ONCOSEC MEDICAL Inc
Form 10-Q
June 13, 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE QUARTERLY PERIOD ENDED APRIL 30, 2018

OR

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

FOR THE TRANSITION PERIOD FROM TO

COMMISSION FILE NO. 000-54318

ONCOSEC MEDICAL INCORPORATED

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

NEVADA	**98-0573252**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3565 GENERAL ATOMICS COURT, SUITE 100	
SAN DIEGO, CA	**92121**
24 NORTH MAIN STREET	
PENNINGTON, NJ	**08534**
(Address of principal executive offices)	(Zip Code)

(855) 662-6732

(Registrant's telephone number, including area code)

Not applicable

(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 [X] 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 [X] No [ ]

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

Large accelerated filer	[ ]	Accelerated filer	[ ]
Non-accelerated filer	[ ] (Do not check if a smaller reporting company)	Smaller reporting company	[X]
		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 [X]

The number of shares outstanding of the Registrant’s Common Stock, $0.0001 par value, was 52,344,611 as of June 6, 2018.

OncoSec Medical Incorporated

Form 10-Q

for the Quarterly Period Ended April 30, 2018

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements:

OncoSec Medical Incorporated

Condensed Consolidated Balance Sheets

	April 30, 2018 (unaudited)	July 31, 2017
Assets		
Current assets		
Cash and cash equivalents	$10,118,965	$11,444,676
Prepaid expenses and other current assets	2,134,059	1,068,947
Investment securities	20,165,100	-
Total Current Assets	32,418,124	12,513,623
Investment securities	2,975,524	-
Property and equipment, net	1,295,669	2,410,099
Other long-term assets	369,833	309,187
Total Assets	$37,059,150	$15,232,909
Liabilities and Stockholders' Equity		
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities	$2,835,496	$3,281,133
Accrued compensation	360,341	114,841
Total Current Liabilities	3,195,837	3,395,974
Other long-term liabilities	1,160,094	1,140,953
Total Liabilities	4,355,931	4,536,927
Commitments and Contingencies		
Stockholders' Equity		
Common stock authorized - 160,000,000 common shares with a par value of $0.0001, common stock issued and outstanding — 51,892,734 and 21,618,194 common shares as of April 30, 2018 and July 31, 2017, respectively	5,190	2,162
Additional paid-in capital	143,079,816	93,866,088
Warrants issued and outstanding — 8,958,059 and 9,044,740 warrants as of April 30, 2018 and July 31, 2017, respectively	11,271,327	11,775,807
Accumulated other comprehensive loss	(11,553)	(3,620)
Accumulated deficit	(121,641,561)	(94,944,455)

Total Stockholders’ Equity	32,703,219	10,695,982
Total Liabilities and Stockholders’ Equity	$37,059,150	$15,232,909

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

OncoSec Medical Incorporated

Condensed Consolidated Statements of Operations

(Unaudited)

	Three Months Ended		Nine Months Ended	
	April 30, 2018	April 30, 2017	April 30, 2018	April 30, 2017
Revenue	$-	$-	$-	$-
Expenses:				
Research and development	4,153,228	2,656,073	10,561,314	8,638,423
General and administrative	5,138,942	2,015,859	12,943,077	7,111,785
Loss from operations	(9,292,170)	(4,671,932)	(23,504,391)	(15,750,208)
Other income (expense), net	91,217	110,960	148,731	199,732
Loss on disposal of property and equipment	(859,600)	-	(875,098)	-
Warrant inducement expense	-	-	(2,465,396)	-
Loss before income taxes	(10,060,553)	(4,560,972)	(26,696,154)	(15,550,476)
Provision for income taxes	-	-	951	1,391
Net loss	$(10,060,553)	$(4,560,972)	$(26,697,105)	$(15,551,867)
Basic and diluted net loss per common share	$(0.20)	$(0.22)	$(0.75)	$(0.79)
Weighted average shares used in computing basic and diluted net loss per common share	50,872,503	20,704,393	35,806,689	19,809,739

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

OncoSec Medical Incorporated

Condensed Consolidated Statements of Comprehensive Loss

(Unaudited)

	Three Months Ended		Nine Months Ended	
	April 30, 2018	April 30, 2017	April 30, 2018	April 30, 2017
Net Loss	$(10,060,553)	$(4,560,972)	$(26,697,105)	$(15,551,867)
Foreign currency translation adjustments	(31,799)	7,080	(7,933)	7,094
Comprehensive Loss	$(10,092,352)	$(4,553,892)	$(26,705,038)	$(15,544,773)

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

OncoSec Medical Incorporated

Condensed Consolidated Statements of Cash Flows

(Unaudited)

	Nine Months Ended April 30, 2018	Nine Months Ended April 30, 2017
Operating activities		
Net loss	$(26,697,105)	$(15,551,867)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	273,136	284,319
Loss on disposal of property and equipment	875,098	-
Warrant inducement expense	2,465,396	-
Amortization of (discount)/premium on investments	(1,052)	-
Stock-based compensation	5,904,920	3,378,991
Common stock issued for services	1,443,650	-
Changes in operating assets and liabilities:		
Decrease in prepaid expenses and other current assets	(898,296)	(315,976)
Decrease in other long-term assets	(52,575)	(163,542)
Decrease in accounts payable and accrued liabilities	(578,007)	(579,068)
Increase (decrease) in accrued compensation	245,500	(74,690)
Increase in other long-term liabilities	19,141	309,424
Net cash used in operating activities	(17,000,194)	(12,712,409)
Investing activities		
Purchases of property and equipment	(51,666)	(9,578)
Purchase of investment securities	(23,234,225)	-
Net cash used in investing activities	(23,285,891)	(9,578)
Financing activities		
Proceeds from issuance of common stock through ESPP	35,809	-
Proceeds from issuance of common stock and warrants	32,283,444	44,057
Payment of financing and offering costs	(3,577,214)	-
Proceeds from exercise of options	226,285	-
Proceeds from exercise of inducement warrants	9,999,983	30,950
Net cash provided by financing activities	38,968,307	75,007
Effect of exchange rate changes on cash	(7,933)	7,094
Net decrease in cash	(1,325,711)	(12,639,886)
Cash and cash equivalents, at beginning of period	11,444,676	28,746,224
Cash and cash equivalents, at end of period	$10,118,965	$16,106,338
Supplemental disclosure for cash flow information:		
Cash paid during the period for:		
Income taxes	$951	$1,391
Noncash investing and financing transaction:		
Noncash expiration of warrants	$1,200,742	$1,479,274

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

OncoSec Medical Incorporated

Notes to Condensed Consolidated Financial Statements

(Unaudited)

Note 1—Nature of Operations and Basis of Presentation

OncoSec Medical Incorporated (together with its subsidiaries, unless the context indicates otherwise, being collectively referred to as the "Company") began its operations as a biotechnology company in March 2011, following its completion of the acquisition of certain technology and related assets from Inovio Pharmaceuticals, Inc. ("Inovio"). The Company has not produced any revenues since its inception. The Company was incorporated in the State of Nevada on February 8, 2008 under the name of Netventory Solutions, Inc. and changed its name in March 2011 when it began operating as a biotechnology company.

