ENTEGRIS INC
Form 10-Q
July 27, 2017
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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 July 1, 2017
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 July 24, 2017
Common Stock, $0.01 par value per share	141,793,753 shares

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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 include those about future period guidance; future sales, net income, net income per diluted share, non-GAAP EPS, non-GAAP net income, expenses and other financial metrics; our performance relative to our markets; market and technology trends; the development of new products and the success of their introductions; our ability to execute on our strategies; our capital allocation strategy; 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 press release, 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 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; our dependence on sole source and limited source suppliers; the increasing complexity of certain manufacturing processes; raw material shortages and price increases; changes in government regulations of the countries in which we operate; fluctuation of currency exchange rates; fluctuations in the market price of Entegris’ stock; 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, 2016, filed on February 17, 2017, 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)	July 1, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$405,635	$406,389
Trade accounts and notes receivable, net of allowance for doubtful accounts of $2,292 and $2,474	171,113	165,675
Inventories	194,155	183,529
Deferred tax charges and refundable income taxes	16,716	20,140
Other current assets	21,374	24,398
Total current assets	808,993	800,131
Property, plant and equipment, net of accumulated depreciation of $408,265 and $387,523	341,146	321,562
Other assets:		
Goodwill	355,178	345,269
Intangible assets, net of accumulated amortization of $259,780 and $237,207	206,182	217,548
Deferred tax assets and other noncurrent tax assets	8,622	8,022
Other	7,322	7,000
Total assets	$1,727,443	$1,699,532
LIABILITIES AND EQUITY		
Current liabilities:		
Long-term debt, current maturities	$100,000	$100,000
Accounts payable	56,961	61,617
Accrued payroll and related benefits	41,401	54,317
Other accrued liabilities	33,874	29,213
Income taxes payable	18,786	16,424
Total current liabilities	251,022	261,571
Long-term debt, excluding current maturities, net of unamortized discount and debt issuance costs of $7,940 and $9,173	435,910	484,677
Pension benefit obligations and other liabilities	31,126	27,220
Deferred tax liabilities and other noncurrent tax liabilities	27,116	26,846
Commitments and contingent liabilities	—	—
Equity:		
Preferred stock, par value $.01; 5,000,000 shares authorized; none issued and outstanding as of July 1, 2017 and December 31, 2016	—	—
Common stock, par value $.01; 400,000,000 shares authorized; issued and outstanding shares as of July 1, 2017 and December 31, 2016: 141,790,240 and 141,319,964	1,418	1,413
Additional paid-in capital	862,660	859,778
Retained earnings	160,376	92,303
Accumulated other comprehensive loss	(42,185)	(54,276)
Total equity	982,269	899,218
Total liabilities and equity	$1,727,443	$1,699,532

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		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Net sales	$329,002	$303,052	$646,379	$570,076
Cost of sales	178,699	163,847	356,480	316,165
Gross profit	150,303	139,205	289,899	253,911
Selling, general and administrative expenses	52,985	53,597	103,477	101,553
Engineering, research and development expenses	27,221	28,146	54,460	54,048
Amortization of intangible assets	11,007	11,062	21,952	22,351
Operating income	59,090	46,400	110,010	75,959
Interest expense	8,196	9,092	16,669	18,310
Interest income	(93)	(41)	(173)	(110)
Other (income) expense, net	(46)	(1,054)	856	(1,729)
Income before income tax expense	51,033	38,403	92,658	59,488
Income tax expense	11,042	5,513	20,153	10,386
Net income	$39,991	$32,890	$72,505	$49,102
Basic net income per common share	$0.28	$0.23	$0.51	$0.35
Diluted net income per common share	$0.28	$0.23	$0.51	$0.35
Weighted shares outstanding:				
Basic	141,696	140,953	141,599	140,867
Diluted	143,508	141,723	143,411	141,547

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		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Net income	$39,991	$32,890	$72,505	$49,102
Other comprehensive income, net of tax				
Foreign currency translation adjustments	(4,039)	1,164	12,084	6,763
Unrealized loss on available-for-sale securities	—	(384)	—	(611)
Pension liability adjustments	18	16	6	32
Other comprehensive (loss) income	(4,021)	796	12,090	6,184
Comprehensive income	$35,970	$33,686	$84,595	$55,286

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)	Six months ended July 1, 2017	Six months ended July 2, 2016
Operating activities:		
Net income	$ 72,505	$ 49,102
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	28,388	27,525
Amortization	21,952	22,351
Share-based compensation expense	7,909	6,366
Provision for deferred income taxes	3,207	(931)
Other	10,130	9,204
Changes in operating assets and liabilities:		
Trade accounts and notes receivable	(3,032)	(36,099)
Inventories	(13,837)	(11,389)
Accounts payable and accrued liabilities	(13,313)	13,555
Other current assets	4,014	5,693
Income taxes payable and refundable income taxes	2,957	407
Other	(2,289)	(7,246)
Net cash provided by operating activities	118,591	78,538
Investing activities:		
Acquisition of property, plant and equipment	(42,492)	(32,144)
Acquisition of business, net of cash acquired	(20,000)	—
Proceeds from sale and maturities of short-term investments	—	1,726
Other	211	(3,384)
Net cash used in investing activities	(62,281)	(33,802)
Financing activities:		
Payments of long-term debt	(50,000)	(25,000)

