, compared to $4.0 million in the nine months ended September 28, 2019. The decrease reflects lower average interest rates.

Other (income) expense, net Other income, net was $1.8 million in the three months ended September 26, 2020 and consisted mainly of foreign currency transaction gains of $2.9 million, partially offset by loss on debt extinguishment costs of $0.9 million associated with payments on the Term Loan Facility. Other expense, net was $0.9 million in the three months ended September 28, 2019 and consisted mainly of foreign currency transaction losses of $0.7 million.

Other income, net was $1.4 million in the nine months ended September 26, 2020 and consisted mainly of foreign currency transaction gains of $4.2 million, partially offset by loss on debt extinguishment costs of $2.4 million associated with payments on the Term Loan Facility. Other income, net was $121.3 million in the nine months ended September 28, 2019 and consisted mainly of net proceeds of $122.0 million received from the termination of the merger agreement with Versum.

Income tax expense Income tax expense was $16.6 million and $39.5 million in the three and nine months ended September 26, 2020, respectively, compared to income tax expense of $0.9 million and $49.5 million in the three and nine months ended September 28, 2019, respectively. The Company’s year-to-date effective tax rate at September 26, 2020 was 16.0%, compared to 20.1% at September 28, 2019.

The decrease in the year-to-date effective tax rate from 2019 to 2020 primarily relates to a discrete share-based compensation benefit of $12.0 million and lower accrued withholding taxes on foreign earnings. This decrease was partially offset by a valuation allowance on foreign tax credit carryforwards of $3.4 million recorded during the quarter. The year-to-date effective tax rate at September 28, 2019 included a discrete tax charge of $9.4 million related to the reversal of a dividend received deduction that was recorded in 2018. This discrete charge was recorded based on the issuance of final regulations during the quarter ended June 29, 2019, and was partially offset by a benefit of $5.3 million recorded in the quarter based on the filing of the federal tax return. Additionally, in 2019 the Company received a termination fee from Versum based on the termination of the Versum merger agreement and recorded a discrete charge of $23.5 million related to the termination fee, net of associated expenses. As a result of the termination fee, the Company released a valuation allowance on federal capital loss carryforwards and recorded a discrete benefit of $2.9 million. The year-to-date income tax expense at September 26, 2020 and September 28, 2019 includes discrete benefits of $12.0 million and $3.3 million, respectively, recorded in connection with share-based compensation.

Net income Due to the factors noted above, the Company recorded net income of $79.3 million, or $0.58 per diluted share, in the three-month period ended September 26, 2020, compared to net income of $40.8 million, or $0.30 per diluted share, in the three months ended September 28, 2019. In the three months ended September 26, 2020, net income, as a percentage of net sales, increased to 16.5% from 10.3% in the year-ago period.

In the nine months ended September 26, 2020, the Company recorded net income of $208.3 million, or $1.53 per diluted share, compared to net income of $197.4 million, or $1.45 per diluted share, in the nine months ended September 28, 2019. In the nine months ended September 26, 2020, net income, as a percentage of net sales, decreased to 15.5% from 17.0% in the year-ago period.

Non-GAAP Measures The Company's condensed consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States, or GAAP. The Company also utilizes certain non-GAAP financial measures as a complement to financial measures provided in accordance with GAAP in order to better assess and reflect trends affecting the Company's business and results of operations. See the section "Non-GAAP Information" included below in this section for additional detail, including the definition of certain non-GAAP financial measures and the reconciliation of these non-GAAP measures to the Company's GAAP measures.

The Company's principal non-GAAP financial measures are Adjusted EBITDA and Adjusted Operating Income, together with related measures thereof, and non-GAAP Earnings Per Share.

Adjusted EBITDA increased 32% to $142.4 million in the three months ended September 26, 2020, compared to $107.5 million in the three months ended September 28, 2019. In the three months ended September 26, 2020, Adjusted EBITDA, as a percentage of net sales, increased to 30% from 27% in the year-ago period.

Adjusted EBITDA increased 26% to $394.1 million in the nine months ended September 26, 2020, compared to $311.8 million in the nine months ended September 28, 2019. In the nine months ended September 26, 2020, Adjusted EBITDA, as a percentage of net sales, increased to 29% from 27% in the year-ago period.

Adjusted Operating Income increased 38% to $121.6 million in the three months ended September 26, 2020, compared to $88.2 million in the three months ended September 28, 2019. Adjusted Operating Income, as a percentage of net sales, increased to 25% from 22% in the year-ago period.

Adjusted Operating Income increased 29% to $332.1 million in the nine months ended September 26, 2020, compared to $257.2 million in the nine months ended September 28, 2019. In the nine months ended September 26, 2020, Adjusted Operating Income, as a percentage of net sales, increased to 25% from 22% in the year-ago period.

Non-GAAP Earnings Per Share increased 34% to $0.67 in the three months ended September 26, 2020, compared to $0.50 in the three months ended September 28, 2019. Non-GAAP Earnings Per Share increased 32% to $1.83 in the nine months ended September 28, 2019, compared to $1.39 in the nine months ended September 28, 2019.

Segment Analysis

The Company reports its financial performance based on three reporting segments. The following is a discussion of the results of operations of these three business segments. See note 10 to the condensed consolidated financial statements for additional information on the Company’s three segments.

The following table presents selected net sales and segment profit data for the Company’s three reportable segments and unallocated general and administrative expenses for the three months ended September 26, 2020, September 28, 2019 and June 27, 2020, and the nine months ended September 26, 2020 and September 28, 2019.

	Three months ended			Nine months ended	
(In thousands)	September 26, 2020	September 28, 2019	June 27, 2020	September 26, 2020	September 28, 2019
Specialty Chemicals and Engineered Materials					
Net sales	$ 150,480	$ 127,750	$ 146,213	$ 440,907	$ 379,772
Segment profit	32,600	17,074	32,938	98,208	65,505
Microcontamination Control					
Net sales	$ 193,541	$ 155,979	$ 183,758	$ 536,560	$ 463,870
Segment profit	64,915	46,792	62,137	177,219	137,241
Advanced Materials Handling					
Net sales	$ 144,370	$ 117,256	$ 126,434	$ 386,941	$ 340,835
Segment profit	33,266	17,077	22,809	76,707	54,487
Unallocated general and administrative expenses	$ 12,271	$ 12,998	$ 9,956	$ 28,741	$ 51,640

Specialty Chemicals and Engineered Materials (SCEM)

For the third quarter of 2020, SCEM net sales increased to $150.5 million, compared to $127.8 million in the comparable period last year. The sales increase was due to increased sales of advanced deposition materials, cleaning chemistries and advanced coatings, as well as additional sales of $3.0 million attributable to the acquisitions of MPD in the third quarter of 2019 and Sinmat in the first quarter of 2020. SCEM reported a segment profit of $32.6 million in the third quarter of 2020, up 91% from $17.1 million in the year-ago period. The segment profit increase was primarily due to higher gross profit related to increased sales volume and the absence of cost of sales charge of $4.5 million associated with the sale of inventory acquired in recent business acquisitions that were recorded in the third quarter of 2019, partially offset by a 5% increase in operating expenses, primarily due to recent acquisitions and higher compensation costs.