The Company is a biotechnology company focused on designing, developing and commercializing innovative therapies and proprietary medical approaches to stimulate and guide an anti-tumor immune response for the treatment of cancer. Its core platform technology, ImmunoPulse®, is a drug-device therapeutic modality comprised of a proprietary intratumoral electroporation delivery device. The ImmunoPulse® platform is designed to deliver DNA-encoded drugs directly into a solid tumor and promote an immunological response against cancer. The ImmunoPulse® device can be adapted to treat different tumor types, and consists of an electrical pulse generator, a reusable handle and disposable applicators. The Company's lead product candidate, ImmunoPulse® IL-12, uses its electroporation device to deliver a DNA-encoded interleukin-12 ("IL-12"), called tavokinogene telseplasmid ("tavo"), with the aim of reversing the immunosuppressive microenvironment in the treated tumor by triggering an appropriate inflammatory response which can drive a systemic anti-tumor response against untreated tumors in other parts of the body. In February 2017, the Company received Fast Track designation from the U.S. Food and Drug Administration ("FDA") for ImmunoPulse® IL-12, which could qualify ImmunoPulse® IL-12 for expedited FDA review, a rolling Biologics License Application review and certain other benefits.

The Company's current focus is to pursue its registration-directed study of ImmunoPulse® IL-12 in combination with an approved therapy for melanoma in patients who are progressing or have progressed on prior anti-PD-1 therapies, which is referred to as the PISCES/KEYNOTE-695 study. Most of the Company's present activities are, and it expects most of its near-term expenditures will be, directed toward advancing the PISCES/KEYNOTE-695 study. To this end, in May 2017, the Company entered into a clinical trial collaboration and supply agreement with a subsidiary of Merck & Co., Inc. ("Merck") in connection with the PISCES/KEYNOTE-695 study, in which the Company has agreed to sponsor and fund the study and Merck has agreed to manufacture and supply its anti-PD-1 therapy KEYTRUDA® for use in the study. The PISCES/KEYNOTE-695 study is currently enrolling patients.

The Company also intends to continue to pursue other ongoing or potential new trials and studies related to ImmunoPulse® IL-12, all with the goal of obtaining requisite regulatory approvals from the FDA and comparable regulators in certain other jurisdictions to market and sell this product candidate. For instance, the Company has, in collaboration with the University of California, San Francisco ("UCSF"), sponsored a multi-center Phase II clinical trial evaluating ImmunoPulse® IL-12 in combination with Merck's KEYTRUDA® for the treatment of advanced, metastatic melanoma in patients who are predicted to not respond to anti-PD-1 therapy alone. This study has been completed and data pertaining to the study was presented at the Society for Immunotherapy of Cancer (SITC) Annual Meeting 2017.

On May 8, 2018, the Company entered into a Clinical Trial Collaboration and Supply Agreement with Merck with respect to a Phase 2 study of ImmunoPulse® IL-12 in combination with KEYTRUDA® to evaluate the safety and efficacy of the combination in patients with inoperable locally advanced or metastatic triple negative breast cancer (TNBC) who have previously failed at least one systemic chemotherapy or immunotherapy. Pursuant to the terms of the Clinical Trial Collaboration and Supply Agreement, Merck is manufacturing and supplying KEYTRUDA® and each party will be responsible for their own internal costs. The Company will sponsor the study and be responsible for external costs. The study will be a Phase 2, Simon 2-stage minimax design, non-comparative, open-label, single-arm, multicenter study. The study is planned to enroll approximately 25 subjects (15 subjects in Stage 1 and, if appropriate, another 10 subjects in Stage 2).

In addition, the Company is pursuing a biomarker-focused pilot study of ImmunoPulse® IL-12 in triple negative breast cancer (TNBC), which is focused on evaluating the ability of ImmunoPulse® IL-12 to alter the tumor microenvironment and promote a pro-inflammatory response. In January 2018, the Company reported observational data in two patients that showed clinical response with the sequential treatment of one cycle of ImmunoPulse IL-12 and an anti-PD1 checkpoint inhibitor. The study is currently enrolling patients.

In addition, the Company is developing its next-generation electroporation devices, including advancements toward prototypes, pursuing discovery research to identify other product candidates that, like IL-12, can be encoded into DNA, delivered intratumorally using electroporation and used to reverse the immunosuppressive mechanisms of a tumor, and aiming to expand our ImmunoPulse® pipeline beyond the delivery of plasmid-DNA encoding for cytokines to include other molecules that may compliment IL-12's activity by limiting or enhancing key pathways associated with tumor immune subversion.

Basis of Presentation

In October 2016, the Company created an Australian corporation as its wholly-owned subsidiary. This corporation's functional currency, the Australian dollar, is also its reporting currency, and its financial statements are translated to U.S. dollars, the Company's reporting currency, prior to consolidation. The accompanying consolidated financial statements include the accounts of the Company and its subsidiary, and all intercompany accounts and transactions have been eliminated in consolidation.

Unaudited Interim Financial Information

The accompanying unaudited condensed consolidated financial statements of the Company have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") for interim financial information and with instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The condensed consolidated balance sheet as of April 30, 2018, and condensed consolidated statements of operations, condensed consolidated statements of comprehensive loss, and condensed consolidated statements of cash flows for the nine months ended April 30, 2018 and 2017, are unaudited, but include all adjustments (consisting of normal recurring adjustments) that the Company considers necessary for a fair presentation of the Company's financial position, results of operations and cash flows for the periods presented. The condensed consolidated results of operations for the three and nine months ended April 30, 2018 shown herein are not necessarily indicative of the consolidated results that may be expected for the year ending July 31, 2018, or for any other period. These condensed consolidated financial statements, and notes thereto, should be read in conjunction with the audited consolidated financial statements for the fiscal year ended July 31, 2017, included in the Company's Annual Report on Form 10-K (the "Annual Report") filed with the U.S. Securities and Exchange Commission ("SEC") on October 25, 2017. The consolidated balance sheet at July 31, 2017 has been derived from the audited financial statements at that date, but does not include all of the information and footnotes required by U.S. GAAP for complete financial statements.