Issuance of common stock	2,905		2,380	
Repurchase and retirement of common stock	(8,000)		(3,573)	
Taxes paid related to net share settlement of equity awards	(5,239)		(2,203)	
Other	(1,270)		91	
Net cash used in financing activities	(61,604)		(28,305)	
Effect of exchange rate changes on cash and cash equivalents	4,540		7,487	
(Decrease) increase in cash and cash equivalents	(754)		23,918	
Cash and cash equivalents at beginning of period	406,389		349,825	
Cash and cash equivalents at end of period	$ 405,635		$ 373,743	

Supplemental Cash Flow Information	Six Months Ended	
(In thousands)	July 1, 2017	July 2, 2016
Non-cash transactions:		
Capital lease obligations incurred	$4,768	$—
Schedule of interest and income taxes paid:		
Interest paid	$14,548	$16,392
Income taxes paid, net of refunds received	$14,605	$10,950

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 accompanying unaudited 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 July 1, 2017 and December 31, 2016, the results of operations, comprehensive income, and cash flows for the three and six months ended July 1, 2017 and July 2, 2016, and cash flows for the six months ended July 1, 2017 and July 2, 2016.

The condensed consolidated financial statements and 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, 2016. The results of operations for the three and six months ended July 1, 2017 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 $553.7 million at July 1, 2017, compared to the carrying amount of long-term debt, including current maturities, of $535.9 million at July 1, 2017.

Recent Accounting Pronouncements Adopted in 2017 In April 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-09, Compensation - Stock Compensation (Topic 718), which simplifies several aspects of the accounting for employee share-based payment transactions, including the accounting for tax effects related to share-based payments, forfeitures, and statutory tax withholding requirements, as well as the classification of tax-related cash flows in the statement of cash flows. The update eliminates the accounting for excess tax benefits to be recognized in additional paid-in capital and tax deficiencies recognized either in the income tax provision or in additional paid-in capital. ASU No. 2016-09 became effective for the Company January 1, 2017. The Company adopted ASU No. 2016-09 using the modified retrospective approach. In connection with the adoption of ASU No. 2016-09, the Company elected as an accounting policy to record forfeitures as they occur and recorded a cumulative-effect adjustment of $0.4 million to retained earnings as of January 1, 2017. The Company also recorded a cumulative-effect adjustment of $1.0 million to retained earnings as of January 1, 2017 with respect to previously unrecognized excess tax benefits. Under ASU No. 2016-09, excess tax benefits or deficiencies related to stock option exercises and restricted stock unit vesting are recognized in the condensed statement of operations. Accordingly, for the six months ended July 1, 2017, the Company recorded a tax benefit of $3.2 million in the condensed statement of operations. Also related to the adoption of ASU No. 2016-09, the Company elected to present the cash flow statement using the prospective transition method. No prior periods have been adjusted.

Recent Accounting Pronouncements Yet to be Adopted In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). ASU No. 2014-09 outlines a new, single comprehensive model for

entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. This new revenue recognition model provides a five-step analysis in determining when and how revenue is recognized. As such, revenue for an entity's contracts will generally be recognized as control of the product transfers to the customer, which is consistent with the revenue recognition model currently used for the majority of the Company's contracts. ASU No. 2014-09 may be applied either retrospectively or through the use of a modified-retrospective

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method. ASU No. 2014-09 also requires disclosures sufficient to enable users to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers, including qualitative and quantitative disclosures about contracts with customers. ASU No. 2014-09 is effective for the Company beginning January 1, 2018. The Company is currently assessing the impact that adopting this new accounting guidance will have on its consolidated financial statements and disclosures. To assist in this assessment, and to oversee the eventual adoption of ASU No. 2014-09, the Company has established a cross-functional steering committee. The initial analysis of identifying revenue streams and potential impacts of the new guidance is substantially complete, and the Company is now analyzing the potential magnitude of impact to the consolidated financial statements and related disclosures. Based on its preliminary evaluation of ASU No. 2014-09, the Company does not currently expect it to have a material impact on its results of operations or cash flows in the periods after adoption. The Company has not yet selected a transition approach. The Company expects to complete its assessment of the estimated cumulative effect of adopting ASU No. 2014-09 as well as the selection of its transition approach during the third quarter. The evaluation of ASU No. 2014-09 will continue through the date of adoption.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842). 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 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. ACQUISITION

On April 24, 2017, the Company acquired the microelectronic water and chemical filtration product line of W.L. Gore & Associates, Inc. The acquired assets became part of the Company’s Microcontamination Control (MC) segment. The transaction was accounted for under the acquisition method of accounting and the results of operations of the product line are included in the Company's consolidated financial statements as of and since April 24, 2017. The acquisition of the product line’s assets and liabilities does not constitute a material business combination.

