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

FORM 10-Q

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

For the quarterly period ended March 31, 2018

or

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

For the transition period from __________ to __________

Commission File Number: 1-37644

VERSUM MATERIALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**47-5632014**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

8555 South River Parkway, Tempe, Arizona 85284
(Address of principal executive offices) (Zip Code)

(602) 282-1000
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically 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 ☒ No ☐

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

Large accelerated filer	☒		Accelerated filer	☐
Non-accelerated filer	☐	(Do not check if a smaller reporting company)	Smaller reporting company	☐
			Emerging Growth Company	☐

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

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

At April 27, 2018, 108,943,401 shares of common stock, par value $1.00 per share, were outstanding.

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PRESENTATION OF INFORMATION

All references in this Quarterly Report on Form 10-Q, unless the context otherwise requires:

- "Versum," "we," "our," "us" and "the company" refer to Versum Materials, Inc. and its consolidated subsidiaries for periods subsequent to the Separation and Distribution completed on October 1, 2016.
- "Air Products" refers to Air Products and Chemicals, Inc. and its consolidated subsidiaries, not including, for all periods following the Separation and Distribution, Versum.
- References to the "Separation" refer to the legal separation resulting in the allocation, transfer and assignment to Versum of the assets, liabilities and operations of Air Products' Electronic Materials business and the creation, as a result of the Distribution, of a separate, publicly traded company, Versum, which holds the Electronic Materials business.
- References to the "Distribution" refer to the distribution by Air Products to its stockholders completed on October 1, 2016, of 100% of the outstanding shares of Versum, as further described herein.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

Versum Materials, Inc.
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions, except per share data)				
Sales	$ 340.7	$ 270.8	$ 671.5	$ 541.6
Cost of sales	195.9	154.5	387.5	305.4
Selling and administrative	36.6	29.5	71.9	59.7
Research and development	11.1	10.9	23.8	21.2
Business separation, restructuring and cost reduction actions	8.2	6.1	10.0	9.3
Other (income) expense, net	(0.5)	(0.1)	—	(3.0)
Operating Income	89.4	69.9	178.3	149.0
Interest expense	11.9	11.6	23.2	23.1
Write-off of financing costs	—	—	2.1	—
Income Before Taxes	77.5	58.3	153.0	125.9
Income tax provision	14.2	11.5	69.1	26.8
Net Income	63.3	46.8	83.9	99.1
Less: Net Income Attributable to Non-Controlling Interests	1.7	1.9	3.7	3.4
Net Income Attributable to Versum	$ 61.6	$ 44.9	$ 80.2	$ 95.7
Net income attributable to Versum per common share:				
Basic	$ 0.57	$ 0.41	$ 0.74	$ 0.88
Diluted	$ 0.56	$ 0.41	$ 0.73	$ 0.88
Shares used in computing per common share amounts:				
Basic	108.9	108.7	108.9	108.7
Diluted	109.7	109.3	109.8	109.2

The accompanying notes are an integral part of these statements.

Versum Materials, Inc.
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Net Income	$ 63.3	$ 46.8	$ 83.9	$ 99.1
Other Comprehensive Income (Loss), net of tax				
Translation adjustments, net	6.6	29.3	26.3	(0.8)
Gain from hedging activities	—	—	0.1	—
Pension activity, net of tax for the three and six months ended March 31, 2018 of $0 and for the three and six months ended March 31, 2017 of $0 and $1.5 million, respectively	—	(0.2)	—	(5.7)
Total Other Comprehensive Income (Loss)	6.6	29.1	26.4	(6.5)
Comprehensive Income	69.9	75.9	110.3	92.6
Net Income Attributable to Non-controlling Interests	1.7	1.9	3.7	3.4
Other Comprehensive Income (Loss) Attributable to Non-controlling Interests	0.9	2.4	1.6	1.4
Comprehensive Income Attributable to Versum	$ 67.3	$ 71.6	$ 105.0	$ 87.8

The accompanying notes are an integral part of these statements.