Reclassifications

Certain amounts in the accompanying condensed consolidated balance sheet for the year ended July 31, 2017 have been reclassified to conform to an interim presentation, but there was no effect on net loss for the year ended July 31, 2017.

Note 2—Significant Accounting Policies

The Company’s significant accounting policies are described in Note 2 to the consolidated financial statements included in the Annual Report. Since the date of those financial statements, there have been no material changes to the Company’s significant accounting policies, except for *Fair Value of Financial Instruments*, which has been added below.

Fair Value of Financial Instruments

The accounting standard for fair value measurements provides a framework for measuring fair value and requires disclosures regarding fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, based on the Company's principal or, in absence of a principal, most advantageous market for the specific asset or liability.

The Company uses a three-tier fair value hierarchy to classify and disclose all assets and liabilities measured at fair value on a recurring basis, as well as assets and liabilities measured at fair value on a non-recurring basis, in periods subsequent to their initial measurement. The hierarchy requires the Company to use observable inputs when available, and to minimize the use of unobservable inputs, when determining fair value.

The three tiers are defined as follows:

Level 1—Observable inputs that reflect quoted market prices (unadjusted) for identical assets or liabilities in active markets at the measurement date. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgment. The Company's Level 1 assets consist of bank deposits and money market funds.

Level 2—Observable inputs other than quoted prices in active markets that are observable either directly or indirectly in the marketplace for identical or similar assets and liabilities. The Company's Level 2 assets consist of U.S. government sponsored securities.

Level 3— Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

During the three months ended April 30, 2018, the Company invested cash into held-to-maturity investments, requiring fair value measurements. The Company will continue to review the fair value inputs on a quarterly basis.

The Company utilizes its third-party financial institutions to assist in obtaining fair value pricing for investments. Inputs are documented in accordance with the fair value disclosure hierarchy.

Use of Estimates

The accompanying condensed consolidated financial statements have been prepared in conformity with U.S. GAAP, which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Such estimates include stock-based compensation, accounting for long-lived assets and accounting for income taxes, including the related valuation allowance on the deferred tax asset and uncertain tax positions. The Company bases its estimates on historical experience and on various other assumptions that it believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. On an ongoing basis, the Company reviews its estimates to ensure that they appropriately reflect changes in the business or as new information becomes available. Actual results could differ materially from these estimates.

Segment Reporting

The Company operates in a single industry segment—the discovery and development of novel immunotherapeutic product candidates to improve treatment options for patients and physicians, intended to treat a wide range of oncology indications.

Concentrations and Credit Risk

The Company maintains cash balances at a small number of financial institutions and such balances commonly exceed the $250,000 amount insured by the Federal Deposit Insurance Corporation. The Company has not experienced any losses in such accounts and management believes that the Company does not have significant credit risk with respect to such cash and cash equivalents.

Australia Research and Development Tax Credit

The Company's Australian, wholly-owned, subsidiary incurs research and development expenses, primarily in the course of conducting clinical trials. The Company's Australian research and development activities qualify for the Australian government's tax credit program, which provides a 43.5 percent credit for qualifying research and development expenses. The tax credit does not depend on the Company's generation of future taxable income or ongoing tax status or position. Accordingly, the credit is not considered an element of income tax accounting under ASC 740 and is recorded against qualifying research and development expenses.

Tax Reform

The Tax Cuts and Jobs Act ("the Act") was signed into law in December 2017, impacting federal corporate tax rates. While the Act will impact certain aspects in the calculation of the Company's tax provision, the Company maintains a full valuation allowance and does not anticipate any net impact to the Company's financial statements in 2018.

Recent Accounting Pronouncements

There were no accounting pronouncements during the three and nine months ended April 30, 2018 that the Company anticipates will have a material impact on the Company's financial condition, results of operations or related disclosures. See Note 2 to the Annual Report for a discussion of certain recent accounting pronouncements not yet adopted by the Company.

Note 3—Cash, Cash Equivalents, Investment Securities and Liquidity

The Company considers all liquid investments with maturities of three months or less when purchased to be cash equivalents. At April 30, 2018 and July 31, 2017, cash and cash equivalents were primarily comprised of cash in savings, checking accounts and short-term investments with maturities of three months or less.

As of April 30, 2018, the Company had a cash, cash equivalents and total investment securities balance of $33.3 million. The Company had cash of $5.3 million and cash equivalents of $4.8 million for a total cash and cash equivalent balance of $10.1 million. In addition, the Company had short-term investment securities of $20.2 million. The Company also has long-term investment securities of $3.0 million with maturities of 13 to 15 months.

The Company currently estimates its operating expenses and working capital requirements for the current fiscal year ending July 31, 2018 to be approximately $24.0 million, although the Company may modify or deviate from this estimate and it is likely that actual operating expenses and working capital requirements will vary from this estimate. Based on these expectations regarding future expenses, as well as the current cash levels and rate of cash consumption, the Company believes that current cash resources are sufficient to meet the Company's anticipated needs for the 12 months following the issuance of this report. The Company will continue to assess its cash resources and anticipated needs on a quarterly basis.

The following table lists the Company’s investment securities that are classified as held-to-maturity as of April 30, 2018:

Description	Amortized Cost	Gross Unrealized Gain/(Loss)	Fair Value
Investment securities			
U.S. treasury securities with maturities of one year or less	$20,165,100	$ (18,297)	$20,146,803
U.S. treasury securities with maturities of greater than one year	2,975,524	(5,176)	2,970,348
Total	$23,140,624	$ (23,473)	$23,117,151

The Company has sustained losses in all reporting periods since inception, with an inception-to date-loss of $121.6 million as of April 30, 2018. Further, the Company has never generated any cash from its operations, does not expect to generate such cash in the near term, and does not presently have any firm commitments for future capital. Consequently, the Company will need additional capital to continue operating its business and fund its planned operations, including research and development, clinical trials and, if regulatory approval is obtained, commercialization of its product candidates. In addition, the Company will require additional financing if it desires to in-license or acquire new assets, research and develop new compounds or new technologies and pursue related patent protection, or obtain any other intellectual property rights or other assets.

Historically, the Company has raised the majority of the funding for its business through offerings of its common stock and warrants to purchase its common stock. The Company’s most recent February 2018 offering consisted of common stock only. If the Company issues equity or convertible debt securities to raise additional funds, its existing stockholders would experience further dilution, and the new equity or debt securities may have rights, preferences and privileges senior to those of its existing stockholders. If the Company incurs debt, its fixed payment obligations, liabilities and leverage relative to our equity capitalization would increase, which could increase the cost of future capital. Further, the terms of any debt securities the Company issues or borrowings it incurs, if available, could impose significant restrictions on its operations, such as limitations on its ability to incur additional debt or issue additional equity or other operating restrictions that could adversely affect its ability to conduct its business, and any such debt could be secured by any or all of the Company’s assets pledged as collateral. Additionally, the Company may incur substantial costs in pursuing future capital, including investment banking, legal and accounting fees, printing and distribution expenses and other costs.

