MATERION Corp
Form 10-Q
July 27, 2017
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 June 30, 2017

¨ 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 001-15885
MATERION CORPORATION
(Exact name of Registrant as specified in charter)

Ohio	34-1919973
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
6070 Parkland Blvd., Mayfield Heights, Ohio	44124
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code:
216-486-4200
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 þ 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 þ 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.

Large accelerated filer þ	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 the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ¨
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No þ

Number of Shares of Common Stock, without par value, outstanding at June 30, 2017: 20,038,672.

PART I FINANCIAL INFORMATION
MATERION CORPORATION AND SUBSIDIARIES

Item 1. Financial Statements

The consolidated financial statements of Materion Corporation and its subsidiaries for the second quarter and six months ended June 30, 2017 are as follows:

Materion Corporation and Subsidiaries
Consolidated Statements of Income
(Unaudited)

	Second Quarter Ended		Six Months Ended	
(Thousands, except per share amounts)	June 30, 2017	July 1, 2016	June 30, 2017	July 1, 2016
Net sales	$295,842	$249,776	$536,511	$485,287
Cost of sales	241,285	204,470	438,958	396,624
Gross margin	54,557	45,306	97,553	88,663
Selling, general, and administrative expense	38,075	32,437	71,703	62,924
Research and development expense	3,544	3,171	6,674	6,623
Other—net	3,204	3,921	6,022	5,807
Operating profit	9,734	5,777	13,154	13,309
Interest expense—net	695	512	1,188	927
Income before income taxes	9,039	5,265	11,966	12,382
Income tax (benefit) expense	1,726	(284)	1,603	1,465
Net income	$7,313	$5,549	$10,363	$10,917
Basic earnings per share:				
Net income per share of common stock	$0.37	$0.28	$0.52	$0.55
Diluted earnings per share:				
Net income per share of common stock	$0.36	$0.27	$0.51	$0.54
Cash dividends per share	$0.100	$0.095	$0.195	$0.185
Weighted-average number of shares of common stock outstanding:				
Basic	20,012	20,015	19,991	20,016
Diluted	20,347	20,214	20,348	20,220

The accompanying notes are an integral part of the consolidated financial statements.

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Materion Corporation and Subsidiaries
Consolidated Statements of Comprehensive Income
(Unaudited)

	Second Quarter Ended		Six Months Ended	
(Thousands)	June 30, 2017	July 1, 2016	June 30, 2017	July 1, 2016
Net income	$7,313	$5,549	$10,363	$10,917
Other comprehensive income (loss):				
Foreign currency translation adjustment	275	1,167	1,378	2,451
Derivative and hedging activity, net of tax	(174)	302	(635)	(621)
Pension and post-employment benefit adjustment, net of tax	759	675	1,516	2,250
Other comprehensive income	860	2,144	2,259	4,080
Comprehensive income	$8,173	$7,693	$12,622	$14,997

The accompanying notes are an integral part of the consolidated financial statements.

Materion Corporation and Subsidiaries
Consolidated Balance Sheets

(Thousands)	(Unaudited) June 30, 2017	Dec. 31, 2016
Assets		
Current assets		
Cash and cash equivalents	$ 18,497	$ 31,464
Accounts receivable	133,674	100,817
Inventories	215,987	200,865
Prepaid and other current assets	22,162	12,138
Total current assets	390,320	345,284
Long-term deferred income taxes	40,543	39,409
Property, plant, and equipment	872,618	861,267
Less allowances for depreciation, depletion, and amortization	(622,351)	(608,636)
Property, plant, and equipment—net	250,267	252,631
Intangible assets	12,074	11,074
Other assets	6,183	5,950
Goodwill	90,035	86,950
Total Assets	$ 789,422	$ 741,298
Liabilities and Shareholders’ Equity		
Current liabilities		
Short-term debt	$ 3,140	$ 733
Accounts payable	46,064	32,533
Salaries and wages	28,541	29,885
Other liabilities and accrued items	25,878	21,340
Income taxes	3,195	4,781
Unearned revenue	2,797	1,105
Total current liabilities	109,615	90,377
Other long-term liabilities	17,700	17,979
Retirement and post-employment benefits	94,549	91,505
Unearned income	39,076	41,369
Long-term income taxes	1,994	2,100
Deferred income taxes	277	274
Long-term debt	23,254	3,605
Shareholders’ equity		
Serial preferred stock	—	—
Common stock	218,902	212,702
Retained earnings	524,367	517,903
Common stock in treasury	(160,785)	(154,399)
Accumulated other comprehensive loss	(83,922)	(86,181)
Other equity transactions	4,395	4,064
Total shareholders' equity	502,957	494,089
Total Liabilities and Shareholders’ Equity	$ 789,422	$ 741,298

The accompanying notes are an integral part of the consolidated financial statements.

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Materion Corporation and Subsidiaries
Consolidated Statements of Cash Flows
(Unaudited)

	Six Months Ended	
(Thousands)	June 30, 2017	July 1, 2016
Cash flows from operating activities:		
Net income	$10,363	$10,917
Adjustments to reconcile net income to net cash provided from (used in) operating activities:		
Depreciation, depletion, and amortization	20,725	23,497
Amortization of deferred financing costs in interest expense	440	281
Stock-based compensation expense (non-cash)	3,507	1,919
(Gain) loss on sale of property, plant, and equipment	147	(695)
Deferred income tax expense (benefit)	658	(1,489)
Changes in assets and liabilities net of acquired assets and liabilities:		
Decrease (increase) in accounts receivable	(30,882)	(13,013)
Decrease (increase) in inventory	(6,498)	1,153
Decrease (increase) in prepaid and other current assets	(9,267)	(782)
Increase (decrease) in accounts payable and accrued expenses	15,519	(7,871)
Increase (decrease) in unearned revenue	1,685	(743)
Increase (decrease) in interest and taxes payable	(1,115)	1,310
Increase (decrease) in long-term liabilities	(3,891)	(6,221)
Other-net	(1,088)	1,598
Net cash provided by operating activities	303	9,861
Cash flows from investing activities:		
Payments for purchase of property, plant, and equipment	(11,252)	(14,326)
Payments for mine development	(509)	(7,806)
Payments for acquisition	(16,504)	—
Proceeds from sale of property, plant, and equipment	27	827
Net cash (used in) investing activities	(28,238)	(21,305)
Cash flows from financing activities:		
Proceeds from issuance of short-term debt, net	2,387	5,805
Proceeds from issuance of long-term debt	45,000	10,000
Repayment of long-term debt	(25,362)	(399)
Principal payments under capital lease obligations	(383)	(425)
Cash dividends paid	(3,899)	(3,704)
Deferred financing costs	(300)	—
Common shares withheld for taxes	(2,302)	(827)
Repurchase of common stock	(1,086)	(2,663)
Net cash provided by financing activities	14,055	7,787
Effects of exchange rate changes	913	406
Net change in cash and cash equivalents	(12,967)	(3,251)
Cash and cash equivalents at beginning of period	31,464	24,236
Cash and cash equivalents at end of period	$18,497	$20,985