Versum Materials, Inc.
CONSOLIDATED BALANCE SHEETS
(Unaudited)

(In millions, except share data)	March 31, 2018	September 30, 2017
Assets		
Current Assets		
Cash and cash items	$ 254.4	$ 271.4
Trade receivables, net	165.9	145.3
Inventories	167.8	151.6
Contracts in progress, less progress billings	35.3	15.6
Prepaid expenses	18.0	12.2
Other current assets	10.4	10.8
Total Current Assets	651.8	606.9
Plant and equipment:		
Plant and equipment, at cost	1,033.4	955.2
Less: accumulated depreciation	649.4	624.9
Plant and equipment, net	384.0	330.3
Goodwill	188.2	182.6
Intangible assets, net	67.3	70.8
Other noncurrent assets	54.1	56.2
Total Noncurrent Assets	693.6	639.9
Total Assets	$ 1,345.4	$ 1,246.8
Liabilities and Stockholders' Equity		
Current Liabilities		
Payables and accrued liabilities	$ 75.8	$ 120.8
Accrued income taxes	46.5	31.4
Current portion of long-term debt	5.8	5.8
Total Current Liabilities	128.1	158.0
Long-term debt	976.1	977.0
Noncurrent income tax payable	29.0	—
Deferred tax liabilities	31.4	37.3
Other noncurrent liabilities	53.8	49.9
Total Noncurrent Liabilities	1,090.3	1,064.2
Total Liabilities	1,218.4	1,222.2
Commitments and Contingencies - See Note 14		
Stockholders' Equity (Deficit)		
Common stock (par value $1 per share; 250,000,000 shares authorized; outstanding 108,943,401 and 108,815,330 at March 31, 2018 and September 30, 2017, respectively)	108.9	108.8
Capital in excess of par	—	4.8
Accumulated deficit	(28.2)	(105.2)
Accumulated other comprehensive income (loss)	6.4	(18.4)
Total Versum's Stockholders' Equity (Deficit)	87.1	(10.0)
Non-controlling Interests	39.9	34.6
Total Stockholders' Equity	127.0	24.6
Total Liabilities and Stockholders' Equity	$ 1,345.4	$ 1,246.8

The accompanying notes are an integral part of these statements.

Versum Materials, Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended March 31,	
	2018	**2017**
(In millions)		
Operating Activities		
Net income	$ 83.9	$ 99.1
Less: Net income attributable to non-controlling interests	3.7	3.4
Net income attributable to Versum	80.2	95.7
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	23.9	21.8
Deferred income taxes	(4.5)	2.5
Gain on sale of assets	(0.3)	(0.4)
Share-based compensation	5.0	3.5
Other adjustments	(1.2)	(1.1)
Working capital changes that provided (used) cash:		
Trade receivables	(16.9)	(32.0)
Inventories	(10.6)	(8.7)
Contracts in progress, less progress billings	(18.0)	7.4
Payables and accrued liabilities	(46.4)	(17.4)
Accrued income taxes	39.2	(1.9)
Other working capital	6.1	23.6
Cash Provided by Operating Activities	56.5	93.0
Investing Activities		
Additions to plant and equipment	(65.1)	(20.2)
Proceeds from sale of assets	1.0	0.9
Cash Used for Investing Activities	(64.1)	(19.3)
Financing Activities		
Payments on long-term debt	(2.9)	(2.9)
Short-term borrowings	—	1.5
Debt issuance costs	—	(1.7)
Dividends paid to shareholders	(10.9)	—
Dividends paid to non-controlling interests	—	(1.2)
Other financing activity	(2.8)	0.1
Cash Used for Financing Activities	(16.6)	(4.2)
Effect of Exchange Rate Changes on Cash	7.2	0.7
(Decrease) Increase in Cash and Cash Items	(17.0)	70.2
Cash and Cash items-Beginning of Year	271.4	105.6
Cash and Cash items-End of Period	$ 254.4	$ 175.8
Supplemental Disclosure of Cash Flow Information:		
Cash paid for interest on debt	$ 21.8	$ 20.6
Cash paid for taxes	$ 37.0	$ 26.6

The accompanying notes are an integral part of these statements.