The purchase price for the product line was cash consideration of $20.0 million, 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 the product line exceeds the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed by $7.3 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 and liabilities assumed at the date of acquisition:

(In thousands):	Amount
Other current assets	$726
Property, plant and equipment	2,800
Identifiable intangible assets	9,200
Net assets acquired	12,726

Goodwill	7,274
Total purchase price	$20,000

As of July 1, 2017, the Company has not completed its fair value determinations of the purchased intangible assets and property, plant and equipment acquired. The valuation of these items has been performed on a preliminary basis by the Company and is currently being reviewed, with the expectation of completion in the third quarter. Intangible assets, consisting mostly of technology-related intellectual property, generally will be amortized on a straight-line basis over an estimated useful life of approximately 7 years.

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As part of the accounting for this transaction, the Company allocated the purchase price of the acquired entities based on the fair value of all the assets acquired. The valuation of the assets acquired 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.

In performing these valuations, 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.

3. INVENTORIES

Inventories consist of the following:

(In thousands)	July 1, 2017	December 31, 2016
Raw materials	$57,995	$ 53,109
Work-in process	16,125	15,976
Finished goods	120,035	114,444
Total inventories	$194,155	$ 183,529

4. 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, 2016	$ 297,858	$ —	$ 47,411	$345,269
Addition due to acquisition	—	7,274	—	7,274
Foreign currency translation	2,635	—	—	2,635
July 1, 2017	$ 300,493	$ 7,274	$ 47,411	$355,178

Identifiable intangible assets at July 1, 2017 and December 31, 2016 consist of the following:

July 1, 2017

(In thousands)	Gross carrying Amount	Accumulated amortization	Net carrying value
Developed technology	$210,735	$ 138,241	$72,494
Trademarks and trade names	16,678	13,341	3,337
Customer relationships	219,117	100,200	118,917
Other	19,432	7,998	11,434
	$465,962	$ 259,780	$206,182

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December 31, 2016

(In thousands)	Gross carrying amount	Accumulated amortization	Net carrying value
Developed technology	$202,591	$ 126,077	$76,514
Trademarks and trade names	16,661	12,617	4,044
Customer relationships	216,918	90,581	126,337
Other	18,585	7,932	10,653
	$454,755	$ 237,207	$217,548

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 July 1, 2017 to be the following:

Fiscal year ending December 31	(In thousands)
2017	$ 22,330
2018	44,064
2019	41,746
2020	27,076
2021	20,444
Thereafter	50,522
	$ 206,182

5. 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		Six months ended	
(In thousands)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Basic—weighted common shares outstanding	141,696	140,953	141,599	140,867
Weighted common shares assumed upon exercise of stock options and vesting of restricted common stock	1,812	770	1,812	680
Diluted—weighted common shares and common shares equivalent outstanding	143,508	141,723	143,411	141,547

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 six months ended July 1, 2017 and July 2, 2016:

	Three months ended		Six months ended	
(In thousands)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Shares excluded from calculations of diluted EPS	338	994	269	1,391

6. 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 July 1, 2017 and December 31, 2016. 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

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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.

	July 1, 2017				December 31, 2016			
(In thousands)	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Other current assets								
Foreign currency contracts[(a)]	$—	$ 183	$ —	$183	$—	$4,784	$ —	$4,784
Total assets measured and recorded at fair value	$—	$ 183	$ —	$183	$—	$4,784	$ —	$4,784

(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 July 1, 2017 and December 31, 2016 condensed consolidated balance sheets to the net fair value that could have been reported in the respective condensed consolidated balance sheets is as follows:

	July 1, 2017			December 31, 2016		
(In thousands)	Gross amounts of recognized assets	Gross amounts offset in the condensed consolidated balance sheet	Net amount of assets 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	$183	$ —	$ 183	$4,784	$ —	$ 4,784

Gains (losses) associated with derivatives are recorded in other income, net, in the condensed consolidated statements of operations. Gains (losses) associated with derivative instruments not designated as hedging instruments were as follows:

	Three months ended		Six months ended	
(In thousands)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Gains (losses) on foreign currency contracts	$183	$(3,515)	$(2,114)	$(6,165)

7. SEGMENT REPORTING

The Company reports its financial performance based on three reportable segments, which reflects an organizational alignment intended to leverage its 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 unique products, solutions, and technical know-how, they share a single, global sales force, unified core systems and processes, global technology centers, strategic and technology roadmaps, and a focus on a common set of 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. Segment profit is defined as net sales less direct segment operating expenses, excluding certain unallocated expenses, consisting mainly of general and administrative costs for the Company's human resources, corporate, finance and information technology functions as well as interest expense, amortization of intangible assets and income taxes.

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

(In thousands)	Three months ended		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Net sales				
SCEM	$121,174	$111,782	$235,609	$212,889
MC	104,407	91,584	204,462	169,203
AMH	103,421	99,686	206,308	187,984
Total net sales	$329,002	$303,052	$646,379	$570,076

(In thousands)	Three months ended		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Segment profit				
SCEM	$34,174	$28,914	$62,314	$51,330
MC	36,484	28,566	72,065	46,706
AMH	19,573	22,519	37,849	41,430
Total segment profit	$90,231	$79,999	$172,228	$139,466

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

(In thousands)	Three months ended		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Total segment profit	$90,231	$79,999	$172,228	$139,466
Less:				
Amortization of intangible assets	11,007	11,062	21,952	22,351
Unallocated general and administrative expenses	20,134	22,537	40,266	41,156
Operating income	59,090	46,400	110,010	75,959
Interest expense	8,196	9,092	16,669	18,310
Interest income	(93)	(41)	(173)	(110)
Other (income) expense, net	(46)	(1,054)	856	(1,729)
Income before income tax expense	$51,033	$38,403	$92,658	$59,488