For the nine months ended September 26, 2020, SCEM net sales increased to $440.9 million, compared to $379.8 million in the comparable period last year. The sales increase was due to increased sales of advanced deposition materials, cleaning chemistries and advanced coatings, as well as additional sales of $23.6 million attributable to the acquisitions of Digital Specialty Chemicals Limited, or DSC, in the first quarter of 2019, MPD in the third quarter of 2019 and Sinmat in the first quarter of 2020. SCEM reported a segment profit of $98.2 million in the nine months ended September 26, 2020, up 50% from $65.5 million in the year-ago period also due to higher sales levels, $5.1 million less cost of sales charges associated with the sale of inventory acquired in recent business acquisitions, partially offset by a 6% increase in operating expenses, primarily due to recent acquisitions and higher compensation costs.

Microcontamination Control (MC)

For the third quarter of 2020, MC net sales increased to $193.5 million, compared to $156.0 million in the comparable period last year. The sales increase was mainly due to improved sales from liquid filtration and gas filtration products, as well as additional sales of $3.7 million attributable to the acquisition of Anow in the third quarter of 2019, MC reported a segment profit of $64.9 million in the third quarter of 2020, up 39% from $46.8 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales volume and favorable product mix, partially offset by a 16% increase in operating expenses due to recent acquisitions and higher compensation costs.

For the nine months ended September 26, 2020, MC net sales increased to $536.6 million, compared to $463.9 million in the comparable period last year. The sales increase was due to improved sales from liquid filtration and gas purification products, as well as additional sales of $11.0 million attributable to the acquisition of Anow in the third quarter of 2019. MC reported a segment profit of $177.2 million in the nine months ended September 26, 2020, up 29% from $137.2 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales volume and favorable product mix and $1.9 million less cost of sales charges associated with the sale of inventory acquired in recent business acquisitions, partially offset by a 10% increase in operating expenses due to recent acquisitions and higher compensation costs.

Advanced Materials Handling (AMH)

For the third quarter of 2020, AMH net sales increased to $144.4 million, compared to $117.3 million in the comparable period last year. The sales increase was mainly due to improved sales from high purity liquid containers, fluid management products, sensing and control products and wafer handling products, as well as additional sales of $3.0 million attributable to the acquisition of GMTI in the third quarter of 2020. AMH reported a segment profit of $33.3 million in the third quarter of 2020, up 95% from $17.1 million in the year-ago period. The segment profit increase was primarily due to higher sales volume, favorable product mix and a 3% decrease in operating expenses, primarily due to lower spending and restructuring initiatives from the previous year.

For the nine months ended September 26, 2020, AMH net sales increased to $386.9 million, compared to $340.8 million in the comparable period last year. The sales increase was mainly due to improved sales from high purity liquid containers, fluid management products, sensing and control products and wafer handling products, as well as additional sales of $3.0 million attributable to the acquisition of GMTI in the third quarter of 2020. AMH reported a segment profit of $76.7 million in the nine months ended September 26, 2020, up 41% from $54.5 million in the year-ago period. The segment profit increase was primarily due to higher sales volume, favorable product mix and a 6% decrease in operating expenses, primarily due to lower spending and restructuring initiatives from the previous year.

Unallocated general and administrative expenses

Unallocated general and administrative expenses totaled $12.3 million in the third quarter of 2020, compared to $13.0 million in the comparable period last year. The $0.7 million decrease mainly reflects a $5.4 million decrease in deal and integration costs referenced in the discussion of SG&A above, offset primarily by increased employee costs of $2.3 million.

Unallocated general and administrative expenses for the nine months ended September 26, 2020 totaled $28.7 million, down from $51.6 million in the nine months ended September 26, 2020. The $22.9 million decrease mainly reflects a $26.0 million decrease in deal and integration costs referenced in the discussion of SG&A above, offset primarily by increased employee costs of $1.4 million.

Liquidity and Capital Resources

We consider the following when assessing our liquidity and capital resources:

In thousands	September 26, 2020	December 31, 2019
Cash and cash equivalents	$ 447,972	$ 351,911
Working capital	899,077	667,964
Total debt	1,085,380	936,484

The Company has historically financed its operations and capital requirements through cash flow from its operating activities, long-term loans, lease financing and borrowings under domestic and international short-term lines of credit. Although there is uncertainty related to the anticipated impact of the COVID-19 pandemic on the Company's future results, we believe our business model, our current cash reserves and the recent steps we have taken to strengthen our balance sheet, such as our issuance of $400 million aggregate principal amount of 4.375% senior unsecured notes due April 15, 2028 and related repayments under the Revolving Facility and Term Loan Facility, will help us to manage our business through this crisis as we expect it to unfold. We have reviewed numerous potential scenarios in connection with the impact of COVID-19 on the global economy and the semiconductor industry. Based on our analysis, we believe our existing balances of domestic cash and cash equivalents and our currently anticipated operating cash flows will be sufficient to meet our cash needs arising in the ordinary course of business for the next twelve months. As the opportunity arises, we may seek to take advantage of opportunities to raise additional capital through additional debt financing or through public or private sales of securities. If in the future our available liquidity is not sufficient to meet the Company's operating and debt service obligations as they come due, management would need to pursue alternative arrangements through additional equity or debt financing in order to meet the Company's cash requirements. There can be no assurance that any such financing would be available on commercially acceptable terms, or at all. To date, in fiscal 2020, we have not experienced difficulty accessing the capital and credit markets; however, future volatility in the capital and credit markets may increase costs associated with issuing debt instruments or affect our ability to access those markets. In addition, it is possible that our ability to access the capital and credit markets could be limited at a time when we would like, or need, to do so, which could have an adverse impact on our ability to refinance maturing debt and/or react to changing economic and business conditions.

In summary, our cash flows for each period were as follows:

(in thousands)	Nine months ended September 26, 2020	September 28, 2019
Net cash provided by operating activities	$ 242,656	$ 253,654
Net cash used in investing activities	(190,440)	(349,981)
Net cash provided by (used in) financing activities	44,352	(101,828)
Increase (decrease) in cash and cash equivalents	96,061	(199,314)

Operating activities

Cash provided by operating activities is net income adjusted for certain non-cash items and changes in assets and liabilities. Cash flows provided by operating activities totaled $242.7 million in the nine months ended September 26, 2020 compared to cash flows provided by operating activities of $253.7 million in the nine months ended September 28, 2019. The decrease in cash provided by operating activities was primarily due to changes in working capital and other assets and liabilities, offset partially by higher net income. The net change in working capital and other assets and liabilities resulted in a decrease to cash provided by operations of $118.6 million for the nine months ended September 26, 2020 compared to a decrease of $75.8 million for the nine months ended September 28, 2019.