Versum Materials, Inc.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

(In millions)	Common Stock	Capital in Excess of Par	Accumulated Deficit	Air Products' Net Investment	Accumulated Other Comprehensive Income (Loss)	Total Versum's Stockholders' Equity (Deficit)	Non-controlling Interests	Total
Balance, September 30, 2016	$ —	$ —	$ —	$ (127.3)	$ (10.0)	$ (137.3)	$ 33.9	$ (103.4)
Net income	—	—	95.7	—	—	95.7	3.4	99.1
Net Transfer to Air Products	—	—	(291.0)	135.4	(2.1)	(157.7)	0.1	(157.6)
Reclassification of Air Products' net investment to additional paid in capital	—	8.1	—	(8.1)	—	—	—	—
Cash dividend declared	—	(5.4)	—	—	—	(5.4)	—	(5.4)
Issuance of common stock at separation	108.7	—	—	—	—	108.7	—	108.7
Issuance of common stock through shared based compensation plans	0.1	—	—	—	—	0.1	—	0.1
Other comprehensive loss	—	—	—	—	(5.8)	(5.8)	1.4	(4.4)
Share-based compensation	—	2.4	—	—	—	2.4	—	2.4
Dividends to non-controlling interests	—	—	—	—	—	—	(1.2)	(1.2)
Balance, March 31, 2017	$ 108.8	$ 5.1	$ (195.3)	$ —	$ (17.9)	$ (99.3)	$ 37.6	$ (61.7)
Balance, September 30, 2017	$ 108.8	$ 4.8	$ (105.2)	$ —	$ (18.4)	$ (10.0)	$ 34.6	$ 24.6
Net income	—	—	80.2	—	—	80.2	3.7	83.9
Cash dividend paid	—	(7.7)	(3.2)	—	—	(10.9)	—	(10.9)
Issuance of common stock through shared based compensation plans	0.1	—	—	—	—	0.1	—	0.1
Other comprehensive income	—	—	—	—	24.8	24.8	1.6	26.4
Share-based compensation	—	2.9	—	—	—	2.9	—	2.9
Balance, March 31, 2018	$ 108.9	$ —	$ (28.2)	$ —	$ 6.4	$ 87.1	$ 39.9	$ 127.0

The accompanying notes are an integral part of these statements.

Versum Materials, Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

In September 2016, Versum Materials, Inc. was formed and after its Separation from Air Products on October 1, 2016, Versum began operating as an independent public company with its common stock listed under the symbol “VSM” on the New York Stock Exchange.

We are a global business that provides innovative solutions for specific customer applications within niche markets based upon expertise in specialty materials. Our business employs applications technology to provide solutions to the semiconductor industry through chemical synthesis, analytical technology, process engineering, and surface science. We are comprised of two operating segments, Materials and Delivery Systems and Services, under which we manage our operations and assess performance, and a Corporate segment.

Basis of Presentation

The accompanying Consolidated Financial Statements are presented on a consolidated basis and include all of the accounts and operations of Versum and its majority-owned subsidiaries. The financial statements reflect the financial position, results of operations and cash flows of Versum in accordance with generally accepted accounting principles in the United States of America ("GAAP") for interim financial information.

The financial statements are unaudited and should be read in conjunction with the Annual Consolidated Financial Statements presented in the Company's Annual Report on Form 10-K for our fiscal year ended September 30, 2017. The financial statements reflect all adjustments that, in the opinion of management, are necessary for a fair statement of the results of the interim periods presented; all adjustments have been included to provide a fair statement of the results for the reporting periods presented. All significant inter-company accounts and transactions have been eliminated. The results of operations for the three and six months ended March 31, 2018 are not necessarily indicative of the results of operations for the full year.

Accounting Policies

The policies used in preparing the Consolidated Financial Statements are the same as those used in our Annual Report on Form 10-K for our fiscal year ended September 30, 2017. There have been no significant changes to these accounting policies during the three and six months ended March 31, 2018.

Estimates and Assumptions

The Consolidated Financial Statements have been prepared in conformity with GAAP, using management’s best estimates and judgments where appropriate. These estimates and judgments affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. The estimates and judgments will also affect the reported amounts for certain revenues and expenses during the reporting period. Actual results could differ materially from these estimates and judgments.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented

Income Taxes

In March 2018, the FASB issued guidance relative to Incomes Taxes (Topic 740) that adds various Securities and Exchange Commission (“SEC”) paragraphs pursuant to the issuance of the December 2017 SEC Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act (“SAB 118”), which was effective immediately. The SEC issued SAB 118 to address concerns about reporting entities’ ability to timely comply with the accounting requirements to recognize all of the effects of the Tax Cuts and Jobs Act (the "Tax Act") in the period of enactment. SAB 118 allows disclosure that timely determination of some or all of the income tax effects from the Tax Cuts and Jobs Act are incomplete by the due date of the financial statements and if possible to provide a reasonable estimate. We have accounted for the tax effects of the Tax Act under the guidance of SAB 118, on a provisional basis. Our accounting for certain income tax effects is incomplete, but we have determined reasonable estimates for those effects and have recorded provisional amounts in our Consolidated Financial Statements as of March 31, 2018.