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, 2016 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-

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technology industries. Entegris seeks to leverage its unique breadth of capabilities to create value for its customers by developing mission-critical solutions to maximize manufacturing yields and enable higher device performance.
The Company's 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. The Company serves its customers through direct sales efforts, as well as sales and distribution relationships, in the United States, Asia, Europe and the Middle East.
The Company's 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 (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 (MC) segment offers solutions to purify critical liquid chemistries and gases used in semiconductor manufacturing processes and other high-technology industries. The Advanced Materials Handling (AMH) segment 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. While these segments have separate products, solutions, and technical know-how, they each share a single, global sales force, unified core systems and processes, global technology centers, strategic and technology roadmaps, and a focus on a common set of customers. The Company leverages its expertise and technologies from these three segments to create new and increasingly integrated solutions for its customers.
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 2017 end April 1, 2017, July 1, 2017, September 30, 2017 and December 31, 2017. Unaudited information for the three and six months ended July 1, 2017 and July 2, 2016 and the financial position as of July 1, 2017 and December 31, 2016 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.
- 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 July 1, 2017, net sales increased 9% to $329.0 million, compared to $303.1 million for the three months ended July 2, 2016. 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. Sales of the acquired product line described below contributed $1.5 million of revenue for the quarter. Unfavorable foreign currency translation effects were $0.4 million for the quarter. Exclusive of the effect of the added acquisition sales and the unfavorable foreign currency translation effects, the Company's sales increased 8%.

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Sales were up 4% on a sequential basis over the first quarter of 2017, including the sales related to the acquisition and a $1.9 million favorable foreign currency translation effect. The increase in revenue resulted from modest improvements across the Company's product lines.

The Company's gross profit for the three months ended July 1, 2017 rose to $150.3 million, up from $139.2 million for the three months ended July 2, 2016, mainly reflecting the increase in sales. The Company experienced a 45.7% gross margin rate for the three months ended July 1, 2017, compared to 45.9% in the comparable year-ago period.

The Company's selling, general and administrative (SG&A) expenses decreased by $0.6 million for the three months ended July 1, 2017 compared to the year-ago quarter, mainly reflecting a decrease in professional fees, offset in part by higher compensation costs in 2017.

As a result of the aforementioned factors, the Company reported net income of $40.0 million, or $0.28 per diluted share, for the quarter ended July 1, 2017, compared to net income of $32.9 million, or $0.23 per diluted share, a year ago.

On April 24, 2017, the Company acquired the microelectronic water and chemical filtration product line of W.L. Gore & Associates, Inc. for $20 million in cash as described in Note 2 to the condensed consolidated financial statements. The acquisition of these products complements our portfolio of advanced liquid filtration solutions. It also reflects our strategy to grow our served markets through the deployment of capital for strategic accretive acquisitions that augment our internal development initiatives.

During the six-month period ended July 1, 2017, the Company’s operating activities provided cash flow of $118.6 million and cash used for capital expenditures was $42.5 million. Cash and cash equivalents were $405.6 million at July 1, 2017, compared with cash and cash equivalents of $406.4 million at December 31, 2016. The Company had outstanding long-term debt of $535.9 million at July 1, 2017, compared to $584.7 million at December 31, 2016.

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, 2016 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 inventory valuation, 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 Six Months Ended July 1, 2017 Compared to Three and Six Months Ended July 2, 2016 and Three Months Ended April 1, 2017

The following table compares operating results for the three and six months ended July 1, 2017 with results for the three and six months ended July 2, 2016 and the three months ended April 1, 2017, both in dollars and as a percentage of net sales, for each caption.

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	Three months ended						Six months ended					
(Dollars in thousands)	July 1, 2017		July 2, 2016		April 1, 2017		July 1, 2017		July 2, 2016			
Net sales	$329,002	100.0 %	$303,052	100.0 %	$317,377	100.0 %	$646,379	100.0 %	$570,076	100.0 %		
Cost of sales	178,699	54.3	163,847	54.1	177,781	56.0	356,480	55.2	316,165	55.5		
Gross profit	150,303	45.7	139,205	45.9	139,596	44.0	289,899	44.8	253,911	44.5		
Selling, general and administrative expenses	52,985	16.1	53,597	17.7	50,492	15.9	103,477	16.0	101,553	17.8		
Engineering, research and development expenses	27,221	8.3	28,146	9.3	27,239	8.6	54,460	8.4	54,048	9.5		
Amortization of intangible assets	11,007	3.3	11,062	3.7	10,945	3.4	21,952	3.4	22,351	3.9		
Operating income	59,090	18.0	46,400	15.3	50,920	16.0	110,010	17.0	75,959	13.3		
Interest expense	8,196	2.5	9,092	3.0	8,473	2.7	16,669	2.6	18,310	3.2		
Interest income	(93)	—	(41)	—	(80)	—	(173)	—	(110)	—		
Other (income) expense, net	(46)	—	(1,054)	(0.3)	902	0.3	856	0.1	(1,729)	(0.3)		
Income before income taxes	51,033	15.5	38,403	12.7	41,625	13.1	92,658	14.3	59,488	10.4		
Income tax expense	11,042	3.4	5,513	1.8	9,111	2.9	20,153	3.1	10,386	1.8		
Net income	$39,991	12.2 %	$32,890	10.9 %	$32,514	10.2 %	$72,505	11.2 %	$49,102	8.6 %		