The accompanying notes are an integral part of the consolidated financial statements.

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Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

Note A — Accounting Policies

(Dollars in thousands)
Basis of Presentation: In management’s opinion, the accompanying consolidated financial statements of Materion Corporation and its subsidiaries (referred to herein as the Company, our, we, or us) contain all of the adjustments necessary to present fairly the financial position, results of operations, and cash flows for the interim periods reported. All adjustments were of a normal and recurring nature. Certain amounts in prior years have been reclassified to conform to the 2017 consolidated financial statement presentation.
These financial statements should be read in conjunction with the consolidated financial statements and related notes included in the Company's 2016 Annual Report on Form 10-K. The interim period results are not necessarily indicative of the results to be expected for the full year.
Business Combinations: The Company records assets acquired and liabilities assumed at the date of acquisition at their respective fair values. Any intangible assets acquired in a business combination are recognized and reported apart from goodwill. Goodwill represents the excess purchase price over the fair value of the tangible net assets and intangible assets acquired in a business combination. Acquisition-related expenses are recognized separately from the business combination and are expensed as incurred.
The amounts reflected in Note B to the Consolidated Financial Statements are the results of the preliminary purchase price allocation and will be updated upon completion of the final valuation. The Company is required to complete the purchase price allocation within 12 months of the acquisition date. If such completion of the allocation results in a change in the preliminary values, the measurement period adjustment will be recognized in the period in which the adjustment amount is determined.
New Pronouncements Adopted: In March 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-09, Improvements to Employee Share-Based Payment Accounting, which impacts several aspects of accounting for share-based payment transactions, including income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. Under the new standard, income tax benefits and deficiencies are to be recognized as income tax expense or benefit in the income statement, and the tax effects of exercised or vested awards will be treated as discrete items in the reporting period in which they occur. An entity will also recognize excess tax benefits regardless of whether the benefit reduces taxes payable in the reporting period. Excess tax benefits will be classified, along with other income tax cash flows, as an operating activity. In regard to forfeitures, the entity may make an entity-wide accounting policy election to either estimate the number of awards that are expected to vest or account for forfeitures as they occur. The ASU, which is required to be applied on a modified retrospective basis, will be effective for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2016. The Company adopted the new guidance during the first quarter of 2017. An impact of adoption was the recognition of excess tax benefits in Income tax expense rather than Shareholders' equity in 2017. As a result, the Company recognized discrete tax benefits of $82 and $374 in Income tax (benefit) expense during the second quarter and first six months of 2017, respectively. The cash flow classification requirements of ASU 2016-09 were applied retrospectively. As a result, for the six months ended July 1, 2016, cash flows from operating activities increased by $827 with a corresponding decrease to cash flows from financing activities. None of the other provisions in this ASU had a material effect on the Company's consolidated financial statements.
New Pronouncements Issued: In March 2017, the FASB issued ASU 2017-07, Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost, which requires an employer to report the service cost component of net benefit cost in the same line item as other compensation costs arising from services rendered by pertinent employees during the period. The other components of net benefit cost are required to be presented in the

income statement separately from the service cost component and outside a subtotal of income from operations. The amendments also allow only the service cost component to be eligible for capitalization. This ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those periods, with early adoption permitted. The amendments should be applied retrospectively for the presentation of service cost and other components of net benefit cost on the income statement and prospectively for the capitalization of service cost and net periodic postretirement benefits in assets. The Company is currently evaluating the impact of adopting this new guidance on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, Leases, which eliminates the off-balance-sheet accounting for leases. The new guidance will require lessees to report their operating leases as both an asset and liability on the balance sheet and disclose key information about leasing arrangements. The ASU, which is required to be applied on a modified retrospective basis, will be effective for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2018. The Company is currently evaluating the impact of adopting this new guidance on its consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers, which supersedes previous revenue recognition guidance. The new standard requires that a company recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those goods or services. Companies will need to use more judgment and estimates than under the guidance currently in effect, including estimating the amount of variable revenue to recognize over each identified performance obligation. Additional disclosures will be required to help users of financial statements understand the nature, amount, and timing of revenue and cash flows arising from contracts. This ASU is effective beginning in fiscal year 2018 and can be adopted either retrospectively or as a cumulative-effect adjustment as of the date of adoption. To evaluate the impact of adopting this new guidance on the consolidated financial statements, we established a cross-functional implementation team to assess our revenue streams against the requirements of this ASU. In addition, we are in the process of identifying and implementing changes to our processes and controls to meet the standard's updated reporting and disclosure requirements. The Company plans to adopt the standard as of the first quarter of 2018 using the modified retrospective approach and will record a cumulative adjustment to equity for open contracts as of January 1, 2018. The Company continues to update our assessment of the impact of the standard and related updates to its consolidated financial statements, and will disclose material impacts, if any.

No other recently issued or effective ASUs had, or are expected to have, a material effect on the Company's results of operations, financial condition, or liquidity.