Goodwill Impairment

In January 2017, the Financial Accounting Standards Board ("FASB") issued guidance simplifying the test for goodwill impairment, which removes certain steps from the goodwill impairment test. The guidance is effective for annual periods beginning after December 15, 2019, including interim periods within those periods, with early adoption permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company adopted the standard effective October 1, 2017. The adoption did not have a material impact on the Consolidated Financial Statements.

Measurement of Inventory

In July 2015, the FASB issued guidance to simplify the measurement of inventory recorded using either the first-in, first-out ("FIFO") or average cost basis by changing the subsequent measurement guidance from lower of cost or market to the lower of cost or net realizable value. Inventory measured using last-in, first-out ("LIFO") is not impacted. The Company adopted the standard effective October 1, 2017. This guidance did not have a significant impact on our Consolidated Financial Statements.

New Accounting Guidance to be Implemented

Net Periodic Pension Costs

In March 2017, the FASB issued guidance which requires an entity to report the service cost component of pension expense in the same line item as other compensation costs. The other components of net (benefit) cost will be required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This standard is effective for annual reporting periods beginning after December 15, 2017 and interim periods within those annual periods. The components of the net (benefit) cost are shown in Note 10, Retirement Benefits. The Company is currently evaluating the impact of adopting this guidance.

Business Combinations

In January 2017, the FASB issued guidance on the definition of a business in business combinations. The guidance clarifies the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill, and consolidation. The guidance is effective for annual periods beginning after December 15, 2017, including interim periods within those periods. The Company will adopt the standard effective October 1, 2018. The adoption is not expected to have a material impact on the Consolidated Financial Statements.

Revenue Recognition

In May 2014, the FASB issued guidance based on the principle that revenue is recognized in an amount expected to be collected and to which the entity expects to be entitled in exchange for the transfer of goods or services. In August 2015, the FASB deferred the effective date by one year, while providing the option to early adopt the standard on the original effective date. In December 2016 there were further updates to the original guidance that did not revise the effective date. The guidance can be adopted either retrospectively or as a cumulative-effect adjustment as of the date of adoption. The Company will adopt the standard effective October 1, 2018. The standard could impact the amount and timing of revenue that we recognize. We are currently evaluating the adoption alternatives and impact that this standard and related updates will have on our Consolidated Financial Statements.

Leases

In February 2016, the FASB issued guidance which requires lessees to recognize a right of use asset and lease liability on the balance sheet for all leases, including operating leases, with a term in excess of 12 months. The guidance also expands the quantitative and qualitative disclosure requirements. The guidance is effective in fiscal year 2020, with early adoption permitted, and must be applied using a modified retrospective approach. The Company is currently the lessee under various agreements for distribution equipment, vehicles and buildings that are currently accounted for as operating leases. The new guidance requires the lessee to record operating leases on the balance sheet with a right-of-use asset and corresponding liability for future payment obligations. We are currently evaluating the impact of adopting this new guidance on our Consolidated Financial Statements.

Cash Flow Statement Classification

In August 2016, the FASB issued guidance to reduce diversity in practice on how certain cash receipts and cash payments are classified in the statement of cash flows. The guidance is effective beginning fiscal year 2019, with early adoption permitted, and should be applied retrospectively. We are currently evaluating the impact of adopting this new guidance on our Consolidated Financial Statements.

3. BUSINESS SEPARATION, RESTRUCTURING AND COST REDUCTION ACTIONS

The charges we record for business restructuring and cost reduction actions have been excluded from segment operating income.

During the three and six months ended March 31, 2018, we recognized a net charge of $8.2 million and $10.0 million, respectively. The net charge primarily consisted of additional costs as a result of the relocation of certain research and development activities and headquarters and set up of the stand-alone organization and infrastructure.

During the three and six months ended March 31, 2017, we recognized a net charge of $6.1 million and $9.3 million, respectively. The net charge primarily consisted of additional costs as a result of the relocation of certain research and development activities and headquarters and set up of the stand-alone organization and infrastructure.