Moreover, equity or debt financings or any other source of capital may not be available when needed or at all, or, if available, may not be available on commercially reasonable terms. Weak economic and capital market conditions generally or uncertain conditions in the Company’s industry could increase the challenges it faces in raising capital for its operations. In recent periods, the capital and financial markets for early and development-stage biotechnology and life science company stocks have been volatile and uncertain. If the Company cannot raise the funds that it needs, it could be forced to delay or scale down some or all of its development activities or cease all operations, and its stockholders could lose all of their investment in the Company.

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Note 4—Fair Value Measurements

A summary of the Company's financial assets that are measured or disclosed at fair value on a recurring basis as of April 30, 2018 are presented below:

Description	April 30, 2018	Level 1	Level 2	Level 3
Cash equivalents				
Money market fund	$539,796	$538,257	$1,539	$ -
U.S. treasury securities	4,244,236	4,244,236	-	-
Held-to-maturity investments				
U.S. treasury securities	18,872,916	18,872,916	-	-
Total	$23,656,948	$23,655,409	$1,539	$ -

Note 5—Stockholders' Equity

A summary of the changes in stockholders' equity for the nine months ended April 30, 2018 and 2017 is presented below:

	April 30, 2018	April 30, 2017
Stockholders' equity at beginning of period	$10,695,982	$28,053,104
Net loss	(26,697,105)	(15,551,867)
Stock-based compensation	5,904,920	3,378,991
Common stock issued for services	1,443,650	-
Issuance of common stock through employee stock purchase plan	35,809	44,057
Equity offerings, net of costs	28,636,232	-
Accumulated other comprehensive income	(7,933)	7,094
Exercise of common stock warrants	9,999,983	30,950
Exercise of common stock options	226,285	-
Inducement warrant issuance	2,465,396	-
Stockholders' equity at end of period	$32,703,219	$15,962,329

A. Equity Offerings

February 2018 Offering

On February 6, 2018, the Company completed a follow-on public offering, selling 13,333,334 shares at an offering price of $1.50 per share. Additionally, the underwriters exercised in full their over-allotment option to purchase an additional 2,000,000 shares at an offering price of $1.50 per share. Aggregate gross proceeds from this follow-on public offering, including the exercise of the over-allotment option, were approximately $23 million, and net proceeds received, after underwriting fees of approximately $1.7 million and offering expenses of approximately $0.5 million, were approximately $20.8 million.

November 2017 Warrant Exercise Inducement Offering

On November 13, 2017, the Company entered into a warrant exercise agreement with certain holders of outstanding warrants (the “Original Warrants”) to purchase up to an aggregate of 5,509,642 shares of the Company’s common stock at an exercise price of $1.69 per share. Pursuant to the terms of the warrant exercise agreement, each holder agreed to exercise, from time to time and in accordance with the terms of the Original Warrants, including certain beneficial ownership limitations set forth therein, all Original Warrants held by it for cash. As a result of the exercise of all of the Original Warrants, the Company received gross proceeds of approximately $9.3 million and net proceeds, after deducting estimated expenses paid or payable by the Company, of approximately $9.1 million.

Pursuant to the terms of the warrant exercise agreement, and in order to induce each holder to exercise its Original Warrants, the Company issued 1,377,411 new warrants to purchase a number of shares of its common stock which is equal to 25% of the number of shares of common stock received by such holders upon the cash exercise of its Original Warrants. The terms of the inducement warrants are substantially similar to the terms of the Original Warrants, except that the inducement warrants: (i) have an initial exercise price of $2.26 per share; (ii) become exercisable on May 13, 2018 and expire on November 13, 2019; and, (iii) contain certain additional transfer restrictions and limitations due to their offer and sale in a private placement offering.

Also on November 13, 2017, and in connection with its entry into the warrant exercise agreement, the Company agreed to issue warrants to purchase up to an aggregate of 1,138,300 shares of its common stock to the accredited investors that participated in the Company's offerings completed in October 2017, in consideration for such investors' agreement to waive certain covenants made by the Company to such investors and as an inducement to such investors to exercise certain other warrants to purchase the Company's common stock. The terms of the October 2017 investor warrants are substantially similar to the terms of the new warrants, except that the October 2017 investor warrants will become exercisable only if and when each October 2017 investor exercises in full and for cash the warrants to purchase the Company's common stock that were sold to such investors in the Company's offerings completed in October 2017.

The warrants issued in connection with the warrant exercise agreement were considered inducement warrants and are classified in equity. The fair value of the warrants issued was approximately $2.5 million (based on the Black-Scholes option valuation model assuming no dividend yield, a 2.0-year life, volatility of 73.12% and a risk-free interest rate of 1.7%). The fair value of the inducement warrants of $2.5 million was expensed as warrant inducement expense in the accompanying condensed consolidated statement of operations for the nine months ended April 30, 2018.

First October 2017 Offerings

On October 25, 2017, the Company completed an offer and sale to certain accredited investors of, in a registered public offering, 5,270,934 shares of its common stock and, in a concurrent private placement offering, warrants to purchase an aggregate of up to 3,953,200 shares of its common stock, all at a purchase price of $1.34375 per share. The warrants have an initial exercise price of $1.25 per share, became exercisable on October 25, 2017 and expire on April 25, 2022. The gross proceeds of the offering were $7.1 million and the net proceeds, after deducting the placement agent's fee and other offering fees and expenses paid or payable by the Company (and excluding the proceeds, if any, from any cash exercise of the warrants), were approximately $6.2 million. In connection with the offering, the Company paid the placement agent (i) a cash fee equal to 5.5% of the gross proceeds of the offering, as well as offering expenses in a nonaccountable sum of $60,000, and (ii) warrants to purchase up to an aggregate of 316,256 shares of its common stock. The warrants issued to the placement agent are exercisable at an exercise price of $1.68 per share, became exercisable on their original issuance date and expire on October 21, 2022.

The fair value of the warrants issued to the purchasers in the offerings, based on their fair value relative to the common stock issued, was approximately $2.4 million (based on the Black-Scholes option valuation model assuming no dividend yield, a 5.5-year life, volatility of 75.55% and a risk-free interest rate of 2.12%). The fair value of the warrants issued to the placement agent in the offerings was $0.2 million (based on the Black-Scholes option valuation model assuming no dividend yield, a 5.0-year life, volatility of 73.25% and a risk-free interest rate of 2.06%). The Company completed an evaluation of these warrants and determined they should be classified as equity within the accompanying condensed consolidated balance sheets.

