ENTEGRIS INC
Form 10-Q
April 26, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)
ý QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended March 31, 2018
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)

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 ý No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý 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 ý	Accelerated filer ¨
Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨
	Emerging growth company ¨

If an emerging growth company, indicate by check mark if 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 ý

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Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at April 23, 2018
Common Stock, $0.01 par value per share	141,739,172 shares

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FOR THE QUARTER ENDED MARCH 31, 2018

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Cautionary Statements

This Quarterly Report on Form 10-Q contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. The words “believe,” “expect,” “anticipate,” “intends,” “estimate,” “forecast,” “project,” “shou “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; our performance relative to our markets; market and technology trends, including the duration and drivers of any growth trends; the development of new products and the success of their introductions; the focus of our engineering, research and development projects; our ability to execute on our business strategies; our capital allocation strategy, which may be modified at any time for any reason, including share repurchases, dividends, debt repayments and potential acquisitions; the effect of the Tax Cuts and Jobs Act; future capital and other expenditures; the Company’s expected tax rate; the impact of accounting pronouncements; 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, weakening of global and/or regional economic conditions, generally or specifically in the semiconductor industry, which could decrease the demand for our products and solutions; our ability to meet rapid demand shifts; our ability to continue technological innovation and introduce new products to meet our customers' rapidly changing requirements; our concentrated customer base; our dependence on sole source and limited source suppliers; raw material shortages and price increases; our ability to identify, effect and integrate acquisitions, joint ventures or other transactions; our ability to protect and enforce intellectual property rights; operational, political and legal risks of our international operations; the level of, and obligations associated

with, our indebtedness; and other risk factors and additional information described in our filings with the Securities and Exchange Commission, including under the heading “Risks Factors" in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed on February 15, 2018, and in our other periodic filings. Except as required under the federal securities laws and the rules and regulations of the Securities and Exchange Commission, we undertake no obligation to update publicly any forward-looking statements contained herein.

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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)	March 31, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$550,236	$625,408
Trade accounts and notes receivable, net of allowance for doubtful accounts of $917 and $860	195,284	183,434
Inventories	214,145	198,089
Deferred tax charges and refundable income taxes	17,373	18,012
Other current assets	34,012	32,665
Total current assets	1,011,050	1,057,608
Property, plant and equipment, net of accumulated depreciation of $443,614 and $427,766	364,301	359,523
Other assets:		
Goodwill	375,340	359,688
Intangible assets, net of accumulated amortization of $293,265 and $281,439	190,814	182,430
Deferred tax assets and other noncurrent tax assets	10,186	9,103
Other	9,639	7,820
Total assets	$1,961,330	$1,976,172
LIABILITIES AND EQUITY		
Current liabilities:		
Long-term debt, current maturities	$100,000	$100,000
Accounts payable	68,406	68,762
Accrued payroll and related benefits	30,107	64,860
Other accrued liabilities	39,959	34,514
Income taxes payable	27,996	22,835
Total current liabilities	266,468	290,971
Long-term debt, excluding current maturities, net of unamortized discount and debt issuance costs of $9,029 and $9,470	549,821	574,380
Pension benefit obligations and other liabilities	33,778	32,130
Deferred tax liabilities and other noncurrent tax liabilities	86,869	85,673
Commitments and contingent liabilities	—	—
Equity:		
Preferred stock, par value $.01; 5,000,000 shares authorized; none issued and outstanding as of March 31, 2018 and December 31, 2017	—	—
Common stock, par value $.01; 400,000,000 shares authorized; issued and outstanding shares as of March 31, 2018 and December 31, 2017: 141,802,172 and 141,282,539	1,418	1,413
Additional paid-in capital	856,373	867,699
Retained earnings	186,276	147,418
Accumulated other comprehensive loss	(19,673)	(23,512)
Total equity	1,024,394	993,018
Total liabilities and equity	$1,961,330	$1,976,172

See the accompanying notes to condensed consolidated financial statements.

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

(In thousands, except per share data)	Three months ended	
	March 31, 2018	April 1, 2017
Net sales	$367,199	$317,377
Cost of sales	191,202	177,781
Gross profit	175,997	139,596
Selling, general and administrative expenses	58,269	50,492
Engineering, research and development expenses	27,586	27,239
Amortization of intangible assets	11,669	10,945
Operating income	78,473	50,920
Interest expense	8,159	8,473
Interest income	(933)	(80)
Other expense, net	139	902
Income before income tax expense	71,108	41,625
Income tax expense	13,546	9,111
Net income	$57,562	$32,514
Basic net income per common share	$0.41	$0.23
Diluted net income per common share	$0.40	$0.23
Weighted shares outstanding:		
Basic	141,581	141,501
Diluted	143,652	143,315

See the accompanying notes to condensed consolidated financial statements.

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

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Net income	$57,562	$32,514
Other comprehensive income, net of tax		
Foreign currency translation adjustments	3,835	16,123
Pension liability adjustments	4	(11)
Other comprehensive income	3,839	16,112
Comprehensive income	$61,401	$48,626

See the accompanying notes to condensed consolidated financial statements.

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

(In thousands)	Three months ended March 31, 2018	Three months ended April 1, 2017
Operating activities:		
Net income	$ 57,562	$ 32,514
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	15,897	13,977
Amortization	11,669	10,945
Share-based compensation expense	4,128	3,870
Provision for deferred income taxes	(721)	3,422
Other	1,503	3,633
Changes in operating assets and liabilities:		
Trade accounts and notes receivable	(6,011)	(7,546)
Inventories	(14,955)	(5,415)
Accounts payable and accrued liabilities	(33,985)	(23,490)
Other current assets	(682)	5,061
Income taxes payable and refundable income taxes	6,692	(1,252)
Other	(2,280)	(2,287)
Net cash provided by operating activities	38,817	33,432
Investing activities:		
Acquisition of property, plant and equipment	(21,047)	(22,190)
Acquisition of business	(37,656)	—
Other	146	186
Net cash used in investing activities	(58,557)	(22,004)
Financing activities:		
Payments of long-term debt	(25,000)	(25,000)
Payments for dividends	(9,883)	—
Issuance of common stock	473	1,041