The following table summarizes the carrying amount of the accrual for the business separation, restructuring and cost reduction actions at March 31, 2018:

(In millions)		Severance and Other Benefits
Balance, September 30, 2017	$	4.2
Current Period Charge		0.2
Cash Payments		(1.3)
Balance, March 31, 2018	$	3.1

4. INVENTORIES

The components of inventories are as follows:

(In millions)	March 31, 2018	September 30, 2017
Inventories at FIFO cost		
Finished goods	$ 98.0	$ 87.6
Work in process	18.0	20.3
Raw materials, supplies and other	60.8	52.5
	176.8	160.4
Less: Excess of FIFO cost over LIFO cost	(9.0)	(8.8)
Inventories	$ 167.8	$ 151.6

FIFO cost approximates replacement cost.

5. GOODWILL

Changes to the carrying amount of goodwill by segment are as follows:

(In millions)	Materials	Delivery Systems and Services	Total
Balance, September 30, 2017	$ 165.3	$ 17.3	$ 182.6
Currency translation adjustment	5.2	0.4	5.6
Balance, March 31, 2018	$ 170.5	$ 17.7	$ 188.2

Goodwill is subject to impairment testing in the fourth quarter of each fiscal year and whenever events and changes in circumstances indicate that the carrying value of goodwill might not be recoverable. There were no events or circumstances indicating that goodwill might be impaired at March 31, 2018.

6. DEBT

Components of Debt

(In millions)	March 31, 2018	September 30, 2017
Short-term borrowings[(A)]	$ —	$ —
Current portion of long-term debt	5.8	5.8
Long-term debt	976.1	977.0
Total Debt	$ 981.9	$ 982.8

(A) Represents borrowing under foreign lines of credit by non-U.S. subsidiaries which are short term in nature. Availability under these lines of credit at March 31, 2018 is $20.8 million.

Long-term debt

(In millions)	March 31, 2018	September 30, 2017
Term loan facility under Credit Agreement	$ 566.4	$ 569.3
Revolving facility under Credit Agreement	—	—
5.500% Senior Notes due 2024	425.0	425.0
Total debt	991.4	994.3
Less debt discount	2.0	2.5
Less deferred debt costs	7.5	9.0
Less current portion of long-term debt	5.8	5.8
Long-term debt payable after one year	$ 976.1	$ 977.0

Credit Agreement

On September 30, 2016, Versum entered into a credit agreement (the "Credit Agreement") providing for a senior secured first lien term loan B facility of $575 million (the "Term Facility") and a senior secured first lien revolving credit facility of $200 million (the "Revolving Facility" and, together with the Term Facility, the "Senior Credit Facilities"). The Senior Credit Facilities are guaranteed by Versum's material direct and indirect wholly-owned domestic restricted subsidiaries and secured by substantially all of the assets of Versum and its subsidiary guarantors.

Borrowings under the Term Facility bore interest at a rate of either LIBOR (adjusted for statutory reserve requirements), subject to a minimum floor of 0.75%, plus a margin of 2.50% or an alternate base rate, subject to a minimum floor of 1.75%, plus a margin of 1.50%. On October 10, 2017, Versum amended its Credit Agreement. The amendment decreased the interest rate on borrowings under the Term Facility to LIBOR plus a margin of 2.00%, or an alternate base rate plus a margin of 1.00% (effective rate of 4.30% as of March 31, 2018). The amendment removed the minimum floor on LIBOR and the alternate base rate. If our total leverage ratio is equal to or less than 2.00:1.00 (calculated without any netting of cash on hand) the interest rate will decrease further to LIBOR plus a margin of 1.75%, or an alternate base rate plus a margin of 0.75%. The Term Facility matures on September 30, 2023, and will amortize in equal quarterly installments in aggregate annual amounts equal to 1.00% of the original principal amount of the Term Facility, with the balance payable on September 30, 2023.