Note B — Acquisitions

On February 28, 2017, the Company acquired the target materials business of the Heraeus Group (HTB), of Hanau, Germany, for $16.5 million. This business manufactures precious and non-precious metal target materials for the architectural and automotive glass, electronic display, photovoltaic and semiconductor markets at facilities in Germany, Taiwan, and the United States. This business will operate within the Advanced Materials segment, and the results of operations are included as of the date of acquisition.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

The Company will make adjustments to the purchase price allocation prior to completion of the measurement period, as necessary. Only items identified as of the acquisition date will be considered for subsequent adjustment. The purchase price allocation for the acquisition is as follows:

(Thousands)	Amount
Assets:	
Inventories	$7,140
Prepaid and other current assets	902
Long-term deferred income taxes	1,450
Property, plant, and equipment	7,637
Intangible assets	3,236
Goodwill	2,891
Total assets acquired	$23,256
Liabilities:	
Other liabilities and accrued items	$1,030
Other long-term liabilities	430
Retirement and post-employment benefits	5,292
Total liabilities assumed	$6,752
Total purchase price	$16,504

As part of the acquisition, the Company recorded approximately $2.9 million of goodwill. Goodwill was calculated as the excess of the purchase price over the estimated fair values of the tangible net assets and intangible assets acquired. Also, the Company acquired approximately $3.2 million of other intangible assets, which will be amortized using the straight-line method over an average life of about ten years. The following table reports the intangible assets by asset category and accumulated amortization from the closing date through June 30, 2017:

(Thousands)	Value at Acquisition	Accumulated Amortization	Useful Life
Customer relationships	$ 1,861	$ (41)	15 years
Technology	1,375	(154)	3 years
Total	$ 3,236	$ (195)	

Note C — Segment Reporting

The Company has the following operating segments: Performance Alloys and Composites, Advanced Materials, Precision Coatings, and Other. The Company’s operating segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the Chief Executive Officer, the Company's Chief Operating Decision Maker, in determining how to allocate the Company’s resources and evaluate performance.

Performance Alloys and Composites produces strip and bulk form alloy products, strip metal products with clad inlay and overlay metals, beryllium-based metals, beryllium, and aluminum metal matrix composites, in rod, sheet, foil, and a variety of customized forms, beryllia ceramics, and bulk metallic glass materials.

Advanced Materials produces advanced chemicals, microelectric packaging, precious metal, non-precious metal, and specialty metal products, including vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials, and ultra-fine wire.

Precision Coatings produces thin film coatings, optical filter materials, sputter-coated, and precision-converted thin film materials.
The Other reportable segment includes unallocated corporate costs and assets.

(Thousands)	Performance Alloys and Composites	Advanced Materials	Precision Coatings	Other	Total
Second Quarter 2017					
Net sales	$ 108,541	$ 157,044	$ 30,257	$ —	$ 295,842
Intersegment sales	4	13,247	—	—	13,251
Value-added sales	92,686	62,041	22,613	(1,241)	176,099
Operating profit (loss)	5,548	8,670	2,314	(6,798)	9,734
Second Quarter 2016					
Net sales	$ 97,696	$ 113,557	$ 38,523	$ —	$ 249,776
Intersegment sales	117	17,429	—	—	17,546
Value-added sales	83,350	46,993	25,111	(1,520)	153,934
Operating profit (loss)	234	7,320	2,272	(4,049)	5,777
First Six Months 2017					
Net sales	$ 201,094	$ 271,780	$ 63,637	$ —	$ 536,511
Intersegment sales	59	29,694	—	—	29,753
Value-added sales	171,897	109,329	45,914	(2,060)	325,080
Operating profit (loss)	5,737	15,117	4,532	(12,232)	13,154
First Six Months 2016					
Net sales	$ 188,325	$ 221,677	$ 75,285	$ —	$ 485,287
Intersegment sales	179	32,605	—	—	32,784
Value-added sales	161,552	89,059	49,745	(2,564)	297,792
Operating profit (loss)	1,746	12,503	6,371	(7,311)	13,309

Intersegment sales are eliminated in consolidation.

Note D — Other-net

Other-net expense for the second quarter and first six months of 2017 and 2016 is summarized as follows:

	Second Quarter Ended		Six Months Ended	
(Thousands)	June 30, 2017	July 1, 2016	June 30, 2017	July 1, 2016
Foreign currency exchange/translation loss (gain)	$ (336)	$ 650	$ (593)	$ 641
Amortization of intangible assets	1,232	1,148	2,277	2,296
Metal consignment fees	2,062	1,653	3,747	3,186
Net loss (gain) on disposal of fixed assets	119	25	147	(695)
Other items	127	445	444	379
Total	$ 3,204	$ 3,921	$ 6,022	$ 5,807

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

Note E — Restructuring

In the first six months of 2017, the Company took cost reduction measures in order to align corporate costs with lower business levels. These actions were accomplished through elimination of vacant positions, consolidation of roles, and staff reduction. Costs associated with the plan included severance associated with approximately five employees and other related costs.

In 2016, the Company initiated a plan to close the Fukuya, Japan service center, which is a part of the Performance Alloys and Composites segment. Costs associated with the plan included severance associated with approximately twelve employees and related facility exit costs.

These costs are presented in the Consolidated Statements of Income as follows:

(Thousands)	Second Quarter Ended		Six Months Ended	
	June 30, 2017	July 1, 2016	June 30, 2017	July 1, 2016
Cost of sales	$ 117	$ —	$ 117	$ —
Selling, general, and administrative (SG&A) expense	578	—	1,132	—
Total	$ 695	$ —	$ 1,249	$ —

Remaining severance payments related to this initiative of $0.3 million are reflected within Other liabilities and accrued items in the Consolidated Balance Sheets. The Company does not expect to incur additional costs related to these initiatives.

Note F — Income Taxes

The Company recorded income tax expense of $1.7 million in the second quarter of 2017, an effective tax rate of 19.1% against income before income taxes and an income tax benefit of $0.3 million in the second quarter of 2016, with a negative effective tax rate of 5.4% against income before income taxes.

In the first six months of 2017, income tax expense of $1.6 million was calculated using an effective tax rate of 13.4%, while income tax expense of $1.5 million in the first six months of 2016 was calculated using an effective tax rate of 11.8%.