Repurchase and retirement of common stock	(10,000	)	(4,000	)
Taxes paid related to net share settlement of equity awards	(14,123	)	(4,575	)
Other	(246	)	(270	)
Net cash used in financing activities	(58,779	)	(32,804	)
Effect of exchange rate changes on cash and cash equivalents	3,347		6,146	
Decrease in cash and cash equivalents	(75,172	)	(15,230	)
Cash and cash equivalents at beginning of period	625,408		406,389	
Cash and cash equivalents at end of period	$ 550,236		$ 391,159	

Supplemental Cash Flow Information (In thousands)	Three months ended March 31, 2018	April 1, 2017
Schedule of interest and income taxes paid:		
Interest paid	$8,000	$2,029
Income taxes paid, net of refunds received	$8,031	$7,132

See the accompanying notes to condensed consolidated financial statements.

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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, goodwill, intangibles, accrued expenses, and 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 March 31, 2018 and December 31, 2017, and the results of operations, comprehensive income and cash flows for the three months ended March 31, 2018 and April 1, 2017.

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, 2017. The results of operations for the three months ended March 31, 2018 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 $637.3 million at March 31, 2018, compared to the carrying amount of long-term debt, including current maturities, of $649.8 million.

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.

Recent Accounting Pronouncements Adopted in 2018 In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09 Revenue from Contracts with Customers. ASU No. 2014-09 supersedes previous revenue recognition requirements and requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. The Company adopted the provisions of ASU No. 2014-09 as of January 1, 2018 using the modified retrospective transition method. See note 2 to the condensed consolidated financial statements for further details.

Recent Accounting Pronouncements Yet to be Adopted In February 2016, the FASB issued ASU No. 2016-02, Leases. ASU No. 2016-02 requires the identification of arrangements that should be accounted for as leases by lessees. In general, for lease arrangements exceeding a twelve-month term, these arrangements must now be recognized as assets and liabilities on the balance sheet of the lessee. Under ASU No. 2016-02, a right-of-use asset and lease obligation will be recorded for all leases, whether operating or financing, while the income statement will reflect lease expense for operating leases, and amortization and

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interest expense for financing leases. The balance sheet amount recorded for existing leases at the date of adoption of ASU No. 2016-02 must be calculated using the applicable incremental borrowing rate at the date of adoption. In addition, ASU No. 2016-02 requires the use of the modified retrospective method, which will require adjustment to all comparative periods presented in the consolidated financial statements. ASU No. 2016-02 is effective beginning January 1, 2019. The Company is currently assessing the impact that adopting this new accounting standard will have on its consolidated financial statements and disclosures, and the timing of adoption.

2. REVENUES

Adoption of ASC ASU No. 2014-09, Revenue from Contracts with Customers On January 1, 2018, the Company adopted ASU No. 2014-09 using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under the provisions of ASU No. 2014-09, while prior period amounts are not adjusted and continue to be reported in accordance with previous accounting guidance.

The Company adopted ASU No. 2014-09 with a date of initial application of January 1, 2018. As a result, the Company changed its accounting policy for revenue recognition for two items as detailed below. The first change concerns transactions where the Company offers customers incentives in the form of free products. The new revenue standard requires that a portion of the transaction price be allocated to the free product and deferred until the product has been delivered. The Company previously accrued for undelivered free product as a charge to cost of goods sold. The second change concerns revenue recognition involving certain shipping terms that included freight and export costs. Under the new revenue standard, the Company recognizes revenue at the point at which products are delivered to a particular port or loaded onto a vessel and control has transferred, whereas prior to the date of initial application of ASU No. 2014-09, revenue recognition was previously deferred for those sales until they reached their destination.

The Company adopted ASU No. 2014-09 using the modified retrospective method, recognizing the cumulative effect of application as an adjustment to the opening balance of equity at January 1, 2018. Therefore, prior year information has not been adjusted and continues to be reported under previous applicable guidance. The details of the impact of the changes made to the Company's balance sheet date as of January 1, 2018 are reflected in the following table.

(In thousands)	Increase (decrease)
Trade accounts and note receivable	$765
Inventory	(223)
Other accrued liabilities	1,276
Deferred tax liabilities and other noncurrent tax liabilities	(144)
Retained earnings	(590)

Based on an analysis of the financial statement line items affected in the quarter ended March 31, 2018 in the application of ASU No. 2014-09 as compared with previous reporting, the Company has determined that the quantitative changes to each financial statement line item are immaterial. As a result, for the quarter ended March 31, 2018, the Company is not disclosing the quantitative amount by which each financial statement line item is affected in the current reporting by the application of Topic 606 as compared with the guidance that was in effect before the change.

As part of its adoption of ASU No. 2014-09 in the first quarter of 2018, the Company elected to use the allowed practical expedient, pursuant to which it has excluded disclosures of transaction prices allocated to remaining performance obligations and when it expects to recognize such revenue for all periods prior to the date of initial application of ASU No. 2014-09.

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.

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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 deferred revenue balance at quarter end is deemed immaterial and, accordingly, the Company does not make the required disclosures.

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 9 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 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 recognize 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 over time at which 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 applies the practical expedient in ASU No. 2014-09 and does not disclose information about remaining performance obligations that have original expected durations of one year or less.

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 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.

3. ACQUISITION

On January 22, 2018, the Company acquired Particle Sizing Systems, LLC(PSS), which provides particle sizing instrumentation for liquid applications to the semiconductor and life science industries. The acquired assets and assumed liabilities became part of the Company’s Advanced Materials Handling (AMH) segment. The transaction was accounted for

under the acquisition method of accounting and the results of operations of PSS are included in the Company's consolidated financial statements since January 22, 2018. The acquisition does not constitute a material business combination.

The purchase price for PSS was cash consideration of $37.7 million, subject to revision for customary working capital adjustments, funded from the Company's existing cash on hand. Costs associated with the acquisition of the product line were not significant and were expensed as incurred.

The purchase price of PSS exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $15.4 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.