Changes in working capital and other assets and liabilities for the nine months ended September 26, 2020 were driven by increases in accounts receivable, inventories, accounts payable and refundable income taxes. The change for accounts receivable was primarily due to the Company's quarter closing date occurring several days prior to the end of the calendar month, the period during which receivable collections are typically heavy, particularly for the Company's Asia operations, as compared to the nine months ended September 28, 2019. The change for inventory was driven by an increase in raw material purchases to provide a buffer related to any potential supply chain issues related to COVID-19 and any increase in business activity. The change for accounts payable and accrued liabilities was primarily driven by the timing of payments of accounts payable. In addition, the Company paid out a lower incentive compensation payment for the nine months ended September 26, 2020 compared to the Company’s analogous payment for the nine months ended September 28, 2019. Furthermore, the Company’s incentive compensation accrual is higher at September 26, 2020 than its incentive compensation accrual at September 28, 2019. The increase in refundable income taxes is due to a provision to return true up related to the 2019 tax return.

Investing activities Cash flows used in investing activities totaled $190.4 million in the nine months ended September 26, 2020 compared to cash flows used in investing activities of $350.0 million in the nine months ended September 28, 2019. The change was due to lower cash paid for acquisitions of businesses and acquisition of property, plant and equipment.

Acquisition of property, plant and equipment totaled $79.6 million in the nine months ended September 26, 2020, which primarily reflected investments in equipment and tooling, compared to $86.4 million in the nine months ended September 28, 2019, which primarily reflected investments in equipment and tooling.

In the nine months ended September 26, 2020, the Company acquired Sinmat and GMTI. The cash used to acquire Sinmat and GMTI for the nine months ended September 26, 2020 was $111.1 million, net of cash acquired. The transactions are described in further detail in note 3 to the Company’s condensed consolidated financial statements.

In the nine months ended September 28, 2019, the Company acquired DSC, MPD and Anow. The cash used to acquire DSC, MPD and Anow for the nine months ended September 28, 2019 was $266.4 million, net of cash acquired. These transactions are described in further detail in note 3 to the Company’s condensed consolidated financial statements.

As of September 26, 2020, the Company expects its full-year capital expenditures in 2020 to be approximately $120.0 million. As of September 26, 2020, the Company had outstanding capital purchase obligations of $47.3 million for the construction or purchase of plant and equipment not yet recorded in the Company’s condensed consolidated financial statements as the Company had not received the related goods or property as of such date.

Financing activities Cash flows provided by financing activities totaled $44.4 million during the nine months ended September 26, 2020 compared to cash flows used in financing activities of $101.8 million during the nine months ended September 28, 2019. The change was primarily due to net long-term debt activity, which was a net source of cash of $149.0 million in the nine months ended September 26, 2020, compared to a net use of cash of $2.0 million in the comparable period in 2019, and a $35.8 million decrease of repurchases of the Company’s common stock, partially offset by a $16.1 million deferred acquisition payment related to our DSC acquisition, a $16.0 million increase in cash used to pay taxes for net share settlements of equity awards and $4.0 million increase in payments for debt issuance costs. In March 2020, the Company suspended its share repurchase program, and beginning in the fourth quarter of 2020 the Company recommenced its share repurchase program.

Our total dividend payments were $32.4 million in the nine months ended September 26, 2020 compared to $29.8 million in the nine months ended September 28, 2019. We have paid a cash dividend in each of the past 12 quarters. On October 14, 2020, the

Board declared a quarterly cash dividend of $0.08 per share of common stock, payable on November 18, 2020 to stockholders of record on October 28, 2020.

Other Liquidity and Capital Resources Considerations

The Company's Term Loan Facility matures on November 6, 2025 and bears interest at a rate per annum of 2.2% at September 26, 2020. During the nine months ended September 26, 2020, the Company made payments of $251.0 million on the Term Loan Facility and had losses on debt extinguishment of $2.4 million. As of September 26, 2020, the aggregate principal amount outstanding under the Term Loan Facility was $145.0 million.

The Company's Revolving Facility provides for lending commitments in an aggregate principal amount of up to $300.0 million maturing on November 6, 2023. The Revolving Facility bears interest at a rate per annum equal to, at the Company's option, either a base rate (such as prime rate) or LIBOR plus, in each case, an applicable margin. At September 26, 2020, there was no balance outstanding under the Revolving Facility and we had undrawn outstanding letters of credit of $0.2 million.

Through September 26, 2020, the Company was in compliance with all applicable financial covenants under its credit facilities.

As of September 26, 2020, we had $550.0 million aggregate principal amount of 4.625% senior unsecured notes due February 10, 2026 outstanding.

On April 30, 2020, the Company issued $400.0 million aggregate principal amount of 4.375% senior unsecured notes due April 15, 2028. The Company paid debt issuance costs of $4.0 million in connection with the issuance of the notes during the nine months ended September 26, 2020. The transaction is described in further detail in note 6 to the Company's condensed consolidated financial statements.

The Company also has lines of credit with one banks that provide for borrowings of Japanese yen for the Company's Japanese subsidiary, equivalent to an aggregate of approximately $9.5 million. There were no outstanding borrowings under these lines of credit at September 26, 2020.

As of September 26, 2020, the Company's sources of available funds were its cash and cash equivalents of $448.0 million, funds available under the Revolving Facility and international credit facilities and cash flow generated from operations. As of September 26, 2020, the amount of cash and cash equivalents held in certain of our foreign operations totaled approximately $231.3 million. If we repatriate such funds, we will be required to pay income taxes in certain U.S. states and applicable foreign withholding taxes on those amounts during the period when such repatriation occurs. We have accrued taxes for the tax effect of repatriating the funds to the U.S.

Off-Balance Sheet Arrangements

As of September 26, 2020, we did not have any off-balance sheet arrangements that have, or are reasonably likely to have, a material current or future effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

There have been no significant changes to the contractual obligations reported in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, except for long-term debt. On April 30, 2020, the Company issued $400.0 million aggregate principal amount of 4.375% senior unsecured notes due April 15, 2028. The Company paid down $251.0 million on the Term Loan Facility during the nine months ended September 26, 2020.

Recently adopted accounting pronouncements Refer to note 1 to the Company's condensed consolidated financial statements for a discussion of accounting pronouncements recently adopted.

Recently issued accounting pronouncements Refer to note 1 to the Company's condensed consolidated financial statements for a discussion of accounting pronouncements recently issued but not yet adopted.

Non-GAAP Information The Company's condensed consolidated financial statements are prepared in conformity with GAAP.

The Company also utilizes certain non-GAAP financial measures as a complement to financial measures provided in accordance with GAAP in order to better assess and reflect trends affecting the Company's business and results of operations. These non-GAAP financial measures include Adjusted EBITDA and Adjusted Operating Income, together with related measures thereof, and non-GAAP Earnings Per Share, or EPS, as well as certain other supplemental non-GAAP financial measures included in the discussion of the Company's financial results.