Net sales For the three months ended July 1, 2017, net sales increased by 9% to $329.0 million, compared to $303.1 million for the three months ended July 2, 2016. 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 July 2, 2016	$303,052
Growth associated with volume and pricing	24,895
Increase associated with acquisition	1,474
Decrease associated with effect of foreign currency translation	(419)
Net sales in the quarter ended July 1, 2017	$329,002

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. Sales of the acquired product line contributed revenue of $1.5 million for the quarter. Unfavorable foreign currency translation effects were $0.4 million for the quarter, mainly due to the weakening of the Japanese yen and the Korean Won relative to the U.S. dollar. Exclusive of these factors, the Company's sales increased 8%.

On a geographic basis, in the second quarter of 2017, total sales to Asia (excluding Japan) were 58%, to North America were 21%, to Japan were 12% and to Europe were 9%, compared to prior year second quarter sales to Asia (excluding Japan) of 55%, to North America of 22%, to Japan of 14% and to Europe of 9%. Sales increased by 13%, 5%, and 9% in Asia, North America, and Europe respectively, and sales decreased 3% in Japan in the second quarter of 2017 compared to the prior year's second quarter.

Net sales for the six months ended July 1, 2017 were $646.4 million, up 13% from $570.1 million in the comparable year-ago period. An analysis of the factors underlying the increase in net sales is present in the following table:

(In thousands)	
Net sales in the six months ended July 2, 2016	$570,076
Growth associated with volume and pricing	74,109
Increase associated with acquisition	1,474
Increase associated with effect of foreign currency translation	720
Net sales in the six months ended July 1, 2017	$646,379

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

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below, each of the Company's segments experienced improved sales. Sales of the acquired product line contributed $1.5 million of revenue for the second quarter. Favorable foreign currency translation effects were $0.7 million for the six months, mainly due to the strengthening of the Japanese yen and the Korean Won relative to the U.S. dollar. Exclusive of these factors, the Company's sales increased 13%.

Sales were up 4% on a sequential basis over the first quarter of 2017, including a $1.9 million favorable foreign currency translation effect. 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 8% for the three months ended July 1, 2017 to $150.3 million, compared to $139.2 million for the three months ended July 2, 2016. The Company experienced a 45.7% gross margin rate for the three months ended July 1, 2017, compared to 45.9% in the comparable year-ago period. The gross profit improvement reflects the improved factory utilization associated with strong sales levels, a slightly favorable sales mix and the absence of the qualification and start-up costs incurred at the Company's i2M center in the second quarter a year ago. These factors were partly offset by modest price erosion for certain products in response to normal competitive pressures. In addition, the gross profit and gross margin figures for the three months ended July 1, 2017 include impairment charges of $2.0 million related to certain 450 mm-related equipment.

For the six months ended July 1, 2017, the Company's gross profit rose 14% to $289.9 million, compared to $253.9 million for the six months ended July 2, 2016. The Company experienced a 44.8% gross margin rate for the six months ended July 1, 2017, compared to 44.5% in the comparable year-ago period. Similar to the quarter-over-quarter comparison, the gross profit improvement on a year-to-date basis reflects the improved factory utilization associated with strong sales levels and the absence of the qualification and start-up costs incurred at the Company's i2M center in the first six months of 2016. These factors were also partly offset by the price erosion and impairment charges noted in the preceding paragraph.

Selling, general and administrative expenses Selling, general and administrative (SG&A) expenses were $53.0 million for the three months ended July 1, 2017, down $0.6 million, or 1%, 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 July 2, 2016	$53,597
Employee costs	152
Other decreases, net	(764)
Selling, general and administrative expenses in the quarter ended July 1, 2017	$52,985

SG&A expenses were $103.5 million for the first six months of 2017, up 2%, compared to SG&A expenses of $101.6 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 six months ended July 2, 2016	$101,553
Employee costs	2,761
Other decreases, net	(837)
Selling, general and administrative expenses in the six months ended July 1, 2017	$103,477

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 $27.2 million in the three months ended July 1, 2017, compared to $28.1 million in the year-ago period, a $0.9 million decrease. The decrease for the quarter was mainly due to lower

project costs.

ER&D expenses increased 1% to $54.5 million in the first six months of 2017, compared to $54.0 million in the year ago period, primarily due to higher employee costs, offset partially by lower project costs.

Interest expense Interest expense includes interest associated with debt outstanding issued to help fund the 2014 acquisition of ATMI, Inc. and the amortization of debt issuance costs associated with such borrowings. Interest expense was $8.2 million in the three months ended July 1, 2017, compared to $9.1 million in the three-month period ended July 2, 2016. The decrease reflects lower average outstanding borrowings.