The following table summarizes the preliminary allocation of the purchase price to the fair values assigned to the assets acquired and liabilities assumed at the date of acquisition:

(In thousands):	Amount
Accounts receivable	$3,616
Inventory	1,889
Other current assets	14
Other assets	21
Identifiable intangible assets	20,000
Accounts payables	(438)
Accrued expenses	(2,799)
Net assets acquired	22,303
Goodwill	15,353
Total purchase price	$37,656

As of March 31, 2018, the Company has not finalized its fair value determinations of the assets acquired and liabilities assumed. The preliminary valuation of the assets acquired and liabilities assumed was based on the information that was available as of the acquisition date, and the expectations and assumptions that have been deemed reasonable by the Company's management. The valuation of the acquired assets and liabilities assumed is currently being reviewed, with the expectation of completion in the second quarter.

Intangible assets, consisting mostly of technology-related intellectual property, generally will be amortized on a straight-line basis over an expected useful life currently estimated at approximately 6.8 years. In performing the valuation of intangible assets, the Company used independent appraisals, discounted cash flows and other other factors, as the best evidence of fair value. The key underlying assumptions of the discounted cash flows were projected revenues, gross margin expectations and operating cost estimates. There are inherent uncertainties and management judgment required in these determinations. No assurance can be given that the underlying assumptions will occur as projected. The fair value measurement of the assets acquired and liabilities assumed were based on valuation involving significant unobservable inputs, or Level 3 in the fair value hierarchy.

4. INVENTORIES

Inventories consist of the following:

(In thousands)	March 31, 2018	December 31, 2017
Raw materials	$62,429	$ 58,226
Work-in process	20,717	16,193
Finished goods	130,999	123,670

Total inventories	$214,145	$ 198,089

5. GOODWILL AND INTANGIBLE ASSETS

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Goodwill activity for each period was as follows:

(In thousands)	Specialty Chemicals and Engineered Materials	Micro-contamination Control	Advanced Materials Handling	Total
December 31, 2017	$ 304,270	8,007	$ 47,411	$359,688
Addition due to acquisition	—	—	15,353	15,353
Foreign currency translation	299	—	—	299
March 31, 2018	$ 304,569	$ 8,007	$ 62,764	$375,340

Identifiable intangible assets at March 31, 2018 and December 31, 2017 consist of the following:

March 31, 2018

(In thousands)	Gross carrying Amount	Accumulated amortization	Net carrying value
Developed technology	$223,237	$ 155,782	$67,455
Trademarks and trade names	18,816	13,947	4,869
Customer relationships	221,993	115,051	106,942
Other	20,033	8,485	11,548
	$484,079	$ 293,265	$190,814

December 31, 2017

(In thousands)	Gross carrying amount	Accumulated amortization	Net carrying value
Developed technology	$206,224	$ 149,215	$57,009
Trademarks and trade names	16,807	13,712	3,095
Customer relationships	220,806	110,281	110,525
Other	20,032	8,231	11,801
	$463,869	$ 281,439	$182,430

Future amortization expense for each of the five succeeding years and thereafter relating to intangible assets currently recorded in the Company's consolidated balance sheets is estimated at March 31, 2018 to be the following:

Fiscal year ending December 31	(In thousands)
2018	$ 35,712
2019	44,760
2020	30,251
2021	23,589
2022	23,444
Thereafter	33,058
	$ 190,814

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6. INCOME TAX

Income tax expense differs from the expected amounts based on the statutory federal tax rates for the three months ended March 31, 2018 and April 1, 2017 as follows:

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Expected federal income tax expense at statutory rate	$14,933	$14,569
State income taxes before valuation allowance, net of federal tax effect	495	50
Effect of foreign source income	1,797	(3,372)
Tax contingencies	768	129
Valuation allowance	641	481
U.S. federal research credit	(900)	(599)
Equity compensation	(5,564)	(2,295)
Global intangible low tax income	1,114	—
Other items, net	262	148
Income tax expense	$13,546	$9,111

The Company’s year-to-date effective tax rate was 19.0% in 2018, compared to an effective tax rate of 21.9% during the same period in 2017. This variance reflects the benefit from the reduction in the corporate tax rate from 35% to 21% which was offset by the global intangible low tax income inclusion and various discrete items. The effective tax rate in 2017 reflects a greater concentration in the Company's geographic composition of income toward jurisdictions with lower tax rates.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act of 2017 (the "Tax Cuts and Jobs Act") which makes broad and complex changes to the U.S. tax code. The Company calculated its best estimate of the impact of the Tax Cuts and Jobs Act in its 2017 year-end income tax provision in accordance with its understanding of the Tax Cuts and Jobs Act and guidance available as of the date of the filing. During the fourth quarter of fiscal 2017, the Company recorded a provisional net charge using reasonable estimates based on analysis and information available to date for the tax effects related to the remeasurement of deferred taxes, the deemed repatriation transition tax, accelerated depreciation, and the deductibility of certain executive compensation. This provisional net charge is subject to revisions as the Company completes its analysis of the Tax Cuts and Jobs Act, collects and prepares necessary data, and interprets any additional guidance issued by the U.S. Treasury Department, Internal Revenue Service, Financial Accounting Standards Board, and other standard setting and regulatory bodies. Adjustments may materially impact the provision for income taxes and effective tax rate in the period in which the adjustments are made. As of March 31, 2018, the Company has not finalized its accounting for the tax effects of these items. The Company expects to complete its analysis of these provisional items when the necessary information becomes available to accurately analyze and compute in reasonable detail under ASC Topic 740. The Company estimates such analysis will be completed in the second half of 2018.