Adjusted EBITDA, a non-GAAP financial measure, is defined by the Company as net income before (1) income tax expense, (2) interest expense, (3) interest income, (4) other (income) expense, net, (5) charge for fair value write-up of acquired inventory sold, (6) deal and transaction costs, (7) integration costs, (8) severance and restructuring costs, (9) amortization of intangible assets and (10) depreciation. Adjusted Operating Income, another non-GAAP financial measure, is defined by the

Company as Adjusted EBITDA exclusive of the depreciation addback noted above. The Company also utilizes non-GAAP financial measures whereby Adjusted EBITDA and Adjusted Operating Income are each divided by the Company's net sales to derive Adjusted EBITDA Margin and Adjusted Operating Margin, respectively.

Non-GAAP EPS, a non-GAAP financial measure, is defined by the Company as net income before (1) charge for fair value write-up of acquired inventory sold, (2) deal and transaction costs, (3) integration costs, (4) severance and restructuring costs, (5) loss on debt extinguishment, (6) Versum termination fee, net, (7) amortization of intangible assets, (8) tax effect of legal entity restructuring and (9) the tax effect of the foregoing adjustments to net income, stated on a per share basis.

The Company provides supplemental non-GAAP financial measures to help management and investors to better understand its business and believes these measures provide investors and analysts additional and meaningful information for the assessment of the Company's ongoing results. Management also uses these non-GAAP measures to assist in the evaluation of the performance of the Company's business segments and to make operating decisions.

Management believes the Company's non-GAAP measures help indicate the Company's baseline performance before certain gains, losses or other charges that may not be indicative of the Company's business or future outlook and offer a useful view of business performance in that the measures provide a more consistent means of comparing performance. The Company believes the non-GAAP measures aid investors' overall understanding of the Company's results by providing a higher degree of transparency for such items and providing a level of disclosure that will help investors understand how management plans, measures and evaluates the Company's business performance. Management believes that the inclusion of non-GAAP measures provides greater consistency in its financial reporting and facilitates investors' understanding of the Company's historical operating trends by providing an additional basis for comparisons to prior periods.

Management uses Adjusted EBITDA and Adjusted Operating Income to assist it in evaluations of the Company's operating performance by excluding items that management does not consider as relevant in the results of its ongoing operations. Internally, these non-GAAP measures are used by management for planning and forecasting purposes, including the preparation of internal budgets; for allocating resources to enhance financial performance; for evaluating the effectiveness of operational strategies; and for evaluating the Company's capacity to fund capital expenditures, secure financing and expand its business.

In addition, and as a consequence of the importance of these non-GAAP financial measures in managing its business, the Company's Board of Directors uses non-GAAP financial measures in the evaluation process to determine management compensation.

The Company believes that certain analysts and investors use Adjusted EBITDA, Adjusted Operating Income and non-GAAP EPS as supplemental measures to evaluate the overall operating performance of firms in the Company's industry. Additionally, lenders or potential lenders use Adjusted EBITDA measures to evaluate the Company's creditworthiness.

The presentation of non-GAAP financial measures is not meant to be considered in isolation, as a substitute for, or superior to, financial measures or information provided in accordance with GAAP. Management strongly encourages investors to review the Company's condensed consolidated financial statements in their entirety and to not rely on any single financial measure.

Management notes that the use of non-GAAP measures has limitations, including but not limited to:

First, non-GAAP financial measures are not standardized. Accordingly, the methodology used to produce the Company's non-GAAP financial measures is not computed under GAAP and may differ notably from the methodology used by other companies. For example, the Company's non-GAAP measure of Adjusted EBITDA may not be directly comparable to EBITDA or an adjusted EBITDA measure reported by other companies.

Second, the Company's non-GAAP financial measures exclude items such as amortization and depreciation that are recurring. Amortization of intangibles and depreciation have been, and will continue to be for the foreseeable future, a significant recurring expense with an impact upon the Company's results of operations, notwithstanding the lack of immediate impact upon cash flows.

Third, there is no assurance that the Company will not have future charges for fair value write-up of acquired inventory, restructuring activities, deal costs, integration costs, or similar items and, therefore, may need to record additional charges (or credits) associated with such items, including the tax effects thereon. The exclusion of these items in the Company's non-GAAP measures should not be construed as an implication that these costs are unusual, infrequent or non-recurring.

Management considers these limitations by providing specific information regarding the GAAP amounts excluded from these non-GAAP financial measures and evaluating these non-GAAP financial measures together with their most directly comparable financial measures calculated in accordance with GAAP. The calculations of Adjusted EBITDA, Adjusted Operating Income, and non-GAAP EPS, and reconciliations between these financial measures and their most directly comparable GAAP equivalents, are presented below in the accompanying tables.

Reconciliation of GAAP Net Income to Adjusted Operating Income and Adjusted EBITDA

(In thousands)	Three months ended September 26, 2020	Three months ended September 28, 2019	Nine months ended September 26, 2020	Nine months ended September 28, 2019
Net sales	$ 480,987	$ 394,147	$ 1,341,719	$ 1,164,068
Net income	$ 79,303	$ 40,767	$ 208,345	$ 197,422
Net income - as a % of net sales	16.5 %	10.3 %	15.5 %	17.0 %
Adjustments to net income				
Income tax expense	16,559	876	39,542	49,533
Interest expense	12,781	11,388	36,345	33,587
Interest income	(130)	(1,172)	(664)	(4,020)
Other (income) expense, net	(1,752)	934	(1,351)	(121,329)
GAAP – Operating income	106,761	52,793	282,217	155,193
Operating margin -as a % of net sales	22.2 %	13.4 %	21.0 %	13.3 %
Charge for fair value write-up of acquired inventory sold	229	4,483	590	7,333
Deal and transaction costs	642	4,891	2,576	25,191
Integration costs	1,260	2,398	1,663	6,582
Severance and restructuring costs	971	8,503	3,863	12,494
Amortization of intangible assets	11,749	15,152	41,176	50,400
Adjusted operating income	121,612	88,220	332,085	257,193
Adjusted operating margin - as a % of net sales	25.3 %	22.4 %	24.8 %	22.1 %
Depreciation	20,777	19,306	62,064	54,623
Adjusted EBITDA	$ 142,389	$ 107,526	$ 394,149	$ 311,816
Adjusted EBITDA – as a % of net sales	29.6 %	27.3 %	29.4 %	26.8 %

Reconciliation of GAAP Net Income and Earnings per Share to Non-GAAP Net Income and Earnings per Share

(In thousands, except per share data)	Three months ended September 26, 2020	Three months ended September 28, 2019	Nine months ended September 26, 2020	Nine months ended September 28, 2019
Net income	$ 79,303	$ 40,767	$ 208,345	$ 197,422
Adjustments to net income				
Charge for fair value write-up of acquired inventory sold	229	4,483	590	7,333
Deal and transaction costs	642	4,891	2,576	25,602
Integration costs	1,260	2,398	1,663	6,582
Severance and restructuring costs	971	8,503	3,863	12,494
Loss on debt extinguishment	908	—	2,378	—
Versum termination fee, net	—	—	—	(122,000)
Amortization of intangible assets	11,749	15,152	41,176	50,400
Tax effect of legal entity restructuring	—	—	—	9,398
Tax effect of adjustments to net income and certain discrete tax items[1]	(3,602)	(8,015)	(11,979)	2,274
Non-GAAP net income	$ 91,460	$ 68,179	$ 248,612	$ 189,505
Diluted earnings per common share	$ 0.58	$ 0.30	$ 1.53	$ 1.45
Effect of adjustments to net income	0.09	0.20	0.30	(0.06)
Diluted non-GAAP earnings per common share	$ 0.67	$ 0.50	$ 1.83	$ 1.39

[1]The tax effect of pre-tax adjustments to net income was calculated using the applicable marginal tax rate for each respective year.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The Company's principal financial market risks are sensitivities to interest rates and foreign currency exchange rates. The Company's interest-bearing cash equivalents and senior secured financing obligations are subject to interest rate fluctuations. The Company's cash equivalents are instruments with maturities of three months or less. A 100 basis point change in interest rates would potentially increase or decrease annual net income by approximately $2.4 million annually.