The Company recorded discrete benefits of $0.1 million and $0.8 million, respectively, in the second quarter and first six months of 2017. Of these amounts, $0.4 million in the first six months of 2017 related to officer compensation which was previously considered non-deductible and $0.1 million in the second quarter and $0.4 million in the first six months of 2017 related to the adoption of ASU 2016-09, Improvements to Employee Share-based Payment Accounting.

In the second quarter of 2016, the Company recorded a discrete tax benefit of $0.9 million, resulting from international tax planning initiatives. For the first six months of 2016, discrete items amounted to a net benefit of $0.8 million.

In addition to the discrete benefits listed above, the difference between the statutory and effective rates in the second quarter and first six months of both years was primarily due to the impact of percentage depletion, the foreign rate differential, the research and development credit, and other items.

Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

Note G — Earnings Per Share

The following table sets forth the computation of basic and diluted EPS:

	Second Quarter Ended		Six Months Ended	
	June 30,	July 1,	June 30,	July 1,
(Thousands, except per share amounts)	2017	2016	2017	2016
Numerator for basic and diluted EPS:				
Net income	$7,313	$5,549	$10,363	$10,917
Denominator:				
Denominator for basic EPS:				
Weighted-average shares outstanding	20,012	20,015	19,991	20,016
Effect of dilutive securities:				
Stock appreciation rights	125	63	152	63
Restricted stock units	102	75	102	90
Performance-based restricted stock units	108	61	103	51
Diluted potential common shares	335	199	357	204
Denominator for diluted EPS:				
Adjusted weighted-average shares outstanding	20,347	20,214	20,348	20,220
Basic EPS	$0.37	$0.28	$0.52	$0.55
Diluted EPS	$0.36	$0.27	$0.51	$0.54

Stock appreciation rights (SARs) totaling 31,835 and 1,018,778 for the quarters ended June 30, 2017 and July 1, 2016, respectively, and 67,761 and 1,018,778 for the six months ended June 30, 2017 and July 1, 2016, respectively, were excluded from the dilution calculation as their effect would have been anti-dilutive.

Note H — Inventories

Inventories on the Consolidated Balance Sheets are summarized as follows:

	June 30,	Dec. 31,
(Thousands)	2017	2016
Raw materials and supplies	$41,222	$36,233
Work in process	178,063	169,327
Finished goods	39,858	38,147
Subtotal	$259,143	$243,707
Less: LIFO reserve balance	43,156	42,842
Inventories	$215,987	$200,865

The liquidation of last in, first out (LIFO) inventory layers increased cost of sales in both the second quarter and first six months of 2017 by $0.2 million. In the second quarter and first six months of 2016, cost of sales was reduced by $0.5 million and $3.2 million, respectively.

Note I — Pensions and Other Post-employment Benefits

The following is a summary of the net periodic benefit cost for the second quarter and first six months of 2017 and 2016 for the domestic pension plans (which include the defined benefit pension plan and the supplemental retirement plans) and the domestic retiree medical plan.

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Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

	Pension Benefits Second Quarter Ended		Other Benefits Second Quarter Ended	
	June 30,	July 1,	June 30,	July 1,
(Thousands)	2017	2016	2017	2016
Components of net periodic benefit cost				
Service cost	$2,070	$1,946	$23	$25
Interest cost	2,370	2,595	99	141
Expected return on plan assets	(3,671)	(3,488)	—	—
Amortization of prior service benefit	(73)	(115)	(374)	(374)
Amortization of net loss	1,611	1,430	—	—
Net periodic benefit cost (benefit)	$2,307	$2,368	$(252)	$(208)

	Pension Benefits Six Months Ended		Other Benefits Six Months Ended	
	June 30,	July 1,	June 30,	July 1,
(Thousands)	2017	2016	2017	2016
Components of net periodic benefit cost				
Service cost	$4,082	$3,891	$46	$51
Interest cost	4,726	5,190	198	282
Expected return on plan assets	(7,329)	(6,976)	—	—
Amortization of prior service benefit	(194)	(230)	(748)	(748)
Amortization of net loss	3,198	2,861	—	—
Net periodic benefit cost (benefit)	$4,483	$4,736	$(504)	$(415)

The Company made contributions to the domestic defined benefit pension plan of $4.0 million and $8.0 million in the first six months of 2017 and 2016, respectively.

Beginning in 2017, the Company has elected to use a spot-rate approach to estimate the service and interest cost components of net periodic benefit cost for its defined benefit pension plans. The spot-rate approach applies separate discount rates for each projected benefit payment in the calculation. Historically, the Company used a weighted-average approach to determine the service and interest cost components. The change is being accounted for as a change in estimate and, accordingly, is being applied prospectively. The reduction in service and interest costs for 2017 associated with this change approximated $0.2 million and $0.5 million during the second quarter and first six months of 2017, respectively, and is expected to total approximately $1.0 million.

Note J — Accumulated Other Comprehensive Income (Loss)

Changes in the components of accumulated other comprehensive income, including the amounts reclassified, for the second quarter and first six months of 2017 and 2016 are as follows:

	Gains and Losses on Cash Flow Hedges					
(Thousands)	Foreign Currency	Precious Metals	Total	Pension and Post-Employment Benefits	Foreign Currency Translation	Total

Balance at March 31, 2017	$1,476	$(100)	$1,376	$(81,601)	$(4,557)	$(84,782)
Other comprehensive income (loss) before reclassifications	(629)	393	(236)	—	275	39
Amounts reclassified from accumulated other comprehensive income	47	(88)	(41)	1,156	—	1,115

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Materion Corporation and Subsidiaries
Notes to Consolidated Financial Statements
(Unaudited)