The Tax Cuts and Jobs Act also has provisions that impact the Company’s 2018 results, most notably a reduction in the corporate income tax rate from 35% to 21% for tax years beginning after December 31, 2017. The U.S. tax law changes also (1) repeals the deduction for domestic production activities, (2) establishes a global intangible low tax income (GILTI) regime, (3) creates a base erosion anti-avoidance tax (BEAT), (4) establishes new limitations on deductible interest expense and certain executive compensation, (5) eliminates the corporate alternative minimum tax, (6) generally eliminates U.S. federal income taxes on dividends from foreign subsidiaries and (7) changes the rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

Global Intangible Low Taxed Income

The U.S. tax law changes created new rules that allow the Company to make an accounting policy election to treat taxes due on GILTI inclusions in taxable income as either a current period expense or reflect such inclusions related to temporary basis differences in the Company's measurement of deferred taxes. The Company has elected to treat the GILTI inclusion as a current period expense. The Company recorded tax expense of $1.1 million related to GILTI in the quarter ended March 31, 2018.

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):

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Basic—weighted common shares outstanding	141,581	141,501
Weighted common shares assumed upon exercise of stock options and vesting of restricted common stock	2,071	1,814
Diluted—weighted common shares and common shares equivalent outstanding	143,652	143,315

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 months ended March 31, 2018 and April 1, 2017:

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Shares excluded from calculations of diluted EPS	159	504

8. FAIR VALUE

Financial Assets Measured at Fair Value on a Recurring Basis

The following table presents the Company's financial assets that are measured at fair value on a recurring basis at March 31, 2018 and December 31, 2017. Level 1 inputs are based on quoted prices in active markets accessible at the reporting date for identical assets and liabilities. Level 2 inputs are based on quoted prices for similar instruments in active markets and quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in a market. Level 3 inputs are based on prices or valuations that require inputs that are significant to the valuation and are unobservable.

	March 31, 2018				December 31, 2017			
(In thousands)	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Other current assets								
Foreign currency contracts[(a)]	$—	$—	$—	$—	$—	$ 36	$—	$ 36
Total assets measured and recorded at fair value	$—	$—	$—	$—	$—	$ 36	$—	$ 36
Liabilities:								
Other accrued liabilities								
Foreign currency contracts[(a)]	$—	$1,914	$—	$1,914	$—	$ —	$—	$ —
Total liabilities measured and recorded at fair value	$—	$1,914	$—	$1,914	$—	$ —	$—	$ —

(a) Based on observable market transactions of spot currency rates and forward currency rates on equivalently-termed instruments.

A reconciliation of the net fair value of foreign currency contract assets and liabilities subject to master netting arrangements that are recorded in the March 31, 2018 and December 31, 2017 condensed consolidated balance sheets to the net fair value that could have been reported in the respective condensed consolidated balance sheets is as follows:

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	March 31, 2018			December 31, 2017		
(In thousands)	Gross amounts of recognized liabilities	Gross amounts offset in the condensed consolidated balance sheet	Net amount of liabilities in the condensed consolidated balance sheet	Gross amounts of recognized assets	Gross amounts offset in the condensed consolidated balance sheet	Net amount of assets in the condensed consolidated balance sheet
Foreign currency contracts	$1,914	$ —	$ 1,914	$ 36	$ —	$ 36

Losses associated with derivatives are recorded in other expense, net, in the condensed consolidated statements of operations. Losses associated with derivative instruments not designated as hedging instruments were as follows:

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Losses on foreign currency contracts	$(1,914)	$(2,297)

9. 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 a global generalist sales force, 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 solutions 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 and substrates for a broad set of applications in the semiconductor industry and other high-technology industries.

Inter-segment sales are not significant. In the first quarter of 2018, the Company has changed its definition of segment profit. Segment profit is now defined as net sales less direct and indirect segment operating expenses, including certain general and administrative costs for the Company’s human resources, finance and information technology functions previously unallocated by the Company. The remaining unallocated expenses consist mainly the Company's corporate functions as well as interest expense, amortization of intangible assets and income tax expense. Prior quarter information was recast to reflect the change in the Company's definition of segment profit.

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

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Net sales		
SCEM	$130,743	$114,435
MC	118,637	100,055
AMH	117,819	102,887
Total net sales	$367,199	$317,377

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Segment profit		
SCEM	$31,562	$23,128
MC	41,991	30,987
AMH	23,142	13,960
Total segment profit	$96,695	$68,075

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

(In thousands)	Three months ended March 31, 2018	April 1, 2017
Total segment profit	$96,695	$68,075
Less:		
Amortization of intangible assets	11,669	10,945
Unallocated general and administrative expenses	6,553	6,210
Operating income	78,473	50,920
Interest expense	8,159	8,473
Interest income	(933)	(80)
Other expense, net	139	902
Income before income tax expense	$71,108	$41,625

In the following tables, revenue is disaggregated by country or region for the three months ended March 31, 2018 and April 1, 2017.

(In thousands)	Three months ended March 31, 2018			
	SCEM	MC	AMH	Total
Taiwan	$27,642	$22,532	$14,917	$65,091
United States	32,401	20,775	33,089	86,265
South Korea	20,327	19,823	22,588	62,738
Japan	14,506	25,992	11,032	51,530
China	14,980	13,304	12,211	40,495
Europe	7,796	9,684	15,407	32,887
Southeast Asia	13,091	6,527	8,575	28,193
	$130,743	$118,637	$117,819	$367,199

(In thousands)	Three months ended April 1, 2017			
	SCEM	MC	AMH	Total
Taiwan	$27,447	$32,194	$18,491	$78,132
United States	28,618	15,270	21,901	65,789
South Korea	17,781	13,344	16,198	47,323
Japan	7,992	18,132	9,320	35,444
China	13,419	8,169	7,597	29,185
Europe	8,012	7,373	15,562	30,947
Southeast Asia	11,166	5,573	13,818	30,557
	$114,435	$100,055	$102,887	$317,377

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 to the condensed consolidated financial statements 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. These forward-looking statements could differ materially from actual results. You should review the section entitled “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017 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 and 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 and 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. Our mission is to 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 approximately 20,000 standard and customized products and solutions to achieve the highest levels of purity and performance that are essential to the manufacture of semiconductors, flat panel displays, light emitting diodes, or LEDs, 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. The Company’s customers consist primarily of semiconductor manufacturers, semiconductor equipment and materials suppliers as well as thin film transistor-liquid crystal display (TFT-LCD) and hard disk manufacturers, which are served through direct sales efforts, as well as sales and distribution relationships, in the United States, Asia, Europe and the Middle East.