Borrowings under the Revolving Facility bear interest initially at a rate of either LIBOR (adjusted for statutory reserve requirements) plus a margin of 2.00% or an alternate base rate plus a margin of 1.00%, and after delivery of the financial statements for the first full fiscal quarter, subject to a 0.25% margin reduction based on achieving a first lien net leverage ratio of 1.00:1.00 for the prior four-quarter period. A commitment fee of 0.375% initially, subject to a reduction to 0.25% based on achieving a first lien net leverage ratio of 1.00:1.00 for the prior four-quarter period after delivery of the financial statements for the first full fiscal quarter, on the unused portion of the Revolving Facility is payable quarterly in arrears. Letter of credit fees are payable on outstanding letters of credit under the Revolving Facility, and fronting fees equal to a percentage to be agreed with each issuing bank (not to exceed 0.125%) are payable to the issuing banks. The Revolving Facility matures on September 30, 2021. A maximum first lien net leverage ratio covenant (total debt net of cash on hand to total adjusted EBITDA) of 3.25:1.00 will apply if we draw upon the Revolving Facility. As of March 31, 2018, we had availability of $200 million under the Revolving Facility.

The Credit Agreement, as amended, provides that, commencing with Versum's fiscal year ending on September 30, 2017, a percentage of excess cash flow ranging from 0% to 50%, depending on the first lien net leverage ratio, is required to be used to prepay the Term Facility. As of March 31, 2018, there was no requirement to prepay due to excess cash flows.

Senior Notes

On September 30, 2016, Versum issued $425 million of 5.5% Senior Notes due 2024. The Notes are unsecured senior obligations of Versum, guaranteed by each of Versum's subsidiaries that is a guarantor under the Senior Credit Facilities.

The Notes bear interest at a rate of 5.5% per annum payable semiannually on March 15 and September 15 of each year, commencing on March 15, 2017. The Notes will mature on September 30, 2024.

Versum may, at its option, redeem some or all of the Notes during such times and at such prices as described in the Indenture governing the Senior Notes, plus accrued and unpaid interest, if any, to the date of redemption.

The agreements governing our indebtedness contain a number of affirmative and negative covenants. We were in compliance with all of our covenants at March 31, 2018.

7. INCOME TAXES

On December 22, 2017, the Tax Act was enacted in the U.S. Certain provisions of the Tax Act are effective for the Company's fiscal year 2018, whereas other material provisions of the Tax Act will not apply to the Company until the Company's fiscal year 2019.

For fiscal year 2018, Versum's statutory U.S. federal income tax rate will be 24.5%, which represents a blending of the 35.0% statutory rate under prior law and the new 21.0% statutory rate effective January 1, 2018, prorated based on the number of days during the Company's current fiscal year that each rate was effective. For fiscal years 2019 and later, the Company's statutory U.S. federal income tax rate will be 21.0%.

As a result of the Tax Act, the Company recorded a provisional net one-time charge of $33.8 million for the six months ended March 31, 2018. This charge is comprised of a $45.9 million charge for federal and state taxes on the mandatory deemed repatriation of certain of the Company's foreign accumulated earnings. We expect to elect to pay the federal portion of the resulting liability, net of available tax credits, over the eight year period provided in the Tax Act, with $2.5 million of the federal liability payable in connection with our fiscal year 2018. The deemed repatriation charge was partially offset by a $12.0 million tax benefit related to the estimated revaluation of the Company's deferred tax assets and liabilities using the U.S. statutory federal and state income tax rates and compensation deductibility rules that are anticipated to apply when the deferred tax assets and liabilities will become current.

The methodology used in calculating these provisional items incorporates assumptions about required tax adjustments to book earnings, foreign taxes paid, future executive compensation levels, estimated temporary book to tax differences, pending guidance and other items. We will continue to obtain information, actively monitor factual and legal developments, complete our tax compliance cycles, analyze and review the available information, and expect to adjust the provisional tax accrual consistent with the SEC's Staff Accounting Bulletin No. 118.

For the three months ended March 31, 2018, the adjustment to the provisional tax accrual recorded in the three months ended December 31, 2017, was a tax benefit of $3.7 million. This resulted in a decrease of 2.4% to the Company's effective tax rate for the six months ended March 31, 2018. The adjustment was primarily due to a change in estimated cumulative earnings and profits and tax pools in a foreign jurisdiction that reduced the Company's tax on the mandatory deemed repatriation.

Beginning in the Company's fiscal year 2019, Versum will be subject to additional provisions in accordance with the Tax Act. These provisions include income inclusions, limitations on interest expense and other deductions and our ability to utilize certain tax credits, and minimum taxes, among other things. The Company will be monitoring and actively working throughout fiscal year 2018 to refine the provision tax accruals.