Interest expense was $16.7 million in the six-month period ended July 1, 2017, compared to $18.3 million in the six-month period ended July 2, 2016. The decrease reflects lower average outstanding borrowings due to the Company's payments on its senior secured term loan in 2016.

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Other (income) expense, net Other income, net was $46 thousand in the three months ended July 1, 2017. Other expense, net was $0.9 million in the six months ended July 1, 2017 and consisted mainly of foreign currency transaction losses.
Other income, net was $1.1 million and $1.7 million in the three and six months ended July 2, 2016, respectively, and consisted mainly of foreign currency transaction gains.

Income tax expense The Company recorded income tax expense of $11.0 million and $20.2 million in the three and six months ended July 1, 2017, compared to income tax expense of $5.5 million and $10.4 million in the three and six months ended July 2, 2016. The Company's year-to-date effective tax rate was 21.7% in 2017, compared to 17.5% in 2016. The tax rate in both years reflect the benefit of foreign source income being taxed at lower rates than the U.S. statutory rate. Year-to-date income tax expense in 2017 also includes a discrete benefit of $3.2 million recorded in connection with share-based compensation. Upon the adoption of ASU No. 2016-09 (see Note 1 to the condensed consolidated financial statements) excess tax benefits are recorded in the statement of operations as they occur. 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. Year-to-date income tax expense in 2016 included a discrete benefit of $1.1 million recorded in the second quarter related to the consolidation of certain of the Company's Taiwan entities.

Net income Due to the factors noted above, the Company recorded net income of $40.0 million, or $0.28 per diluted share, in the three-month period ended July 1, 2017, compared to net income of $32.9 million, or $0.23 per diluted share, in the three-month period ended July 2, 2016. In the six-month period ended July 1, 2017, the Company recorded net income of $72.5 million, or $0.51 per diluted share, compared to net income of $49.1 million, or $0.35 per diluted share, in the six-month period ended July 2, 2016.

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 24% to $88.2 million in the three-month period ended July 1, 2017, compared to $71.3 million in the three-month period ended July 2, 2016. Adjusted EBITDA, as a percent of net sales, increased to 26.8% from 23.5% in the year-ago period. Adjusted EBITDA increased 30% to $164.1 million in the six-month period ended July 1, 2017, compared to $125.8 million in the six-month period ended July 2, 2016. In the six-month period ended July 1, 2017, Adjusted EBITDA, as a percent of net sales, increased to 25.4% from 22.1% in the year-ago period.

Adjusted Operating Income increased 28% to $73.8 million in the three-month period ended July 1, 2017, compared to $57.5 million in the three-month period ended July 2, 2016. Adjusted Operating Income, as a percent of net sales, increased to 22.4% from 19.0% in the year-ago period. Adjusted Operating Income increased 38% to $135.7 million in the six-month period ended July 1, 2017, compared to $98.3 million in the six-month period ended July 2, 2016. In the six-month period ended July 1, 2017, Adjusted Operating Income, as a percent of net sales, increased to 21.0% from 17.2% in the year-ago period.

Non-GAAP Earnings Per Share increased 21% to $0.34 in the three-month period ended July 1, 2017, compared to $0.28 in the three-month period ended July 2, 2016. Non-GAAP Earnings Per Share increased 40% to $0.63 in the

six-month period ended July 1, 2017, compared to $0.45 in the six-month period ended July 2, 2016.

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 7 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 July 1, 2017, July 2, 2016 and April 1, 2017 and six months ended July 1, 2017 and July 2, 2016.

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(In thousands)	Three months ended			Six months ended	
	July 1, 2017	July 2, 2016	April 1, 2017	July 1, 2017	July 2, 2016
Specialty Chemicals and Engineered Materials					
Net sales	$121,174	$111,782	$114,435	$235,609	$212,889
Segment profit	34,174	28,914	28,140	62,314	51,330
Microcontamination Control					
Net sales	104,407	91,584	100,055	204,462	169,203
Segment profit	36,484	28,566	35,581	72,065	46,706
Advanced Materials Handling					
Net sales	103,421	99,686	102,887	206,308	187,984
Segment profit	19,573	22,519	18,276	37,849	41,430

Specialty Chemicals and Engineered Materials (SCEM)

For the second quarter of 2017, SCEM net sales increased to $121.2 million, compared to $111.8 million in the comparable period last year. The sales increase was due to improved sales of specialty gases and advanced deposition materials products. SCEM reported a segment profit of $34.2 million in the second quarter of 2017, up 18% from $28.9 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales, along with a 2% decrease in operating expenses.

For the six months ended July 1, 2017, SCEM net sales increased to $235.6 million, compared to $212.9 million in the comparable period last year. This increase also reflects improved sales of specialty gases, advanced deposition materials, and specialty materials products. SCEM reported a segment profit of $62.3 million in the six months ended July 1, 2017, up 21% from $51.3 million in the year-ago period period also due to higher sales levels, along with a 2% decrease in operating expenses.