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 a global generalist sales force, common business systems and processes, technology centers, and strategic and technology roadmaps. We leverage our expertise from these three segments to create new and increasingly integrated solutions for our customers. See note 9 to the 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 2018 end March 31, 2018, June 30, 2018, September 29, 2018 and December 31, 2018. Unaudited information for the three months ended March 31,

2018 and April 1, 2017 and the financial position as of March 31, 2018 and December 31, 2017 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 fluctuation.

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- 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 material (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.

Overall Summary of Financial Results

For the three months ended March 31, 2018, net sales increased 16% to $367.2 million, compared to $317.4 million for the three months ended April 1, 2017. The sales increase was due to strong across-the-board demand for the Company's products, in particular from semiconductor industry customers, reflecting both high industry fab utilization rates and increased capital spending compared to the year-ago period. Included in the quarterly sales increase were sales from acquired businesses of $4.8 million and favorable foreign currency translation effects of $6.5 million. Exclusive of those factors, the Company's sales increased 12%.

Sales were up 5% on a sequential basis over the fourth quarter of 2017, including sales from acquisitions of $3.9 million and favorable foreign currency translation effects of $3.9 million. The increase in revenue resulted from modest improvements across the Company's product lines.

Reflecting the net sales increase, the Company's gross profit for the three months ended March 31, 2018 rose to $176.0 million, up from $139.6 million for the three months ended April 1, 2017. The Company experienced a 47.9% gross margin rate for the three months ended March 31, 2018, compared to 44.0% in the comparable year-ago period. The gross margin improvement reflects the improved factory utilization associated with strong sales levels.

The Company's selling, general and administrative (SG&A) expenses increased by $7.8 million for the three months ended March 31, 2018 compared to the year-ago quarter, mainly due to higher compensation costs and professional fees.

As a result of the aforementioned factors, the Company reported net income of $57.6 million, or $0.40 per diluted share, for the quarter ended March 31, 2018, compared to net income of $32.5 million, or $0.23 per diluted share, a year ago.

On January 22, 2018, the Company acquired Particle Sizing Systems, LLC (PSS), which provides particle sizing instrumentation for liquid applications to the semiconductor and life science industries. The total purchase price of the acquisition was approximately $37.7 million in cash, subject to revision for customary working capital adjustments. The acquisition of PSS does not constitute a material business combination.

Cash and cash equivalents were $550.2 million at March 31, 2018, compared with cash and cash equivalents of $625.4 million at December 31, 2017. The Company had outstanding debt of $649.8 million at March 31, 2018, compared to $674.4 million at December 31, 2017.

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, 2017 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.

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Three Months Ended March 31, 2018 Compared to Three Months Ended April 1, 2017 and December 31, 2017
The following table compares operating results for the three months ended March 31, 2018 with results for the three months ended April 1, 2017 and December 31, 2017, both in dollars and as a percentage of net sales, for each caption.

	Three months ended					
(Dollars in thousands)	March 31, 2018		April 1, 2017		December 31, 2017	
Net sales	$367,199	100.0 %	$317,377	100.0 %	$350,562	100.0 %
Cost of sales	191,202	52.1	177,781	56.0	186,883	53.3
Gross profit	175,997	47.9	139,596	44.0	163,679	46.7
Selling, general and administrative expenses	58,269	15.9	50,492	15.9	55,018	15.7
Engineering, research and development expenses	27,586	7.5	27,239	8.6	26,489	7.6
Amortization of intangible assets	11,669	3.2	10,945	3.4	11,020	3.1
Operating income	78,473	21.4	50,920	16.0	71,152	20.3
Interest expense	8,159	2.2	8,473	2.7	7,925	2.3
Interest income	(933)	(0.3)	(80)	—	(392)	(0.1)
Other expense, net	139	—	902	0.3	21,696	6.2
Income before income taxes	71,108	19.4	41,625	13.1	41,923	12.0
Income tax expense	13,546	3.7	9,111	2.9	70,264	20.0
Net income (net loss)	$57,562	15.7 %	$32,514	10.2 %	$(28,341)	(8.1)%

Net sales For the three months ended March 31, 2018, net sales increased by 16% to $367.2 million, compared to $317.4 million for the three months ended April 1, 2017. 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 April 1, 2017	$317,377
Growth associated with volume and pricing	38,543
Increase associated with effect of foreign currency translation	6,525
Increase associated with acquired businesses	4,754
Net sales in the quarter ended March 31, 2018	$367,199

The sales increase was due to strong across-the-board demand for the Company's products, in particular from semiconductor industry customers, reflecting both high industry fab utilization rates and increased capital spending compared to the year-ago period. As described below, each of the Company's segments experienced improved sales. Exclusive of sales associated with acquisitions of $4.8 million and favorable foreign currency translation effects of $6.5 million, mainly due to the strengthening of the Japanese yen and the Korean Won relative to the U.S. dollar, the Company's sales increased 12% for the quarter.

On a geographic basis, in the first quarter of 2018, total sales to Taiwan were 18%, to North America were 23%, to South Korea were 17%, to Japan were 14%, to China were 11%, to Europe were 9% and to Southeast Asia were 8% compared to prior year first quarter sales to Taiwan of 25%, to North America of 21%, to South Korea were 15%, to Japan of 11%, to China were 9% , to Europe of 10% and to Southeast Asia were 9%. Sales increased by 31%, 33%, 45%, 39% and 6% in North America, South Korea, Japan, China, and Europe, respectively, and sales decreased by 17% and 8% in Taiwan and Southeast Asia, respectively, in the first quarter of 2018 compared to the prior year's first quarter.

Sales were up 5% on a sequential basis over the fourth quarter of 2017, including favorable foreign currency translation effects of $3.9 million and sales associated with acquisitions of $3.9 million. The increase in revenue resulted from modest improvements across the Company's product lines.