The cash flows and results of operations of the Company's foreign-based operations are subject to fluctuations in foreign exchange rates. We have sales denominated in the South Korean Won, New Taiwan Dollar, Chinese Renminbi, Canadian Dollar, Malaysian Ringgit, Singapore Dollar, Euro, Israeli Shekel and the Japanese Yen. Approximately 23.3% of the Company's 2020 year-to-date sales are denominated in these currencies. Financial results therefore will be affected by changes in currency exchange rates. If all foreign currencies had experienced a 10% reduction versus the U.S. dollar during the three months ended September 26, 2020, revenue for the quarter would have been negatively impacted by approximately $11.2 million.

The Company occasionally uses derivative financial instruments to manage the foreign currency exchange rate risks associated with its foreign-based operations. At September 26, 2020, the Company had no net exposure to any foreign currency forward contracts.

Item 4. Controls and Procedures

(a) Evaluation of disclosure controls and procedures.
The Company's management, including the Chief Executive Officer, or CEO, and Chief Financial Officer, or CFO, has conducted an evaluation of the effectiveness of the Company's disclosure controls and procedures (as defined under Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, or the 1934 Act) as of September 26, 2020. The term "disclosure controls and procedures" means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is recorded, processed, summarized and reported within the time periods specified in the SEC's 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 1934 Act is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on management's evaluation (with the participation of the Company's CEO and CFO), as of September 26, 2020, the Company's CEO and CFO have concluded that the disclosure controls and procedures used by the Company were effective to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the 1934 Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to management, including its principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

(b) Changes in internal control over financial reporting.
There has been no change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the 1934 Act) identified in connection with the foregoing evaluation of disclosure controls and procedures that occurred during the most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

The Company acquired Sinmat and GMTI on January 10, 2020 and July 10, 2020, respectively. Neither of Sinmat or GMTI is significant to the Company's financial statements. The Company is continuing to integrate Sinmat and GMTI into the Company's internal control over financial reporting, and the foregoing evaluation of the effectiveness of the Company's disclosure controls and procedures does not include an assessment of those disclosure controls and procedures of Sinmat or GMTI that are subsumed by internal control over financial reporting.

PART II

OTHER INFORMATION

Item 1. Legal Proceedings

As of September 26, 2020, the Company is subject to various claims, legal actions, and complaints arising in the ordinary course of business. The Company believes the final outcome of these matters will not have a material adverse effect on its condensed consolidated financial statements. The Company expenses legal costs as incurred.

Item 1A. Risk Factors

This section augments and updates certain risk factors disclosed in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2019, or the Annual Report, and in Item 1A of Part II of our Quarterly Reports on Form 10-Q for the fiscal periods ended March 28, 2020 and June 27, 2020, or collectively the Past Quarterly Reports. The following risk factors supersede the corresponding risks described in the Annual Report and the Past Quarterly Reports and should be read together with the other risk factors disclosed in the Annual Report. In addition to the other information in this Quarterly Report on Form 10-Q, all of these risk factors should be carefully considered in evaluating us and our common stock. Any of these risks, many of which are beyond our control, could materially and adversely affect our financial condition, results of operations or cash flows, or cause our actual results to differ materially from those projected in any forward-looking statements. We may also face other risks and uncertainties that are not presently known, are not currently believed to be material, or are not identified below because they are common to all businesses. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. For more information, see "Cautionary Statements" at the beginning of this Quarterly Report on Form 10-Q.

Risks Related to Our Business and Industry

The COVID-19 pandemic and ensuing governmental responses could materially adversely affect our financial condition and results of operations.

As a result of the COVID-19 pandemic, governmental authorities have implemented and are continuing to implement numerous and constantly evolving measures to try to contain the virus, such as travel bans and restrictions, limits on gatherings, quarantines, shelter-in-place orders, and business shutdowns. We have important manufacturing operations in the U.S., Japan, Korea, China, Malaysia, and Taiwan, all of which have been affected by the outbreak and have taken measures to try to contain it. Measures providing for business shutdowns have generally excluded certain essential services, and those essential services have commonly included critical infrastructure and the businesses that support that critical infrastructure. While all of our facilities currently remain operational, these measures have impacted and may further impact our workforce and operations, as well as those of our customers, suppliers and other third parties with which we do business. For example, the government of Malaysia issued an order that significantly reduced the number of employees who could be physically present to operate our Malaysian plant, which had reduced the productivity of that plant. As of the date of this filing, our Malaysian plant is back to full capacity. In addition to reduced productivity, the constraints and limits imposed on our operations may slow or diminish our research and development and customer qualification activities. Although many governmental measures have had specific expiration dates, some of those measures have already been extended more than once, and some governmental re-opening plans have been delayed or reversed due to spikes in the number of infections. In addition, such measures have not effectively reduced the high rate of spread of the virus in certain U.S. states, and there may be potential additional waves of infection in the future. As a result, there is considerable uncertainty regarding the duration and extent of current and future measures. Restrictions on our manufacturing, support operations or workforce, or similar limitations for our suppliers, could limit our ability to meet customer demand and could have a material adverse effect on our financial condition and results of operations. Furthermore, restrictions or disruptions of transportation, such as reduced availability of air transport, port closures and increased border controls or closures, have resulted, in certain instances, in higher costs and delays, both on obtaining raw materials and shipping finished goods to customers. If these restrictions and disruptions continue, they could harm our profitability, make our products less competitive, or cause our customers to seek alternative suppliers.

The COVID-19 pandemic has significantly increased economic and demand uncertainty. We anticipate that the pandemic will continue to contribute to the current global economic slowdown, and it is possible that it could cause a global recession.
In response to these developments, we have modified our business practices, including restricting employee travel, modifying employee work locations, implementing social distancing and enhanced sanitary measures in our facilities, and cancelling attendance at events and conferences. Many of our suppliers and service providers have made similar modifications. The resources available to employees working remotely may not enable them to maintain the same level of productivity and efficiency, and these and other employees may face additional demands on their time, such as increased responsibilities resulting from school closures or the illness of family members. While we have experienced only limited absenteeism from employees who are required to be on-site to perform their jobs, absenteeism may increase in the future and may harm our

productivity. In addition, we have incurred and may continue to incur incremental employee compensation related to the COVID-19 pandemic. Further, our increased reliance on remote access to our information systems increases our exposure to potential cybersecurity breaches. We may take further actions as government authorities require or recommend or as we determine to be in the best interests of our employees, customers, partners and suppliers. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus, in which case our employees may become sick, our ability to perform critical functions could be harmed, and we may be unable to respond to the needs of our global business. The resumption of normal business operations after such interruptions may be delayed or constrained by lingering effects of COVID-19 on our suppliers, third-party service providers, and/or customers.