(Thousands)	Gains and Losses on Cash Flow Hedges: Foreign Currency	Gains and Losses on Cash Flow Hedges: Precious Metals	Gains and Losses on Cash Flow Hedges: Total	Pension and Post-Employment Benefits	Foreign Currency Translation	Total
Net current period other comprehensive income (loss) before tax	(582)	305	(277)	1,156	275	1,154
Deferred taxes on current period activity	(215)	112	(103)	397	—	294
Net current period other comprehensive income (loss) after tax	(367)	193	(174)	759	275	860
Balance at June 30, 2017	$1,109	$ 93	$1,202	$ (80,842)	$ (4,282)	$(83,922)
Balance at April 1, 2016	$656	$ —	$656	$ (75,221)	$ (4,204)	$(78,769)
Other comprehensive income (loss) before reclassifications	98	—	98	—	1,167	1,265
Amounts reclassified from accumulated other comprehensive income	382	—	382	1,016	—	1,398
Net current period other comprehensive income (loss) before tax	480	—	480	1,016	1,167	2,663
Deferred taxes on current period activity	178	—	178	341	—	519
Net current period other comprehensive income (loss) after tax	302	—	302	675	1,167	2,144
Balance at July 1, 2016	$958	$ —	$958	$ (74,546)	$ (3,037)	$(76,625)
Balance at December 31, 2016	$1,837	$ —	$1,837	$ (82,358)	$ (5,660)	$(86,181)
Other comprehensive income (loss) before reclassifications	(881)	235	(646)	—	1,378	732
Amounts reclassified from accumulated other comprehensive income	(214)	(88)	(302)	2,309	—	2,007
Net current period other comprehensive income (loss) before tax	(1,095)	147	(948)	2,309	1,378	2,739
Deferred taxes on current period activity	(367)	54	(313)	793	—	480
Net current period other comprehensive income (loss) after tax	(728)	93	(635)	1,516	1,378	2,259
Balance at June 30, 2017	$1,109	$ 93	$1,202	$ (80,842)	$ (4,282)	$(83,922)
Balance at December 31, 2015	$1,579	$ —	$1,579	$ (76,796)	$ (5,488)	$(80,705)
Other comprehensive income (loss) before reclassifications	(1,445)	—	(1,445)	—	2,451	1,006
Amounts reclassified from accumulated other comprehensive income	457	—	457	2,030	—	2,487
Net current period other comprehensive income (loss) before tax	(988)	—	(988)	2,030	2,451	3,493
Deferred taxes on current period activity	(367)	—	(367)	(220)	—	(587)
	(621)	—	(621)	2,250	2,451	4,080

Net current period other comprehensive income (loss) after tax						
Balance at July 1, 2016	$958	$ —	$958	$ (74,546)	$ (3,037)	$(76,625)

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Reclassifications from accumulated other comprehensive income of gains and losses on foreign currency cash flow hedges are recorded in Other-net in the Consolidated Statements of Income. Reclassifications from accumulated other comprehensive income of gains and losses on precious metal cash flow hedges are recorded in Cost of sales in the Consolidated Statements of Income. Refer to Note M for additional details on cash flow hedges.
Reclassifications from accumulated other comprehensive income for pension and post-employment benefits are included in the computation of the net periodic pension and post-employment benefit expense. Refer to Note I for additional details on pension and post-employment expenses.

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Note K — Stock-based Compensation Expense

Stock-based compensation expense, which includes awards settled in shares and in cash, was $2.4 million and $4.7 million in the second quarter and first six months of 2017, respectively, compared to $1.1 million and $2.3 million in the same periods of 2016.

The Company granted 97,015 SARs to certain employees during the first six months of 2017. The weighted-average exercise price per share and weighted-average fair value per share of the SARs granted during the six months ended June 30, 2017 were $35.26 and $10.89, respectively. The Company estimated the fair value of the SARs using the following weighted-average assumptions in the Black-Scholes model:

Risk-free interest rate	1.92%
Dividend yield	1.1 %
Volatility	34.0%
Expected term (in years)	5.6

The Company granted 62,185 stock-settled restricted stock units (RSUs) and 32,466 cash-settled RSUs to certain employees and non-employee directors during the first six months of 2017. The Company measures the fair value of stock-settled RSUs based on the closing market price of a share of Materion common stock on the date of the grant. The weighted-average fair value per share was $34.95 for stock-settled RSUs granted during the six months ended June 30, 2017. Cash-settled RSUs are accounted for as liability-based compensation awards and adjusted based on the closing price of Materion’s common stock over the vesting period of three years.

The Company granted stock-settled and cash-settled performance-based restricted stock units (PRSUs) to certain employees in the first six months of 2017. The weighted-average fair value of the stock-settled PRSUs was $30.28 per share and will be expensed over the vesting period of three years. The liability for cash-settled PRSUs is re-measured at fair value each reporting period, and the expense is recorded accordingly. The final payout to the employees for all PRSUs will be based upon the Company’s return on invested capital and the total return to shareholders over the vesting period relative to a peer group’s performance over the same period.

At June 30, 2017, unearned compensation cost related to the unvested portion of all stock-based awards was approximately $6.3 million, and is expected to be recognized over the remaining vesting period of the respective grants.

Note L — Fair Value of Financial Instruments

The Company measures and records financial instruments at fair value. A fair value hierarchy is used for those instruments measured at fair value that distinguishes between assumptions based on market data (observable inputs) and the Company’s assumptions (unobservable inputs). The hierarchy consists of three levels:

Level 1 — Quoted market prices in active markets for identical assets and liabilities;

Level 2 — Inputs other than Level 1 inputs that are either directly or indirectly observable; and

Level 3 — Unobservable inputs developed using estimates and assumptions developed by the Company, which reflect those that a market participant would use.

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The following table summarizes the financial instruments measured at fair value in the Consolidated Balance Sheets as of June 30, 2017 and December 31, 2016:

(Thousands)	Total Carrying Value in the Consolidated Balance Sheets		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)	
	2017	2016	2017	2016	2017	2016	2017	2016
Financial Assets								
Deferred compensation investments	$2,075	$1,734	$2,075	$1,734	$—	$—	$ —	$ —
Foreign currency forward contracts	72	691	—	—	72	691	—	—
Precious metal swaps	191	—	—	—	191	—	—	—
Total	$2,338	$2,425	$2,075	$1,734	$263	$691	$ —	$ —
Financial Liabilities								
Deferred compensation liability	$2,075	$1,734	$2,075	$1,734	$—	$—	$ —	$ —
Foreign currency forward contracts	1,066	1	—	—	1,066	1	—	—
Precious metal swaps	44	—	—	—	44	—	—	—
Total	$3,185	$1,735	$2,075	$1,734	$1,110	$1	$ —	$ —

The Company uses a market approach to value the assets and liabilities for financial instruments in the table above. Outstanding contracts are valued through models that utilize market observable inputs, including both spot and forward prices, for the same underlying currencies and metals. The carrying values of the other working capital items and debt in the Consolidated Balance Sheets approximate fair values as of June 30, 2017 and December 31, 2016.