Gross profit Due mainly to the sales increase, the Company's gross profit rose 26% for the three months ended March 31, 2018 to $176.0 million, compared to $139.6 million for the three months ended April 1, 2017. The Company experienced a 47.9% gross margin rate for the three months ended March 31, 2018, compared to 44.0% in the comparable year-ago period. The gross margin improvement reflects the improved factory utilization associated with strong sales levels. These factors were partly offset by price erosion for certain products in response to normal competitive pressures.

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Selling, general and administrative expenses Selling, general and administrative (SG&A) expenses were $58.3 million for the three months ended March 31, 2018, up $7.8 million, or 15%, from the comparable three-month period a year earlier. An analysis of the factors underlying the increase in SG&A is presented in the following table:

(In thousands)	
Selling, general and administrative expenses in the quarter ended April 1, 2017	$50,492
Employee costs	4,901
Professional fees	1,709
Other increases, net	1,167
Selling, general and administrative expenses in the quarter ended March 31, 2018	$58,269

Engineering, research and development expenses The Company’s engineering, research and development (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 $27.6 million in the three months ended March 31, 2018 compared to $27.2 million in the year-ago period. The increase for the quarter was mainly due to higher employee costs.

Amortization expenses Amortization of intangible assets was $11.7 million in the three months ended March 31, 2018 compared to $10.9 million for the three months ended April 1, 2017. The increase reflects the additional amortization expense associated with the liquid filtration product line acquisition completed in the second quarter of 2017 and the Particle Sizing Systems, LLC acquisition completed in the first quarter of 2018.

Interest expense Interest expense includes interest associated with debt outstanding and the amortization of debt issuance costs associated with such borrowings. Interest expense was $8.2 million in the three months ended March 31, 2018, compared to $8.5 million in the three-month period ended April 1, 2017. The decrease reflects lower interest rates on outstanding borrowings offset in part by higher average debt levels.
Other expense, net Other expense, net was $0.1 million and $0.9 million in the three months ended March 31, 2018 and April 1, 2017, respectively, and consisted mainly of foreign currency transaction losses.

Income tax expense The Company recorded income tax expense of $13.5 million in the three months ended March 31, 2018, compared to income tax expense of $9.1 million in the three months ended April 1, 2017. The Company’s year-to-date effective tax rate was 19.0% in 2018, compared to 21.9% during the same period in 2017. As a result of the Tax Cuts and Jobs Act of 2017 (the Tax Cuts and Jobs Act), the tax rate in 2018 reflects the reduction of the corporate tax rate from 35% to 21% and the global intangible low taxed income inclusion. The tax rate in 2017 reflects the benefit of foreign source income being taxed at lower rates than the U.S. statutory rate. Year-to-date income tax expense in 2018 and 2017 includes discrete benefits of $5.7 million and $2.5 million, respectively, recorded in connection with share-based compensation. The tax rate in 2018 includes discrete charges of $2.6 million and $1.4 million related to Korean share repurchase withholding tax and a foreign exchange gain on undistributed earnings, respectively. Also included in income tax expense in 2017 was a discrete charge of $3.6 million to correct an error related to the tax effects of intercompany sales and the related intercompany profit.

Net income Due to the factors noted above, the Company recorded net income of $57.6 million, or $0.40 per diluted share, in the three-month period ended March 31, 2018, compared to net income of $32.5 million, or $0.23 per diluted share, in the three-month period ended April 1, 2017.

Non-GAAP Measures The Company’s condensed consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States (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 non-GAAP financial measures and the reconciliation of GAAP measures to the Company’s non-GAAP measures.

The Company’s 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 40% to $106.0 million in the three-month period ended March 31, 2018, compared to $75.8 million in the three-month period ended April 1, 2017. Adjusted EBITDA, as a percent of net sales, increased to 28.9% from 23.9% in the year-ago period. These results generally reflect the same factors underlying the Company's GAAP results as described above.

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Adjusted Operating Income increased 46% to $90.1 million in the three-month period ended March 31, 2018, compared to $61.9 million in the three-month period ended April 1, 2017. Adjusted Operating Income, as a percent of net sales, increased to 24.5% from 19.5% in the year-ago period. Non-GAAP Earnings Per Share increased 68% to $0.47 in the three-month period ended March 31, 2018, compared to $0.28 in the three-month period ended April 1, 2017.

Segment Analysis

The Company reports its financial performance based on three reporting segments. The following is a discussion on the results of operations of these three business segments. See note 9 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 for the three months ended March 31, 2018, April 1, 2017 and December 31, 2017.

(In thousands)	Three months ended		
	March 31, 2018	April 1, 2017	December 31, 2017
Specialty Chemicals and Engineered Materials			
Net sales	$130,743	$114,435	$125,339
Segment profit	31,562	23,128	30,075
Microcontamination Control			
Net sales	118,637	100,055	115,650
Segment profit	41,991	30,987	39,328
Advanced Materials Handling			
Net sales	117,819	102,887	109,573
Segment profit	23,142	13,960	18,226

Specialty Chemicals and Engineered Materials (SCEM)

For the first quarter of 2018, SCEM net sales increased to $130.7 million, compared to $114.4 million in the comparable period last year. The sales increase was due to improved sales of specialty materials and specialty gas products. SCEM reported a segment profit of $31.6 million in the first quarter of 2018, up 36% from $23.1 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales, partially offset with a 8% increase in operating expenses.

Microcontamination Control (MC)

For the first quarter of 2018, MC net sales increased to $118.6 million, compared to $100.1 million in the comparable period last year. The sales increase was due to strength in liquid chemistry filters for wet, etch, and clean, gas microcontamination and bulk photo applications, and gas filter products. MC reported a segment profit of $42.0 million in the first quarter of 2018, up 36% from $31.0 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales, partially offset by a 15% increase in operating expenses.

Advanced Materials Handling (AMH)

For the first quarter of 2018, AMH net sales increased to $117.8 million, compared to $102.9 million in the comparable period last year. The sales increase was due to improved sales of liquid packaging and dispense products and fluid handling products, as well as PSS sales of $3.9 million. AMH reported a segment profit of $23.1 million in the first quarter of 2018, up 66% from $14.0 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales, partially offset by a 11% increase in operating expenses.