Second October 2017 Offering

On October 25, 2017, the Company completed an offer and sale to one accredited investor of 800,000 shares of its common stock and warrants to purchase up to 600,000 shares of its common stock, all at a purchase price of $1.34375 per share and associated warrant. The warrants have an initial exercise price of $1.25 per share, become exercisable on April 27, 2018 and expire on April 27, 2022. The gross proceeds of the offering were $1.1 million and the net proceeds, after deducting the placement agent's fee and other offering fees and expenses paid or payable by the Company (and excluding the proceeds, if any, from any cash exercise of the warrants), were approximately $1.0 million. In connection with the offering, the Company paid the placement agent (i) a cash fee equal to 5.5% of the gross proceeds of the offering, as well as offering expenses in a non-accountable sum of $15,000, and (ii) warrants to purchase up to an aggregate of 48,000 shares of its common stock. The warrants issued to the placement agent are exercisable at an exercise price of $1.68 per share, became exercisable on their original issuance date and expire on October 25, 2022.

The fair value of the warrants issued to the purchasers in the offering, based on their fair value relative to the common stock issued, was approximately $0.4 million (based on the Black-Scholes option valuation model assuming no dividend yield, a 5.5-year life, volatility of 75.51% and a risk-free interest rate of 2.12%). The fair value of the warrants issued to the placement agent in the offering was $31,000 (based:inherit;font-size:10pt;font-weight:bold;">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.

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

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

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)

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

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.

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

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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Materion Corporation and Subsidiaries
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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

(Thousands, except per share data)	Six Months Ended 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 Quarter Ended		Six Months Ended	
(Thousands)	June 30, 2017	July 1, 2016	June 30, 2017	July 1, 2016
Net sales				
Performance Alloys and Composites	$108,541	$97,696	$201,094	$188,325
Advanced Materials	157,044	113,557	271,780	221,677
Precision Coatings	30,257	38,523	63,637	75,285
Other	—	—	—	—
Total	$295,842	$249,776	$536,511	$485,287
Less: pass-through metal costs				
Performance Alloys and Composites	$15,855	$14,346	$29,197	$26,773
Advanced Materials	95,003	66,564	162,451	132,618
Precision Coatings	7,644	13,412	17,723	25,540
Other	1,241	1,520	2,060	2,564
Total	$119,743	$95,842	$211,431	$187,495
Value-added sales				
Performance Alloys and Composites	$92,686	$83,350	$171,897	$161,552
Advanced Materials	62,041	46,993	109,329	89,059
Precision Coatings	22,613	25,111	45,914	49,745
Other	(1,241)	(1,520)	(2,060)	(2,564)
Total	$176,099	$153,934	$325,080	$297,792

The cost of gold, silver, platinum, palladium, and copper can be quite volatile. Our pricing policy is to directly pass the cost of these metals on to the customer in order to mitigate the impact of metal price volatility on our results from operations. Trends and comparisons of net sales are affected by movements in the market prices of these metals, but changes in net sales due to metal price movements may not have a proportionate impact on our profitability.
Internally, management reviews net sales on a value-added basis. Value-added sales are a non-GAAP measure that deducts the value of the pass-through metal costs from net sales. Value-added sales allow management to assess the impact of differences in net sales between periods, segments, or markets, and analyze the resulting margins and profitability without the distortion of movements in pass-through metal costs. The dollar amount of gross margin and operating profit is not affected by the value-added sales calculation. We sell other metals and materials that are not considered direct pass-throughs, and these costs are not deducted from net sales when calculating value-added sales.
Non-GAAP financial measures, such as value-added sales, have inherent limitations and should not be considered in isolation, or as a substitute for analyses of results as reported under GAAP.
Our net sales are also affected by changes in the use of customer-supplied metal. When we manufacture a precious metal product, the customer may purchase metal from us or may elect to provide its own metal, in which case we process the metal on a toll basis and the metal value does not flow through net sales or cost of sales. In either case, we generally earn our margin based upon our fabrication efforts. The relationship of this margin to net sales can change depending upon whether or not the product was made from our metal or the customer's metal. The use of value-added sales removes the potential distortion in the comparison of net sales caused by changes in the level of customer-supplied metal.
By presenting information on net sales and value-added sales, it is our intention to allow users of our financial statements to review our net sales with and without the impact of the pass-through metals.

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Segment Results

The Company consists of four reportable segments: Performance Alloys and Composites, Advanced Materials, Precision Coatings, and Other. The Other reportable segment includes unallocated corporate costs.

Performance Alloys and Composites

Second Quarter

	Second Quarter Ended			
	June 30,	July 1,	$	%
(Thousands)	2017	2016	Change	Change
Net sales	$108,541	$97,696	$10,845	11 %
Value-added sales	92,686	83,350	9,336	11 %
Operating profit	5,548	234	5,314	2,271 %

Net sales from the Performance Alloys and Composites segment of $108.5 million in the second quarter of 2017 were 11% higher than net sales of $97.7 million in the second quarter of 2016 primarily due to higher sales volume related to shipments of raw material beryllium hydroxide. In addition, sales volume increased in the commercial aerospace, industrial components, and consumer electronics end markets. The impact of higher pass-through metal prices favorably impacted net sales by approximately $2.0 million.

Value-added sales of $92.7 million in the second quarter of 2017 were 11% higher than value-added sales of $83.4 million in the second quarter of 2016. The increase in value-added sales was driven by higher raw material sales of beryllium hydroxide of $5.3 million. Also, stronger demand in the consumer electronics and industrial components end markets increased value-added sales by $3.8 million compared to the second quarter of 2016.

Performance Alloys and Composites generated operating profit of $5.5 million in the second quarter of 2017 compared to $0.2 million in the second quarter of 2016. The increase in operating profit was primarily due to higher sales volume, favorable product mix, and productivity improvements.

Six Months

	Six Months Ended			
	June 30,	July 1,	$	%
(Thousands)	2017	2016	Change	Change
Net sales	$201,094	$188,325	$12,769	7 %
Value-added sales	171,897	161,552	10,345	6 %
Operating profit	5,737	1,746	3,991	229 %

Net sales from the Performance Alloys and Composites segment of $201.1 million in the first six months of 2017 were 7% higher than net sales of $188.3 million in the first six months of 2016 primarily due to higher sales volume related to shipments of raw material beryllium hydroxide. Also, sales volume increased in the consumer electronics and industrial components end markets. The impact of higher pass-through metal prices favorably impacted net sales by approximately $4.1 million.