Note M — Derivative Instruments and Hedging Activity

The Company uses derivative contracts to hedge portions of its foreign currency exposures and uses derivatives to hedge a portion of its precious metal exposures. The objectives and strategies for using derivatives in these areas are as follows:

Foreign Currency. The Company sells a portion of its products to overseas customers in their local currencies, primarily the euro and yen. The Company secures foreign currency derivatives, mainly forward contracts and options, to hedge these anticipated sales transactions. The purpose of the hedge program is to protect against the reduction in the dollar value of foreign currency sales from adverse exchange rate movements. Should the dollar strengthen significantly, the decrease in the translated value of the foreign currency sales should be partially offset by gains on the hedge contracts. Depending upon the methods used, hedge contracts may limit the benefits from a weakening U.S. dollar.

The use of forward contracts locks in a firm rate and eliminates any downside risk from an adverse rate movement as well as any benefit from a favorable rate movement. The Company may from time to time choose to hedge with options or a tandem of options, known as a collar. These hedging techniques can limit or eliminate the downside risk but can allow for some or all of the benefit from a favorable rate movement to be realized. Unlike a forward contract, a premium is paid for an option; collars, which are a combination of a put and call option, may have a net premium but can be structured to be cash neutral. The Company will primarily hedge with forward contracts due to the relationship between the cash outlay and the level of risk.

The use of foreign currency derivative contracts is governed by policies approved by the Audit Committee of the Board of Directors. A team consisting of senior financial managers reviews the estimated exposure levels, as defined by budgets, forecasts, and other internal data, and determines the timing, amounts, and instruments to use to hedge that exposure within the confines of the policy. Management analyzes the effective hedged rates and the actual and projected gains and losses on the hedging transactions against the program objectives, targeted rates, and levels of risk assumed. Hedge

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contracts are typically layered in at different times for a specified exposure period in order to minimize the impact of rate movements.

Precious Metals. The Company maintains the majority of its precious metal production requirements on consignment in order to reduce its working capital investment and the exposure to metal price movements. When a precious metal product is fabricated and ready for shipment to the customer, the metal is purchased out of consignment at the current market price. The price paid by the Company forms the basis for the price charged to the customer. This methodology allows for changes in either direction in the market prices of the precious metals used by the Company to be passed through to the customer, and reduces the impact changes in prices could have on the Company's margins and operating profit. The consigned metal is owned by financial institutions that charge the Company a financing fee based upon the current value of the metal on hand.

In certain instances, a customer may want to establish the price for the precious metal at the time the sales order is placed rather than at the time of shipment. Setting the sales price at a different date than when the material would be purchased potentially creates an exposure to movements in the market price of the metal. Therefore, in these limited situations, the Company may elect to enter into a forward contract to purchase precious metal. The forward contract allows the Company to purchase metal at a fixed price on a specific future date. The price in the forward contract serves as the basis for the price to be charged to the customer. By doing so, the selling price and purchase price are matched, and the Company's price exposure is reduced.

The Company refines precious metal-containing materials for its customers and typically will purchase the refined metal from the customer at current market prices. In limited circumstances, the customer may want to fix the price to be paid at the time of the order as opposed to when the material is refined. The customer may also want to fix the price for a set period of time. The Company may then elect to enter into a hedge contract, either a forward contract or a swap, to fix the price for the estimated quantity of metal to be purchased, thereby reducing the exposure to adverse movements in the price of the metal.

In certain circumstances, the Company also refines metal from the customer and may retain a portion of the refined metal as payment. The Company may elect to enter into a forward contract to sell precious metal to reduce the Company's price exposure.

The Company may from time to time elect to purchase precious metal and hold in inventory rather than on consignment due to potential credit line limitations or other factors. These purchases are typically held for a short duration. A forward contract will be secured at the time of the purchase to fix the price to be used when the metal is transferred back to the consignment line, thereby limiting any price exposure during the time when the metal was owned.

The Company will only enter into a derivative contract if there is an underlying identified exposure. Contracts are typically held until maturity. The Company does not engage in derivative trading activities and does not use derivatives for speculative purposes. The Company only uses currency hedge contracts that are denominated in the same currency as the underlying exposure and precious metal hedge contracts denominated in the same metal as the underlying exposure.

All derivatives are recorded on the balance sheet at fair value. If the derivative is designated and effective as a cash flow hedge, changes in the fair value of the derivative are recognized in other comprehensive income (OCI) until the hedged item is recognized in earnings. The ineffective portion of a derivative’s fair value, if any, is recognized in earnings immediately. If a derivative is not a hedge, changes in the fair value are adjusted through income. The fair values of the outstanding derivatives are recorded on the balance sheet as assets (if the derivatives are in a gain position) or liabilities (if the derivatives are in a loss position). The fair values will also be classified as short-term or long-term depending upon their maturity dates.

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The following table summarizes the notional amount and the fair value of the Company's outstanding derivatives not designated as hedging instruments and balance sheet classification as of June 30, 2017 and December 31, 2016:

(Thousands)	June 30, 2017		December 31, 2016	
	Notional Amount	Fair Value	Notional Amount	Fair Value
Other liabilities and accrued items				
Foreign currency forward contracts - euro	$12,223	$(590)	$ —	$ —
Total	$12,223	$(590)	$ —	$ —

These outstanding foreign currency derivatives were related to intercompany loans. Other-net included foreign currency losses of $0.5 million relating to these derivatives during the second quarter of 2017 and $0.6 million during the first six months of 2017.