Unallocated general and administrative expenses

Unallocated general and administrative expenses totaled $6.6 million in the first quarter of 2018, compared to $6.2 million in the first quarter of 2017. The $0.3 million increase mainly reflects the increased employee costs referenced in the discussion of SG&A expenses above.

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Liquidity and Capital Resources

Operating activities Cash flows provided by operating activities totaled $38.8 million in the three months ended March 31, 2018. Operating cash flows reflecting net income adjusted for non-cash expenses (such as depreciation, amortization and share-based compensation) was offset by changes in operating assets and liabilities of $51.2 million, mainly reflecting increases in accounts receivable and inventories, and decreases in accounts payable and accrued liabilities.

Accounts receivable increased by $11.9 million during the three months ended March 31, 2018, or $6.0 million after accounting for foreign currency translation and receivables acquired from PSS, mainly reflecting the increase in sales and the rise in the Company’s days sales outstanding (DSO). The Company’s DSO was 49 days at March 31, 2018, compared to 48 days at the beginning of the year.

Inventories increased by $16.1 million during the three months ended March 31, 2018, or $15.0 million after accounting for foreign currency translation and the provision for excess and obsolete inventory. The increase reflects higher levels of all inventory categories due to higher levels of business activity.

Accounts payable and accrued liabilities decreased $29.7 million during the three months ended March 31, 2018, or $34.0 million after accounting for foreign currency translation. The key component of the decrease was the payment of 2017 incentive compensation during the first quarter of 2018.

Working capital at March 31, 2018 was $744.6 million, compared to $766.6 million as of December 31, 2017, and included $550.2 million in cash and cash equivalents, compared to cash and cash equivalents of $625.4 million as of December 31, 2017.

Investing activities Cash flows used in investing activities totaled $58.6 million in the three-month period ended March 31, 2018. Acquisition of property, plant and equipment totaled $21.0 million, which primarily reflected investments in equipment and tooling. As of March 31, 2018, the Company expects its full-year capital expenditures in 2018 to be approximately $100 million to $120 million. As of March 31, 2018, the Company had outstanding capital purchase obligations of $35.7 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 yet received the related goods or property.

On January 22, 2018, the Company acquired Particle Sizing Systems, LLC, an entity which provides particle sizing instrumentation for liquid applications to the semiconductor and life science industries. The total purchase price of the acquisition was approximately $37.7 million in cash, subject to revision for customary working capital adjustments, funded from the Company's existing cash on hand. The transaction is described in further detail in note 3 to the Company's condensed consolidated financial statements.

Financing activities Cash flows used in financing activities totaled $58.8 million during the three-month period ended March 31, 2018. This included the Company's payment of $25.0 million on its senior secured term loan described below, cash dividends paid of $9.9 million and the Company's repurchase of shares of the Company’s common stock during the first quarter of 2018 at a total cost of $10.0 million under the stock repurchase program authorized by the Company’s Board of Directors. In addition, the Company expended $14.1 million for taxes related to the net share settlement of equity awards under the Company’s stock plans, offset in part by proceeds of $0.5 million in connection with common shares issued under the Company's stock plans.

As of March 31, 2018, the Company had outstanding long-term debt, including the current portion thereof, of $649.8 million, related to debt issued by the Company, as discussed in more detail below.

On November 10, 2017, the Company issued $550 million aggregate principal amount of 4.625% senior unsecured notes due February 10, 2026. The principal amount outstanding under the senior unsecured notes at March 31, 2018

was $550 million.

On April 30, 2014, the Company entered into a term loan facility (as amended, the Term Loan Facility) that provided senior secured financing of $460 million due April 30, 2021. Borrowings under the Term Loan Facility bear interest at a rate per annum equal to, at the Company’s option, a base rate (such as prime rate or LIBOR) plus, an applicable margin. The Company may voluntarily prepay outstanding loans under the Term Loan Facility at any time. The principal amount outstanding under the Term Loan Facility at March 31, 2018 was $108.9 million. Based on management's plans and intent, the Company reflects $100 million of the term loan as current maturities of long-term debt in its condensed consolidated balance sheet as of March 31, 2018.

The Company has a senior secured asset-based revolving credit facility ("ABL Facility"). The ABL Facility provides financing of $75 million, subject to a borrowing base. The ABL Facility bears interest at a rate per annum equal to at the Company's

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option, a base rate (prime rate or LIBOR), plus an applicable margin. On March 1, 2018, the Company amended its ABL Facility to extend the final maturity of the ABL Facility from April 30, 2019 to March 1, 2023. In addition, the Company reduced the interest rate spreads applicable to loans under the ABL Facility by 0.25%, increased the maximum secured net leverage ratio that the Company must meet to incur indebtedness and liens from 2.00:1.00 to 2.75:1.00, and increased the thresholds for judgments and cross defaults to material indebtedness from $50 million to $75 million. As of March 31, 2018, the Company had no outstanding borrowings and $0.2 million undrawn on outstanding letters of credit under the ABL facility.

Through March 31, 2018, the Company was in compliance with all applicable financial covenants included in the terms of its senior unsecured notes, Term Loan Facility and ABL Facility.

The Company also has lines of credit with two banks that provide for borrowings of Japanese yen for the Company’s Japanese subsidiary, equivalent to an aggregate of approximately $11.3 million. There were no outstanding borrowings under these lines of credit at March 31, 2018.

The Company believes that its cash and cash equivalents, funds available under its ABL Facility and international credit facilities and cash flow generated from operations will be sufficient to meet its working capital and investment requirements for at least the next twelve months. If 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.

At March 31, 2018, the Company’s shareholders’ equity was $1,024.4 million, up from $993.0 million at the beginning of the year. The increase mainly reflected net income of $57.6 million, an increase to additional paid-in capital of $4.1 million associated with the Company’s share-based compensation expense, proceeds of $0.5 million in connection with common shares issued under the Company's stock plans, and foreign currency translation effects of $3.8 million, mainly associated with the weakening of the U.S. dollar versus the Korean won and Japanese yen. These increases were offset partly by the repurchase of the Company’s common stock at a total cost of $10.0 million, cash dividends paid of $9.9 million and the payment of $14.1 million for taxes related to the net share settlement of equity awards under the Company’s stock plans.