Value-added sales of $171.9 million in the first six months of 2017 were 6% higher than value-added sales of $161.6 million in the first six months of 2016. Stronger demand in the consumer electronics and industrial components end markets increased value-added sales by $6.8 million compared to the first six months of 2016. Also, the increase in value-added sales was driven by higher raw material sales of beryllium hydroxide of $5.3 million.

Performance Alloys and Composites generated operating profit of $5.7 million in the first six months of 2017 compared to $1.7 million in the first six months of 2016. The increase in operating profit was primarily due to higher sales volume, favorable product mix, and productivity improvements.

Advanced Materials

Second Quarter

(Thousands)	Second Quarter Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$157,044	$113,557	43,487	38 %
Value-added sales	62,041	46,993	15,048	32 %
Operating profit	8,670	7,320	1,350	18 %

Net sales from the Advanced Materials segment of $157.0 million in the second quarter of 2017 were 38% higher than net sales of $113.6 million in the second quarter of 2016 due to higher sales volume. Net sales of $32.3 million during the second quarter of 2017 were attributable to our HTB acquisition.

Value-added sales of $62.0 million in the second quarter of 2017 were 32% higher than value-added sales of $47.0 million in the second quarter of 2016. This increase included value-added sales of $10.6 million attributable to our HTB acquisition. Also, the increase in value-added sales was driven by higher value-added sales to the consumer electronics end market of $2.5 million due primarily to higher demand.

The Advanced Materials segment generated operating profit of $8.7 million in the second quarter of 2017 compared to $7.3 million in the second quarter of 2016. Operating profit in the second quarter of 2017 was favorably impacted by higher sales volume, and favorable product mix.

Six Months

(Thousands)	Six Months Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$271,780	$221,677	50,103	23 %
Value-added sales	109,329	89,059	20,270	23 %
Operating profit	15,117	12,503	2,614	21 %

Net sales from the Advanced Materials segment of $271.8 million in the first six months of 2017 were 23% higher than net sales of $221.7 million in the first six months of 2016. Net sales of $39.3 million during the first six months of 2017 were attributable to the HTB acquisition. Also, net sales increased due to higher sales volume and the impact of higher pass-through metal prices of $3.6 million.

Value-added sales of $109.3 million in the first six months of 2017 were 23% higher than value-added sales of $89.1 million in the first six months of 2016. This increase included value-added sales of $13.5 million attributable to our HTB acquisition. Also, the increase in value-added sales was primarily driven by higher value-added sales to the consumer electronics end market. Value-added sales to the consumer electronics end market, which represents approximately 49% of total segment value-added sales, increased $4.7 million due primarily to higher demand.

The Advanced Materials segment generated operating profit of $15.1 million in the first six months of 2017 compared to $12.5 million in the first six months of 2016. As a percentage of value-added sales, operating profit was 14% in both the first six months of 2017 and 2016. Operating profit in the first six months of 2017 was favorably impacted by higher sales volume and product mix offset by integration expenses of approximately $3.4 million attributable to the HTB acquisition.

Precision Coatings
Second Quarter

(Thousands)	Second Quarter Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$30,257	$38,523	(8,266)	(21)%
Value-added sales	22,613	25,111	(2,498)	(10)%
Operating profit	2,314	2,272	42	2 %

Net sales from the Precision Coatings segment of $30.3 million in the second quarter of 2017 were 21% lower than net sales of $38.5 million in the second quarter of 2016 primarily due to lower sales volume.
Value-added sales of $22.6 million in the second quarter of 2017 were 10% lower than value-added sales of $25.1 million in the second quarter of 2016. Medical end market sales decreased $1.9 million due to lower volume in the blood glucose test strip segment of the medical end market.
The Precision Coatings segment generated operating profit of $2.3 million in both the second quarters of 2017 and 2016. Operating profit remained flat despite the decline in medical end market sales due to lower SG&A expenses.
Six Months

(Thousands)	Six Months Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$63,637	$75,285	(11,648)	(15)%
Value-added sales	45,914	49,745	(3,831)	(8)%
Operating profit	4,532	6,371	(1,839)	(29)%

Net sales from the Precision Coatings segment of $63.6 million in the first six months of 2017 were 15% lower than net sales of $75.3 million in the first six months of 2016 primarily due to lower sales volume.
Value-added sales of $45.9 million in the first six months of 2017 were 8% lower than value-added sales of $49.7 million in the first six months of 2016. Value-added sales in the medical end market decreased $3.6 million compared to the prior-year period.
The Precision Coatings segment generated operating profit of $4.5 million in the first six months of 2017 compared to $6.4 million in the first six months of 2016. The decrease in operating profit in the first six months of 2017 versus the comparable period of 2016 was due to lower sales volume and the absence of a gain on the sale of equipment of $0.8 million realized during the first six months of 2016.

Other

Second Quarter

(Thousands)	Second Quarter Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$—	$ —	—	— %
Value-added sales	(1,241)	(1,520)	279	(18)%
Operating loss	(6,798)	(4,049)	(2,749)	68 %

The Other reportable segment in total includes unallocated corporate costs.

Corporate costs of $6.8 million in the second quarter of 2017 increased $2.8 million as compared to $4.0 million in the second quarter of 2016. As a percent of total Company value-added sales, corporate costs increased to 4% in the second quarter of 2017 from 3% in the prior-year period. The increase in corporate costs was due to higher incentive compensation and stock-based compensation expense of $2.6 million and higher SG&A expenses associated with our CEO transition of $0.9 million. This increase was offset by the favorable impact of foreign exchange rate movements of $0.4 million and lower corporate spending of approximately $0.3 million during the second quarter of 2017.

Six Months

(Thousands)	Six Months Ended June 30, 2017	July 1, 2016	$ Change	% Change
Net sales	$—	$ —	—	— %
Value-added sales	(2,060)	(2,564)	504	(20)%
Operating loss	(12,232)	(7,311)	(4,921)	67 %

Corporate costs of $12.2 million in the first six months of 2017 increased $4.9 million as compared to $7.3 million in the first six months of 2016. As a percent of total Company value-added sales, corporate costs increased to 3% in the first six months of 2017 from 1% in the prior-year. The increase in corporate costs was due to higher incentive compensation and stock-based compensation expense of $4.2 million, which included $1.4 million due to accelerated stock compensation expense associated with the transition of the Company's CEO. Also, during the first six months of 2017, the Company incurred additional SG&A expenses associated with our CEO transition of $1.2 million. These increases were offset by the favorable impact of foreign exchange rate movements of $0.5 million.