Versum records U.S. income and foreign withholding taxes on the undistributed earnings of our foreign subsidiaries and corporate joint ventures unless those earnings are indefinitely reinvested. As a result, foreign withholding tax cost of $1.3 million was recognized as an expense during the three months ended March 31, 2018. For the six months ended March 31, 2018, the expense related to withholding taxes on undistributed earnings is $2.5 million.

8. FINANCIAL INSTRUMENTS

We enter into forward exchange contracts to hedge the fair value exposure on inter-company loans. During the three months ended March 31, 2018, this portfolio of forward exchange contracts consisted primarily of Japanese Yen and U.S. Dollars as well as Euros and U.S. Dollars. During the three months ended March 31, 2017, this portfolio of forward exchange contracts consisted primarily of Korean Won and U.S. Dollars as well as Euros and U.S. Dollars. The maximum remaining term of any forward exchange contract currently outstanding at March 31, 2018 and 2017 was approximately 6 months. At March 31, 2018 and September 30, 2017, the total notional principal amount of our outstanding hedge contracts was $33.8 million and $158.4 million, respectively.

As of March 31, 2018 and September 30, 2017, there were no derivatives designated as hedging instruments. The tables below summarize the fair values of our derivatives not designated as hedging instruments and balance sheet location of these outstanding derivatives:

	March 31, 2018			
	Balance Sheet Location	**Amount**	**Balance Sheet Location**	**Amount**
(In millions)				
Forward exchange contracts	Other current assets	$ —	Payables and accrued liabilities	$ 1.1

	September 30, 2017			
	Balance Sheet Location	**Amount**	**Balance Sheet Location**	**Amount**
(In millions)				
Forward exchange contracts	Other current assets	$ 0.9	Payables and accrued liabilities	$ 1.5

Refer to Note 9, Fair Value, which defines fair value, describes the method for measuring fair value, and provides additional disclosures regarding fair value measurements.

The table below summarizes the gain or loss related to our forward contracts:

	Three Months Ended March 31,		Six Months Ended March 31,	
(In millions)	**2018**	**2017**	**2018**	**2017**
Forward Exchange Contracts, net of tax:				
Net loss recognized in other (income) expense, net(A)	$ 1.9	$ 0.9	$ 1.9	$ 1.1

(A) The impact of the non-designated hedges noted above was largely offset by gains and losses resulting from the impact of changes in exchange rates on recognized assets and liabilities denominated in nonfunctional currencies.

The cash flows related to all derivative contracts are reported in the operating activities section of the consolidated statements of cash flows.

9. FAIR VALUE

Fair value is defined as an exit price, i.e., 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.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 - Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability.

Level 3 - Inputs that are unobservable for the asset or liability based on our own assumptions (about the assumptions market participants would use in pricing the asset or liability).

The methods and assumptions used to measure the fair value of financial instruments are as follows:

Derivatives

The fair value of our forward exchange contracts is quantified using the income approach and are based on estimates using standard pricing models. These models take into account the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. The computation of the fair values of these instruments is generally performed by the Company. These standard pricing models utilize inputs which are derived from or corroborated by observable market data such as interest rate yield curves and currency spot and forward rates. Therefore, the fair value of our derivatives is classified as a level 2 measurement.

Refer to Note 8, Financial Instruments, for a description of derivative instruments, including details on the balance sheet line classifications.

Long-term Debt

The fair value of our Senior Notes is based primarily on quoted market prices reported on or near the respective balance sheet date and is therefore level 1. The fair value of our Term Facility debt is based on estimates using standard pricing models that take into account the value of future cash flows as of the balance sheet date, discounted to a present value using market based assumptions including published interest rates. This standard valuation model utilizes observable market data therefore, the fair value of our debt is classified as a level 2 measurement.

The carrying values and fair values of our derivatives and debt are as follows:

	March 31, 2018		September 30, 2017	
	Fair Value	Carrying Value	Fair Value	Carrying Value
(In millions)				
Assets				
Forward Exchange Contracts	$ —	$ —	$ 0.9	$ 0.9
Liabilities				
Forward Exchange Contracts	$ 1.1	$ 1.1	$ 1.5	$ 1.5
Long-term Debt				
Senior Notes	$ 440.9	$ 425.0	$ 450.5	$ 425.0
Term Facility	571.0	566.4	575.7	569.3
Total Long-term Debt	$ 1,011.9	$ 991.4	$ 1,026.2	$ 994.3

The carrying amounts reported in the consolidated balance sheet for cash and cash items, trade receivables, payables and accrued liabilities, and accrued income taxes approximate fair value due to the short-term nature of these instruments. Accordingly, these items have been excluded from the above table.