As of March 31, 2018, the Company’s resources included cash and cash equivalents of $550.2 million, funds available under its $75 million ABL Facility and international credit facilities, and cash flow generated from operations. As of March 31, 2018, the amount of cash and cash equivalents held by foreign subsidiaries was $238.1 million. These amounts held by foreign subsidiaries, certain of which are associated with indefinitely reinvested foreign earnings, may be subject to U.S. income taxation on repatriation to the United States. The Company does not anticipate the need to repatriate funds associated with indefinitely reinvested foreign earnings to the United States to satisfy domestic liquidity needs arising in the ordinary course of business. The Company believes its existing balances of domestic cash and cash equivalents, available cash and cash equivalents held by foreign subsidiaries not associated with indefinitely reinvested foreign earnings and operating cash flows will be sufficient to meet the Company’s domestic cash needs arising in the ordinary course of business for the next twelve months.

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 by not yet adopted.

Non-GAAP Information The Company’s condensed consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States (GAAP).

The Company also provides 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. Regulation G, “Conditions for Use of Non-GAAP Financial Measures,” and other regulations under the Securities Exchange Act of 1934, as amended, define and prescribe the conditions for use of certain non-GAAP financial information. The Company provides non-GAAP financial measures of Adjusted EBITDA and Adjusted Operating Income together with related measures thereof, and non-GAAP Earnings Per Share (EPS).

Adjusted EBITDA, a non-GAAP term, is defined by the Company as net income before (1) income tax expense, (2) interest expense, (3) interest income, (4) other expense, net, (5) amortization of intangible assets and (6) depreciation. Adjusted Operating Income, another non-GAAP term, is defined by the Company as Adjusted EBITDA exclusive of the depreciation addback noted above. The Company also utilizes non-GAAP 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.

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Non-GAAP EPS, a non-GAAP term, is defined by the Company as net income before (1) amortization of intangible assets, (2) the tax effect of those adjustments to net income and certain discrete items and (3) the tax effect of the Tax Cuts and Jobs Act, stated on a per share basis.

The Company provides supplemental non-GAAP financial measures 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 its 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 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 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:

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 the Company will not have future restructuring activities, translation-related costs, gains or losses on sale of equity investments, 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 from the Company's non-GAAP measures should not be construed as an implication that these costs are unusual, infrequent or non-recurring.

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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

	Three months ended	
(In thousands)	March 31, 2018	April 1, 2017
Net sales	$367,199	$317,377
Net income	$57,562	$32,514
Adjustments to net income		
Income tax expense	13,546	9,111
Interest expense	8,159	8,473
Interest income	(933)	(80)
Other expense, net	139	902
GAAP – Operating income	78,473	50,920
Amortization of intangible assets	11,669	10,945
Adjusted operating income	90,142	61,865
Depreciation	15,897	13,977
Adjusted EBITDA	$106,039	$75,842
Adjusted operating income – as a % of net sales	24.5 %	19.5 %
Adjusted EBITDA – as a % of net sales	28.9 %	23.9 %

Reconciliation of GAAP Earnings per Share to Non-GAAP Earnings per Share

	Three months ended	
(In thousands, except per share data)	March 31, 2018	April 1, 2017
Net income	$ 57,562	$ 32,514
Adjustments to net income		
Amortization of intangible assets	11,669	10,945
Tax effect of adjustments to net income and certain discrete tax items[1]	(2,710)	(2,705)
Tax effect of Tax Cuts and Jobs Act	$ 1,494	$ —
Non-GAAP net income	$ 68,015	$ 40,754

Diluted earnings per common share	$ 0.40	$ 0.23
Effect of adjustments to net income	0.07	0.06
Diluted non-GAAP earnings per common share	$ 0.47	$ 0.28

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

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Item 3. Quantitative and Qualitative Disclosures About Market Risk

Entegris' 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 obligation 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 $3.4 million annually.

The cash flows and results of operations of the Company's foreign-based operations are subject to fluctuations in foreign exchange rates. The Company occasionally uses derivative financial instruments to manage the foreign currency exchange rate risks associated with its foreign-based operations. At March 31, 2018, 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 (CEO) and Chief Financial Officer (CFO), has conducted an evaluation of the effectiveness of the design and operation 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 (the 1934 Act)) as of March 31, 2018. 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 us in the reports that we file or submit 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 a 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 our CEO and CFO), as of March 31, 2018, 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) 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.

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PART II
OTHER INFORMATION

Item 1. Legal Proceedings

As of March 31, 2018, 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 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Issuer Purchases of Equity Securities

The following table provides information concerning shares of the Company's Common Stock $0.01 par value purchased during the three months ended March 31, 2018.

Period	(a) Total Number of Shares Purchased[1]	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
January 1 - February 3, 2018	121,300	$33.21	121,300	$60,399,006
February 4 - March 3, 2018	92,000	$32.51	92,000	$97,947,199
March 4 - March 31, 2018	82,678	$36.06	82,678	$94,966,129
Total	295,978	$33.79	295,978	$94,966,129

[1] On February 13, 2018, the Company's Board of Directors authorized a repurchase program covering up to an aggregate of $100 million of the Company's common stock, during a period of twenty-four 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 represents a further renewal of the repurchase program originally authorized by the Board of Directors on February 5, 2016 and first renewed on February 15, 2017.

The Company issues common stock awards under its equity incentive plans. In the 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 and accordingly are not included in the common stock repurchase totals in the preceding table.

Item 6. Exhibits

31.1 Certification of Chief Executive Officer Pursuant to Exchange Act Rule 13a-14(a).

31.2	Certification of Chief Financial Officer Pursuant to Exchange Act Rule 13a-14(a).
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.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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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: April 26, 2018 /s/ Gregory B. Graves
Gregory B. Graves
Executive Vice President and Chief Financial Officer (on behalf of the registrant and as principal financial officer)

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