FINANCIAL POSITION

Cash Flow

A summary of cash flows provided by (used in) operating, investing, and financing activities is as follows:

(Thousands)	Six Months Ended June 30, 2017	July 1, 2016	$ Change
Net cash provided by operating activities	$303	$9,861	$(9,558)
Net cash used in investing activities	(28,238)	(21,305)	(6,933)
Net cash provided by financing activities	14,055	7,787	6,268
Effects of exchange rate changes	913	406	507
Net change in cash and cash equivalents	$(12,967)	$(3,251)	$(9,716)

Net cash provided by operating activities totaled $0.3 million in the first six months of 2017 versus $9.9 million in the comparable prior-year period. Cash used in prepaid and other current assets during the first six months of 2017 was $9.3 million, or $8.5 million higher than $0.8 million of cash used in the first six months of 2016. The majority of the increase was due to prepaid value added taxes.

Working capital requirements used cash of $21.9 million during the first six months of 2017 compared to a use of $19.7 million in the first six months of 2016. Cash flows used for accounts receivable were $17.9 million higher than the prior year-period due to higher sales volume. Also, accounts receivable from our HTB acquisition attributed to $13.8 million of this increase. Our three-month trailing days sales outstanding (DSO) was approximately 38 days at June 30, 2017 versus 41 days at December 31, 2016. Cash flows used for inventory increased $7.7 million primarily within the Performance Alloys and Composites and Advanced Materials segments to respond to anticipated orders and demand. Cash flows from accounts payable and accrued expenses provided cash of approximately $15.5 million compared to a use of $7.9 million in the prior-year period. Cash used for incentive compensation payouts during the first six months of 2017 was more than offset by a higher accounts payable balance due to the timing of payments. Also, our HTB acquisition attributed $5.8 million to the higher accounts payable balance.

Net cash used in investing activities was $28.2 million in the first six months of 2017 compared to $21.3 million in the prior-year period, reflecting a $16.5 million payment for the HTB acquisition offset by lower payments for property, plant, and equipment and mine development of $10.4 million.

Capital expenditures are made primarily for new product development, replacing and upgrading equipment, infrastructure investments, and implementing information technology initiatives. For the full year 2017, the Company expects payments for property, plant, and equipment to range from $25.0 million to $30.0 million and mine development expenditures to be less than $3.0 million.

Net cash provided by financing activities totaled $14.1 million in the first six months of 2017 versus $7.8 million provided by financing activities in the comparable prior-year period primarily due to higher net borrowings of $6.6 million in 2017.

Liquidity

We believe cash flow from operations plus the available borrowing capacity and our current cash balance are adequate to support operating requirements, capital expenditures, projected pension plan contributions, the current dividend and share repurchase programs, environmental remediation projects, and strategic acquisitions. At June 30, 2017, cash and cash equivalents held by our foreign operations totaled $16.4 million. We do not expect restrictions on repatriation of cash held outside of the United States to have a material effect on our overall liquidity, financial condition, or results of operations for the foreseeable future.

A summary of key data relative to our liquidity, including outstanding debt, cash, available borrowing capacity, and debt-to-debt-plus-equity ratio, as of June 30, 2017 and December 31, 2016 is as follows:

(Thousands)	June 30, 2017	December 31, 2016
Total outstanding debt	$26,640	$4,615
Cash	18,497	31,464
Net debt (cash)	8,143	(26,849)
Available borrowing capacity	$235,602	$238,886
Debt-to-debt-plus-equity ratio	5%	1%

Net debt (cash) is a non-GAAP measure reflecting the Company's current liquidity position. It is also a measure our management uses to assess financing and other decisions. We believe that based on our typical cash flow generated from operations, we can support a higher leverage ratio in future periods. Non-GAAP measures, such as net debt (cash), have inherent limitations and should not be considered in isolation, or as a substitute for GAAP measures.

Total outstanding debt increased $22.0 million compared to December 31, 2016 due to additional borrowings on our revolving credit facility to support payment for the HTB acquisition, capital expenditures, and working capital needs.

The available borrowing capacity in the table above represents the additional amounts that could be borrowed under our revolving credit facility and other secured lines existing as of the end of each period depicted. The applicable debt covenants have been taken into account when determining the available borrowing capacity, including the covenant that restricts the borrowing capacity to a multiple of the twelve-month trailing earnings before interest, income taxes, depreciation and amortization, and other adjustments. The main cause for the decrease in the available borrowing capacity at June 30, 2017 as compared to December 31, 2016 was due to higher borrowing levels.

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In 2015, we entered into an amendment to our $375.0 million revolving credit agreement (Credit Agreement). The amendment extends the maturity date of the Credit Agreement from 2018 to 2020 and provides more favorable pricing under certain circumstances. In addition, the amendment provides the Company and its subsidiaries with additional capacity to enter into facilities for the consignment, borrowing, or leasing of precious metals and copper, and provides enhanced flexibility to finance acquisitions and other strategic initiatives. The Credit Agreement is secured by substantially all of the assets of the Company and its direct subsidiaries, with the exception of non-mining real property and certain other assets. The Credit Agreement allows us to borrow money at a premium over LIBOR or the prime rate and at varying maturities. The premium resets quarterly according to the terms and conditions available under the Credit Agreement.
The Credit Agreement includes restrictive covenants including incurring restrictions on additional indebtedness, acquisitions, dividends, and stock repurchases. In addition, the Credit Agreement includes covenants subject to a maximum leverage ratio and a minimum fixed charge coverage ratio. We were in compliance with all of our debt covenants as of June 30, 2017 and December 31, 2016. Cash on hand does not affect the covenants or the borrowing capacity under our debt agreements.
Portions of our business utilize off-balance sheet consignment arrangements to finance metal requirements. Expansion of business volumes and/or higher metal prices can put pressure on the consignment line limitations from time to time. As a result, we have negotiated increases in the available capacity under existing lines, added additional lines, and extended the maturity dates of existing lines in recent years. The available and unused capacity under the metal financing lines totaled approximately $142.8 million as of June 30, 2017. The availability is determined by Board approved levels and actual line capacity.
In January 2014, our Board of Directors approved a plan to repurchase up to $50.0 million of our common stock. The timing of the share repurchases will depend on several factors, including market and business conditions, our cash flow, debt levels, and other investment opportunities. There is no minimum quantity requirement to repurchase our common stock for a given year, and the repurchases may be discontinued at any time. We repurchased 20,000 shares at a cost of $0.7 million in the second quarter of 2017 and 32,409 shares at a cost of $1.1 million in the first six months of 2017. Since the approval of the repurchase plan, we have purchased 1,082,264 shares at a total cost of $34.3 million.
In the second quarter and first six months of 2017, we paid cash dividends of $2.0 million and $3.9 million, respectively, on our common stock. We intend to pay a quarterly dividend on an ongoing basis, subject to a determination that the dividend remains in the best interest of our shareholders.