The following table summarizes the notional amount and the fair value of the Company's outstanding derivatives designated as cash flow hedges and balance sheet classification as of June 30, 2017 and December 31, 2016:

(Thousands)	June 30, 2017		December 31, 2016	
	Notional Amount	Fair Value	Notional Amount	Fair Value
Prepaid expenses				
Foreign currency forward contracts - yen	$1,450	$64	$2,418	$239
Foreign currency forward contracts - euro	915	8	6,493	452
Precious metal swaps	6,402	125	—	—
Total	8,767	197	8,911	691
Other assets				
Precious metal swaps	3,335	66	—	—
Total	3,335	66	—	—
Other liabilities and accrued items				
Foreign currency forward contracts - euro	10,523	(476)	537	(1)
Precious metal swaps	2,576	(42)	—	—
Total	13,099	(518)	537	(1)
Other long-term liabilities				
Precious metal swaps	188	(2)	—	—
Total	$25,389	$(257)	$9,448	$690

All of these contracts were designated and effective as cash flow hedges. No ineffectiveness expense was recorded in the second quarter or first six months of 2017 or 2016.

Changes in the fair value of outstanding cash flow hedges recorded in OCI for the first six months of 2017 and 2016 totaled decreases of $0.6 million and $1.4 million, respectively. The Company expects to relieve substantially the entire balance in OCI as of June 30, 2017 to the Consolidated Statements of Income within the next 18-month period. Refer to Note J for additional OCI details.

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Note N — Contingencies
Legal Proceedings. For information regarding legal proceedings relating to Chronic Beryllium Disease Claims, refer to Note Q ("Contingencies and Commitments") in the Company's Annual Report on Form 10-K for the year ended December 31, 2016.
Other litigation. The Company is party to several pending legal proceedings and claims arising in the normal course of business. The Company records a liability when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. In the event the Company determines that a loss is not probable, but is reasonably possible, and it becomes possible to develop what the Company believes to be a reasonable range of possible loss, then the Company will include disclosure related to such matters. To the extent there is a reasonable possibility that the losses could exceed any amounts accrued, the Company will adjust the accrual in the period the determination is made, disclose an estimate of the additional loss or range of loss, indicate that the estimate is immaterial with respect to its financial statements as a whole or, if the amount of such adjustment cannot be reasonably estimated, disclose that an estimate cannot be made.
Environmental Proceedings. The Company has an active environmental compliance program and records reserves for the probable cost of identified environmental remediation projects. The reserves are established based upon analyses conducted by the Company’s engineers and outside consultants and are adjusted from time to time based upon ongoing studies, the difference between actual and estimated costs, and other factors. The reserves may also be affected by rulings and negotiations with regulatory agencies. The undiscounted reserve balance was $6.2 million at June 30, 2017 and $6.0 million at December 31, 2016. Environmental projects tend to be long term, and the final actual remediation costs may differ from the amounts currently recorded.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations
OVERVIEW
We are an integrated producer of high-performance advanced engineered materials used in a variety of electrical, electronic, thermal, and structural applications. Our products are sold into numerous end markets, including consumer electronics, industrial components, defense, medical, automotive electronics, telecommunications infrastructure, energy, commercial aerospace, science, services, and appliance.

RESULTS OF OPERATIONS
Second Quarter

	Second Quarter Ended			
(Thousands, except per share data)	June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$295,842	$249,776	$46,066	18 %
Value-added sales	176,099	153,934	22,165	14 %
Gross margin	54,557	45,306	9,251	20 %
Gross margin as a % of value-added sales	31 %	29 %	N/A	N/A
Selling, general, and administrative (SG&A) expense	38,075	32,437	5,638	17 %
SG&A expense as a % of value-added sales	22 %	21 %	N/A	N/A
Research and development (R&D) expense	3,544	3,171	373	12 %
R&D expense as a % of value-added sales	2 %	2 %	N/A	N/A
Other—net	3,204	3,921	(717)	(18)%
Operating profit	9,734	5,777	3,957	68 %
Interest expense—net	695	512	183	36 %
Income before income taxes	9,039	5,265	3,774	72 %
Income tax expense (benefit)	1,726	(284)	2,010	(708)%
Net income	$7,313	$5,549	$1,764	32 %
Diluted earnings per share	$0.36	$0.27	$0.09	33 %

N/A = Not Applicable

Net sales of $295.8 million in the second quarter of 2017 were $46.0 million higher than the $249.8 million recorded in the second quarter of 2016. Changes in precious metal and copper prices favorably impacted net sales in the second quarter of 2017 by approximately $2.2 million when compared to the second quarter of 2016. Net sales in the Performance Alloys and Composites segment increased $10.8 million due to higher sales volume, including shipments of raw material beryllium hydroxide under a new supply agreement with a long-standing customer. Net sales of $32.3 million during the second quarter of 2017 were attributable to the high performance target materials business of the Heraeus Group (HTB). Excluding the HTB acquisition, net sales in the Advanced Materials segment increased $11.2 million due to higher sales volume in the consumer electronics and industrial components end markets. These favorable impacts were offset by lower sales volume in the medical end market in the Precision Coatings segment.

Value-added sales is a non-GAAP measure that removes the impact of pass-through metal costs and allows for analysis without the distortion of the movement or volatility in metal prices. Internally, we manage our business on this basis, and a reconciliation of net sales, the most directly comparable GAAP measure, to value-added sales is included herein. Value-added sales of $176.1 million in the second quarter of 2017 increased $22.2 million, or 14% compared to the second quarter of 2016. Value-added sales from the HTB acquisition totaled $10.6 million in the second quarter of 2017. Value-added sales to the consumer electronics end market, which accounted for 30% of our total value-added sales during the second quarter of 2017, increased $3.2 million from the prior-year period. Also, value-added sales in the industrial components increased $4.0 million from the prior-year period. These increases were offset by weakness in the medical and defense end markets, which lowered value-added sales by $3.0 million.

Gross margin in the second quarter of 2017 was $54.6 million, or $9.3 million higher than the $45.3 million gross margin recorded during the second quarter of 2016. Expressed as a percentage of value-added sales, gross margin increased from 29% in the second quarter of 2016 to 31% in the second quarter of 2017.