Microcontamination Control (MC)

For the second quarter of 2017, MC net sales increased to $104.4 million, compared to $91.6 million in the comparable period last year. The sales increase was due to strength in liquid chemistry filters for wet, etch and clean and bulk photo applications, and gas filtration products. In addition, the product line acquisition described in Note 2 to the condensed consolidated financial statements contributed sales of $1.5 million. MC reported a segment profit of $36.5 million in the second quarter of 2017, up 28% from $28.6 million in the year-ago period. The segment profit improvement was primarily due to higher gross profit related to the increased sales and the absence of the qualification and start-up costs incurred at the Company's i2M center in the second quarter a year ago. Operating expenses were flat compared to the year ago period.

For the six months ended July 1, 2017, MC net sales increased to $204.5 million, compared to $169.2 million in the comparable period last year. This increase also reflects improved sales of wet, etch and clean and bulk photo applications, and gas filtration products. In addition, the acquisition contributed to $1.5 million as noted above. MC reported a segmented profit of $72.1 million in the six months ended July 1, 2017, up 54% from $46.7 million in the year-ago period period. The segment profit improvement was primarily due to higher gross profit related to the increased sales and the absence of the qualification and start-up costs incurred at the Company's i2M center in the second quarter a year ago. Operating expenses were flat compared to the year ago period.

Advanced Materials Handling (AMH)

For the second quarter of 2017, AMH net sales increased to $103.4 million, compared to $99.7 million in the comparable period last year. The sales increase was due to improved sales of fluid handling products, offset by a decrease in sales of liquid packaging products. AMH reported a segment profit of $19.6 million in the second quarter of 2017, down 13% from $22.5 million in the year-ago period. The segment profit decline was primarily due to an unfavorable sales mix, the effect of modest selling price erosion on legacy products, impairment losses of $2.3 million, and an 6% increase in operating expenses, primarily reflecting higher selling expenses.

For the six months ended July 1, 2017, AMH net sales increased to $206.3 million, compared to $188.0 million in the comparable period last year. This increase also reflects improved sales of fluid handling products, offset by a decrease in liquid packaging product sales. AMH reported a segment profit of $37.8 million in the six months ended July 1, 2017, down 9% from $41.4 million in the year-ago period despite higher sales levels, due to an unfavorable sales mix, the effect of modest selling price erosion on legacy products, impairment losses of $2.3 million and a 10% increase in operating expenses.

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Unallocated general and administrative expenses

Unallocated general and administrative expenses totaled $20.1 million in the second quarter of 2017, compared to $22.5 million in the second quarter of 2016. The $2.4 million decrease mainly reflects a decline in professional fees.

Unallocated general and administrative expenses for the six months ended July 1, 2017 totaled $40.3 million, down from $41.2 million in the six months ended July 2, 2016. The $0.9 million decline reflects lower professional fees, offset by higher employee costs.

Liquidity and Capital Resources

Operating activities Cash flows provided by operating activities totaled $118.6 million in the six months ended July 1, 2017. 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 $25.5 million, mainly reflecting increases in accounts receivable and inventories, and decreases in accounts payable and accrued liabilities.

Accounts receivable increased by $5.4 million during the six months ended July 1, 2017, or $3.0 million after accounting for foreign currency translation, mainly reflecting an increase in sales, offset in part by a decline in the Company’s days sales outstanding (DSO). The Company’s DSO was 47 days at July 1, 2017, compared to 49 days at the beginning of the year.

Inventories increased by $10.6 million during the six months ended July 1, 2017, or $13.8 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 increased levels of business activity.

Accounts payable and accrued liabilities decreased $12.9 million during the six months ended July 1, 2017, or $13.3 million after accounting for foreign currency translation. A key component of the decrease is the payment of 2016 incentive compensation during the first quarter of 2017.

Working capital at July 1, 2017 was $558.0 million, compared to $538.6 million as of December 31, 2016, and included $405.6 million in cash and cash equivalents, compared to cash and cash equivalents of $406.4 million as of December 31, 2016.

Investing activities Cash flows used in investing activities totaled $62.3 million in the six-month period ended July 1, 2017. Acquisition of property and equipment totaled $42.5 million, which primarily reflected investments in equipment and tooling.

As of July 1, 2017, the Company expects its full-year capital expenditures in 2017 to be approximately $90 million to $100 million. As of July 1, 2017, the Company had outstanding capital purchase obligations of $26.4 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 April 24, 2017, the Company acquired the microelectronic water and chemical filtration product line of W.L. Gore & Associates, Inc. The purchase price for the product line included cash consideration of $20.0 million, funded from the Company's existing cash on hand. The transaction is described in further detail in note 2 to the Company's condensed consolidated financial statements.

Financing activities Cash flows used in financing activities totaled $61.6 million during the six-month period ended July 1, 2017. This primarily reflects the Company's payments of $50.0 million on its senior secured term loan described below. In addition, the Company repurchased shares of the Company’s common stock during the first six months of 2017 at a total cost of $8.0 million under the stock repurchase program authorized by the Company’s Board of Directors. The Company received proceeds of $2.9 million in connection with common shares issued under the Company's stock plans, while expending $5.2 million for taxes related to the net share settlement of equity awards under the Company’s stock plans.

As of July 1, 2017, the Company had outstanding long-term debt, including the current portion thereof, of $535.9 million, related to debt issued by the Company, as discussed in more detail below.

At July 1, 2017, the Company had an outstanding $360 million aggregate principal amount of 6% senior unsecured notes due April 1, 2022.