The degree to which COVID-19 impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, its severity, potential additional waves of infection, the actions to mitigate the virus and its impact, and how quickly and to what extent normal economic and operating conditions can resume. Furthermore, the COVID-19 pandemic makes it more difficult for us to forecast demand and provide guidance for upcoming periods. Accordingly, any guidance we provide is likely to be less reliable than usual, and actual results are more likely to differ from any such guidance. In light of the foregoing, investors are urged to put the guidance in context and not to place undue reliance on it.

Anticipated declines in worldwide economic conditions, at least in the short term, are likely to cause demand for our products to decrease and to adversely affect our business.

We anticipate potential continued declines in industry and worldwide economic conditions at least in the short term, and these declines may adversely affect our business. We expect that the COVID-19 pandemic and any additional waves of infection could cause the current economic slowdown to continue or worsen, and it is possible that it could cause a global recession or other adverse economic conditions across the world. In the event of a recession or other downturn in the worldwide economy, demand for our products would decline and our business would be adversely effected. Our revenue is primarily dependent upon demand from semiconductor manufacturers, which is largely driven by the current and anticipated demand for electronic products that utilize semiconductors. Despite recent increases in demand for semiconductors in applications such as smartphones, cloud computing, the Internet of Things, and artificial intelligence, the semiconductor industry has historically been, and is likely to continue to be, highly cyclical with periodic significant downturns, resulting in significantly decreased demand for products such as ours. We have previously experienced significant revenue deterioration and operating losses due to severe downturns in the semiconductor industry, which often occur suddenly. The semiconductor industry is also affected by seasonal shifts in demand. Although we currently anticipate that the current economic downturn will continue, we are unable to predict its duration or severity, nor are we able to predict the timing, duration or severity of any future downturns in the semiconductor industry. As a result, we could underperform the market or our peers.

During downturns and periods of soft demand, our revenue is reduced, and we typically experience greater pricing pressure and shifts in product and customer mix, which often adversely affect our gross margin and net income. Even moderate seasonality can cause our operating results to fluctuate significantly from one period to the next. Uncertain and volatile economic, political, public health or business conditions in any of our key sales regions can cause or exacerbate negative trends in business and consumer spending and have historically impacted customer demand for our products. These conditions can cause material adverse changes in our results of operations and financial condition, including:

- a decline in demand for our products, which, given our limited backlog, will have an immediate impact on our revenues;
- an increase in reserves for accounts receivable due to our customers' inability to pay us;
- lower utilization of our manufacturing facilities, which could lead to lower margins;
- an increase in write-offs for excess or obsolete inventory that we cannot sell;
- potential impairment charges relating to goodwill, intangible assets, manufacturing equipment or other long-lived assets, to the extent that any downturn indicates that the carrying amount of the asset may not be recoverable;
- greater challenges in forecasting operating results, making business decisions, and identifying and prioritizing business risks; and
- additional cost reduction efforts, including additional restructuring activities, which may adversely affect our ability to capitalize on opportunities.

We anticipate that the COVID-19 pandemic, including potential additional waves of infection, will likely cause us to experience at least some of these adverse changes, but we cannot predict the degree to which they will occur. They may be more severe than we currently expect; for example, recent bookings of orders may be attributable to customers increasing their inventory to reduce their exposure to risks of future supply disruptions, which could be an offset to future demand for our products. Furthermore, to remain competitive, we must maintain a satisfactory level of engineering, research and development, invest in our infrastructure and maintain the ability to respond to any increases in demand and, as a result, a lower volume of sales can have a large and disproportionate impact on our profitability.

Our revenues and operating results are variable.

Our revenues and operating results may fluctuate significantly from quarter-to-quarter or year-to-year due to a number of factors, many of which are outside our control. We manage our expenses based in part on our expectations of future revenues. Because some of our expenses are relatively fixed in the short term, a change in the timing of revenue or the amount of profit we generate from a small number of transactions can unfavorably affect operating results in a particular period. Factors that may cause our financial results to fluctuate unpredictably include:

- economic conditions in the semiconductor industry or in the other industries we serve;
- the impact of the COVID-19 pandemic on the global economy, the semiconductor industry, our manufacturing capabilities or our supply chain;
- the size and timing of customer orders;
- consolidation of our customers could impact their purchasing decisions and negatively affect our revenues;
- procurement shortages;
- the failure of our suppliers or outsource providers to perform their obligations;
- manufacturing difficulties;
- additional expenses we would expect to incur in our efforts to respond promptly to any supply shortages, manufacturing difficulties or other supplier problems;
- decisions to increase or accelerate our purchasing of raw materials, components or other supplies in an effort to mitigate supply risk;
- customer cancellations of or delays in shipments, installations or customer acceptances or, alternatively, acceleration of orders from customers to increase their inventory;
- our customers' rate of replacement of our consumable products;
- changes in average selling prices, customer mix, and product mix;
- our ability to develop, introduce, and market new, enhanced, and competitive products in a timely manner;
- our competitors' introduction of new products;
- legal or technical challenges to our products or technologies;
- disruptions in transportation, communication, demand, information technology, or supply, including strikes, acts of God, wars, terrorist activities, and natural or man-made disasters;
- legal, tax, accounting, or regulatory changes (including changes in import/export regulations and tariffs) or changes in the interpretation or enforcement of existing requirements;
- changes in our estimated tax rate; and
- foreign currency exchange rate fluctuations.

The COVID-19 pandemic is likely to exacerbate the adverse impact of many of these factors on our revenues and results of operations, at least in the short term.

We depend on single and limited source suppliers and an interruption in our ordinary sources of supply could affect our ability to manufacture our products and have an adverse effect on our results of operations.

We rely on single or limited source suppliers for raw materials, such as plastic polymers, filtration membranes, petroleum coke and other materials, which are critical to the manufacturing of our products. If we were to lose any one of these sources, it could be difficult for us to find an alternative supplier and we would need to qualify this new source through our customers' rigorous qualification processes. Although we seek to reduce our dependence on sole and limited source suppliers, the partial or complete loss of any of these sources could interrupt our manufacturing operations and result in a material adverse effect on our results of operations. At times, we have experienced a limited supply of certain raw materials, which has resulted in delays, lost revenue, increased costs and risks associated with qualifying products made from such new raw materials with our customers. Events such as an industry-wide increase in demand for, or the discontinuation of, raw materials used in our products could harm our ability to acquire sufficient quantities and our manufacturing operations may be interrupted. For example, in 2019, we experienced a disruption in the supply of certain ceramic material for use in our coatings business in our SCEM division when the supplier was unable to produce these materials at the required specifications. In response, we worked collaboratively with the supplier to determine the root cause and to solve the manufacturing issue, reestablishing the supply of these materials. Although we were able to reestablish our supply of this raw material, we may be unable to do so in the future or with other raw materials, in which case raw materials shortages may adversely affect our operations. Additionally, our suppliers may not have the capacity to meet increases in our demand for raw materials, in turn, making it difficult for us to meet demand from our customers. Furthermore, prices for our raw materials can vary widely. While we have long-term arrangements with certain key suppliers that fix our price for the purchase of certain raw materials, if the cost of our raw materials increases and we are unable to correspondingly increase the sales price of our products or find other cost savings, our profit margins will decline.