SG&A expense was $38.1 million in the second quarter of 2017, or $5.7 million higher than $32.4 million in the second quarter of 2016. The increase related to higher incentive and stock-based compensation expense of $4.3

million. Additionally, the increase is attributable to $1.5 million of HTB expenses.

R&D expense consists primarily of direct personnel costs for pre-production evaluation and testing of new products, prototypes, and applications. R&D expense was flat as a percentage of value-added sales at approximately 2% in the second quarter of both 2017 and 2016.

Other-net was $3.2 million of expense in the second quarter of 2017, or a $0.7 million decrease from the second quarter of 2016. Other-net in the second quarter of 2017 included foreign currency exchange gains of $0.3 million compared to a foreign currency exchange loss of $0.7 million in the second quarter of 2016. Additionally, Other-net in the second quarter of 2017 included higher metal consignment fees of $0.4 million. Refer to Note D to the Consolidated Financial Statements for details of the major components within Other-net.

Interest expense-net was $0.7 million in the second quarter of 2017, or a $0.2 million increase from $0.5 million in the second quarter of 2016 due to higher average debt outstanding.

Income tax expense for the second quarter of 2017 was $1.7 million versus a benefit of $0.3 million in the second quarter of 2016. The effective tax rate for the second quarter of 2017 was 19.1% compared to a negative effective tax rate of 5.4% in the prior-year period. The effects of discrete items, percentage depletion, the foreign rate differential, the research and development credit, and other items were the primary factors for the difference between the effective and statutory rates in the second quarter of 2017 and 2016. Refer to Note F to the Consolidated Financial Statements for further details on income taxes.

Six Months

	Six Months Ended			
(Thousands, except per share data)	June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$536,511	$485,287	$51,224	11 %
Value-added sales	325,080	297,792	27,288	9 %
Gross margin	97,553	88,663	8,890	10 %
Gross margin as a % of value-added sales	30 %	30 %	N/A	N/A
SG&A expense	71,703	62,924	8,779	14 %
SG&A expense as a % of value-added sales	22 %	21 %	N/A	N/A
R&D expense	6,674	6,623	51	1 %
R&D expense as a % of value-added sales	2 %	2 %	N/A	N/A
Other—net	6,022	5,807	215	4 %
Operating profit	13,154	13,309	(155)	(1)%
Interest expense—net	1,188	927	261	28 %
Income before income taxes	11,966	12,382	(416)	(3)%
Income tax expense	1,603	1,465	138	9 %
Net income	$10,363	$10,917	$(554)	(5)%
Diluted earnings per share	$0.51	$0.54	$(0.03)	(6)%

N/A = Not Applicable

Net sales of $536.5 million in the first six months of 2017 were $51.2 million higher than the $485.3 million recorded in the first six months of 2016. Changes in precious metal and copper prices favorably impacted net sales in the first six months of 2017 by approximately $8.4 million when compared to the first six months of 2016. Net sales in the Performance Alloys and Composites segment increased $12.8 million due to higher sales volume, including shipments of raw material beryllium hydroxide. Net sales of $39.3 million during the first six months of 2017 were attributable to the HTB acquisition. Excluding the HTB acquisition, net sales in the Advanced Materials segment increased $10.8 million due to higher sales volume in the consumer electronics and industrial components end markets. These favorable impacts were offset by lower sales volume in the medical end market in the Precision Coatings segment.

Value-added sales of $325.1 million in the first six months of 2017 increased $27.3 million, or 9% compared to the first six months of 2016. Value-added sales from the HTB acquisition totaled approximately $13.5 million in the first six months of 2017. Excluding the HTB acquisition, value-added sales to the consumer electronics end market, which accounted for 30% of our total value-added sales during the first six months of 2017, increased $6.5 million from the prior-year period. Also, value-added sales in the industrial components end market increased $6.1 million from the prior-year period. These increases were offset by weakness in the medical and defense end markets, which lowered value-added sales by $5.9 million.

Gross margin in the first six months of 2017 was $97.6 million, or $8.9 million higher than the $88.7 million gross margin recorded during the first six months of 2016. Gross margin was 30% of value-added sales in the first half of both 2017 and 2016.

SG&A expense was $71.7 million in the first six months of 2017, or $8.8 million higher than $62.9 million in the first six months of 2016. The increase related to higher incentive compensation and stock-based compensation expense of $6.5 million, which included $1.4 million due to accelerated stock compensation expense associated with the transition of the Company's CEO. Additionally, the increase is attributable to HTB expenses of $2.1 million.

R&D expense was flat as a percentage of value-added sales at approximately 2% in the first six months of both 2017 and 2016.

Other-net was $6.0 million and $5.8 million of expense in the first six months of 2017 and 2016, respectively. Other-net in the first six months of 2017 included foreign currency exchange gains of $0.6 million compared to a foreign currency exchange loss of $0.6 million in the second quarter of 2016. Additionally, Other-net in the first six months of 2017 included higher metal consignment fees of $0.6 million. Other-net in the first six months of 2016 included a net gain on the sale of equipment of $0.7 million. Refer to Note D to the Consolidated Financial Statements for details of the major components within Other-net.

Interest expense-net was $1.2 million in the first six months of 2017, or a $0.3 million increase from $0.9 million in the first six months of 2016 due to higher average debt outstanding.

Income tax expense for the first six months of 2017 was $1.6 million, compared to $1.5 million in the first six months of 2016. The effective tax rate for the first six months of 2017 was 13.4% compared to an effective tax rate of 11.8% in the prior-year period. The effects of discrete items, percentage depletion, the foreign rate differential, the research and development credit, and other items were the primary factors for the difference between the effective and statutory rates in the first half of 2017 and 2016. Refer to Note F to the Consolidated Financial Statements for further details on income taxes.

Value-Added Sales - Reconciliation of Non-GAAP Measure

A reconciliation of net sales to value-added sales, a non-GAAP measure, for each reportable segment and for the total Company for the first six months of 2017 and 2016 is as follows:

Second	Six
Quarter	Months
Ended	Ended
June	July
30,	1,