On April 30, 2014, the Company entered into a term loan facility that provided senior secured financing of $460 million. 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. During the first quarter of 2017, the Company and its lenders agreed to an amendment of the term loan

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agreement that decreases the applicable margin for the Company’s term loan from 2.75% to 2.25% per annum for LIBOR borrowings, with a LIBOR floor of 0.0%, and from 1.75% to 1.25% per annum for base rate borrowings, with a base rate floor of 1.00%. The principal amount outstanding under the term loan facility at July 1, 2017 was $183.9 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 July 1, 2017.

The Company also has a senior secured asset-based revolving credit facility maturing April 30, 2019 that provides financing of $75 million, subject to a borrowing base. The senior secured asset-based revolving credit facility bears interest at a rate per annum equal to at the Company's option, a base rate (prime rate or LIBOR), plus an applicable margin. As of July 1, 2017, the Company had no outstanding borrowings and $0.2 million undrawn on outstanding letters of credit under the senior secured asset-based revolving credit facility.

Through July 1, 2017, the Company was in compliance with all applicable financial covenants included in the terms of its senior unsecured notes, senior secured term loan facility and senior secured asset-based revolving credit 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 $10.7 million. There were no outstanding borrowings under these lines of credit at July 1, 2017.

The Company believes that its cash and cash equivalents, funds available under its senior secured asset-based revolving credit 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 July 1, 2017, the Company’s shareholders’ equity was $982.3 million, up from $899.2 million at the beginning of the year. The increase mainly reflected net income of $72.5 million, an increase to additional paid-in capital of $7.9 million associated with the Company’s share-based compensation expense, proceeds of $2.9 million in connection with common shares issued under the Company's stock plans, and foreign currency translation effects of $12.1 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 $8.0 million and the payment of $5.2 million for taxes related to the net share settlement of equity awards under the Company’s stock plans.

As of July 1, 2017, the Company’s resources included cash and cash equivalents of $405.6 million, funds available under its $75 million senior secured asset-based revolving credit facility and international credit facilities, and cash flow generated from operations. As of July 1, 2017, the amount of cash and cash equivalents held by foreign subsidiaries was $305.1 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).

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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 (income) expense, net, (5) severance, (6) impairment of equipment, (7) amortization of intangible assets and (8) 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.

Non-GAAP EPS, a non-GAAP term, is defined by the Company as net income before (1) severance , (2) impairment of equipment, (3) gain on sale of equity investment, (4) amortization of intangible assets and (5) the tax effect of those adjustments to net income and discrete items, 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. As described below, 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

(In thousands)	Three months ended		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Net sales	$329,002	$303,052	$646,379	$570,076
Net income	$39,991	$32,890	$72,505	$49,102
Adjustments to net income				
Income tax expense	11,042	5,513	20,153	10,386
Interest expense	8,196	9,092	16,669	18,310
Interest income	(93)	(41)	(173)	(110)
Other (income) expense, net	(46)	(1,054)	856	(1,729)
GAAP – Operating income	59,090	46,400	110,010	75,959
Severance	559	—	559	—
Impairment of equipment	3,170	—	3,170	—
Amortization of intangible assets	11,007	11,062	21,952	22,351
Adjusted operating income	73,826	57,462	135,691	98,310
Depreciation	14,411	13,825	28,388	27,525
Adjusted EBITDA	$88,237	$71,287	$164,079	$125,835
Adjusted operating income – as a % of net sales	22.4 %	19.0 %	21.0 %	17.2 %
Adjusted EBITDA – as a % of net sales	26.8 %	23.5 %	25.4 %	22.1 %

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

(In thousands, except per share data)	Three months ended		Six months ended	
	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Net income	$39,991	$32,890	$72,505	$49,102
Adjustments to net income				
Severance	559	—	559	—
Impairment of equipment	3,170	—	3,170	—
Gain on sale of equity investment	—	(38)	—	(156)
Amortization of intangible assets	11,007	11,062	21,952	22,351
Tax effect of adjustments to net income and discrete tax items	(5,821)	(3,624)	(8,526)	(7,390)
Non-GAAP net income	$48,906	$40,290	$89,660	$63,907
Diluted earnings per common share	$0.28	$0.23	$0.51	$0.35
Effect of adjustments to net income	0.06	0.05	0.12	0.10
Diluted non-GAAP earnings per common share	$0.34	$0.28	$0.63	$0.45

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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 $1.4 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 July 1, 2017, 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 July 1, 2017. 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 July 1, 2017, 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 July 1, 2017, 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 July 1, 2017.

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
April 2 - May 6, 2017	72,000	$23.86	72,000	$86,709,096
May 7 - June 3, 2017	57,000	$24.31	57,000	$85,323,150
June 4 - July 1, 2017	36,561	$24.50	36,561	$84,427,303
Total	165,561	$24.16	165,561	$84,427,303

[1] On February 15, 2017, the Company's Board of Directors authorized a repurchase program covering up to an aggregate of $100 million of the Company's common stock 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 authorization expires on February 15, 2018. This repurchase program represents a renewal and replacement of the $100 million repurchase program originally authorized by the Board of Directors on February 5, 2016, which expired February 15, 2017.

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: July 27, 2017 /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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