Although we have not yet experienced any significant impacts or interruptions to our supply chain as a result of the COVID-19 pandemic, there is no assurance that they will not occur in the future. Certain of our suppliers have faced difficulties maintaining operations in light of government-ordered restrictions and shelter-in-place mandates. If our suppliers or sub-suppliers are unable to maintain their operations or restrictions become more severe, we may encounter difficulties obtaining raw materials, which may cause us to fail to meet customer demand or require us to pay higher prices for these materials, either of which could harm our business and profitability. For example, one of our critical valve suppliers was shut down and was unable to supply us with valves for our gas purification products. Although in this instance we were able to procure this critical part from a second, pre-qualified source, we may be unable to find alternative sources of supply in the future and may therefore be adversely affected by supply interruptions resulting from the COVID-19 pandemic. Additionally, an economic slowdown caused by the COVID-19 pandemic could harm the financial health of our suppliers and sub-suppliers. Although we regularly monitor the financial health of companies in our supply chain, financial hardship on our suppliers or sub-suppliers could cause a disruption in our ability to obtain raw materials or components required to manufacture our products, adversely affecting our operations or require us to alter our payment terms with certain suppliers, including prepaying for raw materials, which could put downward pressure on our cash flow.

We are exposed to the risks of operating a global business as a significant amount of our sales and manufacturing activity occur outside the United States.

Sales to customers outside the United States accounted for approximately 74%, 76%, 78% and 79% of our net sales in the nine months ended September 26, 2020 and in 2019, 2018 and 2017, respectively. We anticipate that international sales will continue to account for a majority of our net sales. In addition, a number of our key domestic customers derive a significant portion of their revenues from sales in international markets. We also manufacture a significant portion of our products outside the United States and are dependent on international suppliers for many of our parts and raw materials. We intend to continue to pursue opportunities in both sales and manufacturing internationally. Our international operations are subject to a number of risks and potential costs that could adversely affect our revenue and profitability, including:

- border closures, travel bans, entry limitations or inspections, and other restrictions on the international movement of goods, including actions to limit the export of goods in order to secure a domestic supply in light of actual or anticipated global shortages, as well as the potential exercise of governmental power to requisition or prioritize the production of specified goods or to commandeer facilities in the public interest, such as in the effort to combat the COVID-19 pandemic, any of which could adversely affect our ability to obtain supplies and delivery our products to customers;
- government actions, laws, rules, regulations and policies, such as “trade wars,” tariffs, sanctions or other changes in international trade requirements that affect our business and that of our customers and suppliers, any of which could impose additional costs on our operations and limit our ability to operate our business;
- challenges in hiring and integrating workers in different countries;
- challenges in managing a diverse workforce with different experience levels, languages, cultures, customs, business practices and worker expectations, along with differing employment practices and labor issues;
- challenges of maintaining appropriate business processes, procedures and internal controls and complying with legal, environmental, health and safety, anti-bribery, anti-corruption and other regulatory requirements that vary by jurisdiction, including new and evolving requirements for social distancing and other measures to minimize the spread of COVID-19;
- challenges in developing relationships with local customers, suppliers and governments;
- fluctuating pricing and availability of raw materials and supply chain interruptions or slowdowns, including as a result of difficulties, financial or otherwise, faced by segments of the transportation industry;
- public health crises, such as the COVID-19 pandemic;

- expense and complexity of complying with U.S. and foreign import and export regulations, including the ability to obtain required import and export licenses;
- fluctuations in interest rates and currency exchange rates, including the relative strength or weakness of the U.S. dollar against foreign currencies that are important to our business, including Japanese yen, euro, Taiwanese dollar, Korean won, Chinese yuan, Singapore dollar or Malaysian ringgit, which could cause our sales and profitability to decline;
- liability for foreign taxes assessed at rates higher than those applicable to our domestic operations;
- customer or government efforts to encourage operations and sourcing in a particular country, such as Korea and China, including efforts to develop and grow local competitors, requiring local manufacturing, and providing special incentives to government-backed local customers to buy from local competitors, even if their products are inferior to ours; and
- political and economic instability and uncertainty, which may result in severely diminished liquidity and credit availability, rating downgrades of sovereign debt, declining valuation of certain investments, declines in consumer confidence, declines in economic growth, and increased volatility in unemployment rates.

In the past, these factors have disrupted our operations and increased our costs, and we expect that these factors will continue to do so in the future.

Tariffs, export controls and other trade laws and restrictions resulting from international trade disputes, strained international relations, and changes to foreign and national security policy could have an adverse impact on our operations.

Tariffs, additional taxes, trade barriers and other measures, particularly those arising out of U.S.-China relations, may increase costs of raw materials and our manufacturing costs, decrease margins, reduce the competitiveness of our products, or inhibit our ability to sell products or purchase necessary equipment and supplies, any of which could have a material adverse effect on our business, results of operations, or financial condition. For example, both the U.S. and China have implemented several rounds of tariffs and retaliations, some of which have impacted certain raw materials we use. We have made operational changes into mitigate the impact of these tariffs on our products, but our efforts may not be successful in the future.
In addition, we are subject to export control and economic sanctions laws and regulations that restrict the delivery of some of our products and services to certain end users, countries, and nationals of certain countries. In certain circumstances, these restrictions may prohibit the transfer of certain of our products, services and technologies, and in other circumstances they may require us to obtain a license from the U.S. government before delivering the controlled item or service. We must also comply with export control and economic sanctions laws and regulations imposed by other countries. Although we maintain an export and trade control compliance program, our compliance program may be ineffective or circumvented, exposing us to legal liabilities. Compliance with these laws could significantly limit our sales in the future. Changes in, and responses to, U.S. trade controls could reduce the competitiveness of our products and cause our sales to drop, which could have a material adverse effect on our business, financial condition and results of operations.