OFF-BALANCE SHEET ARRANGEMENTS AND CONTRACTUAL OBLIGATIONS

We maintain the majority of the precious metals and copper we use in production on a consignment basis in order to reduce our exposure to metal price movements and to reduce our working capital investment. The notional value of off-balance sheet precious metals and copper was $307.2 million as of June 30, 2017, versus $194.8 million as of December 31, 2016. We were in compliance with all of the covenants contained in the consignment agreements as of June 30, 2017 and December 31, 2016. For additional information on our contractual obligations, refer to our Form 10-K for the year ended December 31, 2016.

CRITICAL ACCOUNTING POLICIES

For additional information regarding critical accounting policies, please refer to our Form 10-K for the year ended December 31, 2016. There have been no material changes to our critical accounting policies subsequent to the issuance of our Form 10-K.

Forward-looking Statements

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. Our actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein:

Actual net sales, operating rates, and margins for 2017;

Our ability to effectively integrate the HTB acquisition;

The global economy;

The impact of any U.S. Federal Government shutdowns and sequestrations;

The condition of the markets which we serve, whether defined geographically or by segment, with the major market segments being: consumer electronics, industrial components, defense, medical, automotive electronics, telecommunications infrastructure, energy, commercial aerospace, and science;

Changes in product mix and the financial condition of customers;

Our success in developing and introducing new products and new product ramp-up rates;

Our success in passing through the costs of raw materials to customers or otherwise mitigating fluctuating prices for those materials, including the impact of fluctuating prices on inventory values;

Our success in identifying acquisition candidates and in acquiring and integrating such businesses;

The impact of the results of acquisitions on our ability to fully achieve the strategic and financial objectives related to these acquisitions;

Our success in implementing our strategic plans and the timely and successful completion and start-up of any capital projects;

The availability of adequate lines of credit and the associated interest rates;

Other financial factors, including the cost and availability of raw materials (both base and precious metals), physical inventory valuations, metal financing fees, tax rates, exchange rates, pension costs and required cash contributions and other employee benefit costs, energy costs, regulatory compliance costs, the cost and availability of insurance, and the impact of the Company's stock price on the cost of incentive compensation plans;

The uncertainties related to the impact of war, terrorist activities, and acts of God;

Changes in government regulatory requirements and the enactment of new legislation that impacts our obligations and operations;

The conclusion of pending litigation matters in accordance with our expectation that there will be no material adverse effects;

The success of the realignment of our businesses;

Our ability to strengthen our internal control over financial reporting and disclosure controls and procedures; and

- The risk factors set forth in Part 1, Item 1A of our Form 10-K for the year ended December 31, 2016.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

For information regarding market risks, refer to Item 7A. Quantitative and Qualitative Disclosures About Market Risk in our Annual Report on Form 10-K for the year ended December 31, 2016. There have been no material changes in our market risks since the inclusion of this discussion in our Annual Report on Form 10-K.

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Item 4. Controls and Procedures

a) Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation under the supervision and with participation of the Company's management, including the chief executive officer and chief financial officer, of the effectiveness of the design and operation of disclosure controls and procedures as of June 30, 2017 pursuant to Rule 13a-15(b) and 15d-15(b) under the Securities Exchange Act of 1934, as amended (Exchange Act). Based on that evaluation, management, including the chief executive officer and chief financial officer, concluded that disclosure controls and procedures are effective as of June 30, 2017.

b) Changes in Internal Control over Financial Reporting

There have been no changes in the Company's internal control over financial reporting that occurred during the quarter ended June 30, 2017 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II OTHER INFORMATION
Item 1. Legal Proceedings

Our subsidiaries and our holding company are subject, from time to time, to a variety of civil and administrative proceedings arising out of our normal operations, including, without limitation, product liability claims, health, safety, and environmental claims, and employment-related actions. Among such proceedings are cases alleging that plaintiffs have contracted, or have been placed at risk of contracting, beryllium sensitization or CBD or other lung conditions as a result of exposure to beryllium (beryllium cases). The plaintiffs in beryllium cases seek recovery under negligence and various other legal theories and demand compensatory and often punitive damages, in many cases of an unspecified sum. Spouses of some plaintiffs claim loss of consortium.
The information presented in the Legal Proceedings section of Note N ("Contingencies") of the Notes to Consolidated Financial Statements (Unaudited) is incorporated herein by reference.
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds
The following table presents information with respect to repurchases of common stock made by us during the three months ended June 30, 2017.

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share (1)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2)
April 1 through May 5, 2017	10,425	$ 33.79	10,200	$ 16,041,266
May 6 through June 2, 2017	21,037	34.71	6,900	15,803,872
June 3 through June 30, 2017	11,430	36.82	2,900	15,703,744
Total	42,892	$ 35.05	20,000	$ 15,703,744

(1) Includes 225; 14,137; and 8,530 shares surrendered to the Company in April, May, and June, respectively, by employees to satisfy tax withholding obligations on equity awards issued under the Company's stock

incentive plan.

(2) On January 14, 2014, we announced that our Board of Directors had authorized the repurchase of up to $50.0 million of our common stock. As of June 30, 2017, $15.7 million may still be purchased under the program. During the three months ended June 30, 2017, we repurchased 20,000 shares at an average price of $34.08 per share, or $0.7 million in the aggregate.

Item 4. Mine Safety Disclosures

Information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104) is included in Exhibit 95 to this quarterly report on Form 10-Q.

Item 6. Exhibits

Refer to the Exhibit Index herein.

SIGNATURES

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

MATERION CORPORATION

Dated: July 27, 2017

/s/ Joseph P. Kelley
Joseph P. Kelley
Vice President, Finance and Chief Financial Officer
(Principal Financial and Accounting Officer)

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Exhibit Index

10.1	Amended and Restated Materion Corporation 2006 Stock Incentive Plan (As Amended and Restated as of May 3, 2017) (filed as Exhibit 10.1 to the Company's Form 8-K filed on May 8, 2017), incorporated herein by reference.
10.2	Amended and Restated Materion Corporation 2006 Non-Employee Director Equity Plan (As Amended and Restated as of May 3, 2017) (filed as Exhibit 4.3 to the Registration Statement on Form S-8, Registration No. 333-217618 filed on May 3, 2017), incorporated herein by reference.
31.1	Certification of Chief Executive Officer required by Rule 13a-14(a) or 15d-14(a)*
31.2	Certification of Chief Financial Officer required by Rule 13a-14(a) or 15d-14(a)*
32	Certifications of Chief Executive Officer and Chief Financial Officer required by 18 U.S.C. Section 1350*
95	Mine Safety Disclosure Pursuant to Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act for the period ended June 30, 2017*
101.INS	XBRL Instance Document*
101.SCH	XBRL Taxonomy Extension Schema Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*

* Submitted electronically herewith.

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