Over the last several years and accelerating this year, the U.S. government has significantly expanded export controls on certain technologies and commodities to certain markets, particularly with respect to semiconductor and other high technology exports to China. For example, effective June 29, 2020, the U.S. Department of Commerce imposed new export controls on the transfer of many U.S. products and technologies, including many commercial-grade electronics, to “military end users” in China, a term which may include many Chinese commercial companies that sell products to or do business with the military. Likewise, beginning in May 2019, the U.S. Department of Commerce has imposed significant restrictions on the transfer of any products from the United States, as well as many products produced overseas that incorporate U.S. content or rely on U.S. software or technology, to Huawei Technologies Co., Ltd., and a large number of its overseas affiliates, including HiSilicon. The U.S. government is also engaged in an ongoing process of assessing which “emerging and foundational technologies” warrant new or additional controls, which could subject additional U.S.-origin products and services to more stringent export restrictions. It is possible that these modified regulations, and any future regulations could reduce demand for our products. In particular, these restrictive measures may reduce overall global demand for our customers’ products or for other products produced or manufactured in the United States or based on United States technology, in turn reducing demand for our products, which could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Owning our Common Stock

The price of our common stock has been volatile in the past and may be volatile in the future.

The price of our common stock has been volatile in the past and may be volatile in the future. In 2019, the closing price of our stock on The Nasdaq Global Select Market, or Nasdaq, ranged from a low of $27.43 to a high of $51.21, and from January 1, 2020 to October 16, 2020, it ranged from a low of $39.03 to a high of $83.91. The price of our common stock may show greater volatility in the future, particularly in light of the significant increase in volatility in the stock market in general as a result of the impact of the COVID-19 pandemic and ensuing governmental actions. The trading price of our common stock is subject to significant volatility in response to numerous factors, many of which are beyond our control or may be unrelated to our operating results, and which may adversely affect the market price of our common stock, including the following:

- any decision we make to modify, qualify, withdraw or cease providing any guidance regarding our anticipated financial results for future periods, as well as potential decreased confidence in any guidance we do provide;
- the failure to meet the published expectations of securities analysts, which in the future may vary more significantly from our actual results;
- changes in financial estimates by securities analysts;
- press releases or announcements by, or changes in market values of, comparable companies;
- volatility in the markets for high-technology stocks, general stock market price and volume fluctuations, which are particularly common among securities of high-technology companies;
- stock market price and volume fluctuations attributable to inconsistent trading volume levels;
- the public perception of equity values of publicly traded companies;
- fluctuations in our results of operations; and
- the other risks and uncertainties described in this Quarterly Report on Form 10-Q, our Annual Report on Form 10-K or our other filings with the SEC.

Fluctuations in our results could cause our stock price to decline significantly. We believe that period-to-period comparisons of our results of operations may not be meaningful, and you should not rely upon them as indicators of our future performance. Future decreases in our stock price may adversely impact our ability to raise sufficient additional capital in the future, if needed.

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

Issuer Purchases of Equity Securities

The Company did not purchase any of its equity securities during the quarter ended September 26, 2020.

On February 5, 2020, the Company's Board of Directors authorized a repurchase program, effective February 16, 2020, covering up to an aggregate of $125 million of the Company's common stock, during a period of twelve months, in open market transactions and in accordance with one or more pre-arranged stock trading plans to be established in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended. This repurchase program replaced the previous repurchase program, which was originally approved in February 2018 and amended in November 2018 and which expired pursuant to its terms on February 15, 2020. In March 2020, the Company suspended its share repurchase program. The Company recommenced its share repurchase program in the fourth quarter of 2020.

The Company issues common stock awards under its equity incentive plans. In the condensed consolidated financial statements, the Company treats shares of common stock withheld for tax purposes on behalf of its employees in connection with the vesting or exercise of the awards as common stock repurchases because they reduce the number of shares that would have been issued upon vesting or exercise. These withheld shares of common stock are not considered common stock repurchases under the Company's authorized common stock repurchase plan.

Item 6. Exhibits

EXHIBIT INDEX

The Company hereby files as exhibits to this Quarterly Report on Form 10-Q the following documents:

Reg. S-K Item 601(b) Reference	Exhibit No.	Document Filed Herewith
(10)	10.1	Second Amendment to the Entegris, Inc. 401(k) Savings and Profit Sharing Plan.*
(31)	31.1	Certification of Chief Executive Officer Pursuant to Exchange Act Rule 13a-14(a).
(31)	31.2	Certification of Chief Financial Officer Pursuant to Exchange Act Rule 13a-14(a).
(32)	32.1	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
(101)	101.INS	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)	101.SCH	XBRL Taxonomy Extension Schema Document
(101)	101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
(101)	101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
(101)	101.LAB	XBRL Taxonomy Extension Label Linkbase Document
(101)	101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
(104)	104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* A management contract or compensatory plan

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.

ENTEGRIS, INC.

Date: October 22, 2020

/s/ Gregory B. Graves

Gregory B. Graves
Executive Vice President and Chief Financial Officer (on behalf of the registrant and as principal financial officer)

SECOND AMENDMENT TO THE
ENTEGRIS, INC. 401(k) SAVINGS AND PROFIT SHARING PLAN
(2017 Restatement)

THIS SECOND AMENDMENT to the Entegris, Inc. 401(k) Savings and Profit Sharing Plan (2017 Restatement) (the "Plan") is made and entered into this day of February , 2020, by Entegris, Inc. (the "Principal Sponsor").

WITNESSETH

WHEREAS, the Principal Sponsor maintains the Plan; and

WHEREAS, the Principal Sponsor desires to amend the Plan to revise certain eligibility provisions thereunder.

NOW, THEREFORE, the Principal Sponsor does hereby amend the Plan, effective as of January 1, 2020, as follows:

1.

Section 2.1 of the Plan is hereby amended by deleting in its entirety and inserting in lieu thereof the following:

> "2.1. **General Eligibility Rule**. Each employee shall become a Participant on the date the employee is employed in Recognized Employment. A Participant whose employment with the Employer terminates and who subsequently is reemployed by the Employer shall reenter the Plan as a Participant on the date of the Participant's return to Recognized Employment."

2.

Except as specifically amended hereby, the Plan shall remain in full force and effect as prior to this Second Amendment.

IN WITNESS WHEREOF, the undersigned has caused this indenture to be executed on the date first written above.

ENTEGRIS, INC.

By: /s/ Gregory B. Graves

Title: CFO

ATTEST:

____

Title: ____________________________

[CORPORATE SEAL]

Exhibit 31.1

CERTIFICATIONS

I, Bertrand Loy, certify that:

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

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

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

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

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

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

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

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

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

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

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

Dated: October 22, 2020

/s/ Bertrand Loy

Bertrand Loy
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, Gregory B. Graves, certify that:

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

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

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

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

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

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

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

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

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

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

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

Dated: October 22, 2020

/s/ Gregory B. Graves

Gregory B. Graves
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

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

In connection with the Quarterly Report on Form 10-Q (the “Report”) of Entegris, Inc, a Delaware corporation (the “Company”), for the period ended September 26, 2020 as filed with the Securities and Exchange Commission on the date hereof, Bertrand Loy, President and Chief Executive Officer of the Company, and Gregory B. Graves, Chief Financial Officer of the Company, each hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

Dated: October 22, 2020

/s/ Bertrand Loy
Bertrand Loy
Chief Executive Officer

/s/ Gregory B. Graves
Gregory B. Graves
Chief Financial Officer