10. RETIREMENT BENEFITS

Defined Benefit Pensions

Our plans provide certain international employees in Germany, Korea and Taiwan various pension benefits. Charges to expense are based upon actuarial analysis.

The components of net periodic pension costs for Versum's defined benefit pension plans are as follows:

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Service cost	$ 0.5	$ 0.5	$ 1.0	$ 1.1
Interest cost	0.2	0.2	0.4	0.3
Actuarial loss amortization	—	0.1	—	0.2
Net periodic pension cost	$ 0.7	$ 0.8	$ 1.4	$ 1.6

Defined Contribution Plan

Versum provides benefits for all U.S. employees and certain non-U.S. employees under a Versum defined contribution plan.

The following table summarizes our defined contribution expense:

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Defined contribution expense	$ 2.1	$ 1.8	$ 4.2	$ 3.7

11. SHARE-BASED COMPENSATION

In accordance with the Employee Matters Agreement entered into between Versum and Air Products on September 29, 2016 in connection with the Separation, all share-based compensation awards previously granted to Versum employees under Air Products' Long-Term Incentive Plan that were outstanding on October 1, 2016, other than restricted stock, were adjusted and converted into Versum equity with substantially the same terms and conditions as the original Air Products awards. The converted awards will continue to vest over the original vesting period defined at the grant date.

As a result of the conversion, we have the following outstanding share-based compensation awards: (a) stock options; (b) time-based restricted stock units; and (c) market-based restricted stock units.

During the six months ended March 31, 2017, under the Versum Long-Term Incentive Plan we made a one-time Founders grant of time-based restricted stock units. In addition, during the six months ended March 31, 2018 and 2017 we granted annual awards of market-based restricted stock units, consisting of performance-based restricted stock units and performance-based market stock units. Under all programs, the terms of the awards are fixed at the grant date. We issue new shares upon the payout of restricted stock units and the exercise of stock options. As of March 31, 2018, there were 3.2 million shares available for future grant under the Versum Long-Term Incentive Plan.

Total after-tax share-based compensation awards cost recognized in the consolidated income statement is summarized below:

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Before-Tax Share-Based Compensation Award Cost	$ 2.6	$ 1.9	$ 5.0	$ 3.5
Income Tax Benefit	0.6	0.7	1.2	1.2
After-Tax Share-Based Compensation Award Cost	$ 2.0	$ 1.2	$ 3.8	$ 2.3

Before-tax share-based compensation award cost is primarily included in selling and administrative expense on our consolidated income statements.

Total before-tax share-based compensation award cost by type of program was as follows:

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Restricted stock units	$ 2.4	$ 1.9	$ 4.7	$ 3.4
Stock options	—	—	—	0.1
Director awards	0.2	—	0.3	—
Before-Tax Share-Based Compensation Cost	$ 2.6	$ 1.9	$ 5.0	$ 3.5

Restricted Stock Units

Converted share-based compensation awards. As a result of the conversion in connection with the Separation described above, Versum executive officers and employees have outstanding time-based restricted stock units and market-based restricted stock units. These converted restricted stock units entitle the recipient to shares of common stock and accumulated dividends upon vesting. The payout of the converted market-based restricted stock units is conditioned on continued employment during a three year deferral period subject to payout upon death, disability, or retirement. The converted time-based restricted stock units vest four years after the grant date subject to payout upon death, disability or retirement. Upon involuntary termination without cause, a pro rata portion of restricted stock units will vest. Dividend equivalents are paid in cash and equal the dividends that would have accrued on a share of stock from the grant date to the vesting date.

New share-based compensation awards
During the six months ended March 31, 2018, under its Long-Term Incentive Plan Versum granted 200,088 market based restricted stock units, consisting of performance-based restricted stock units and performance-based market stock units. The performance-based restricted stock units are earned at the end of a performance period beginning October 1, 2017 and ending September 30, 2020, conditioned on the level of Versum's total shareholder return in relation to a defined peer group over the three-year performance period. The performance-based market stock units are earned based on the percentage change in the price of Versum's common stock over the performance period beginning October 1, 2017 and ending September 30, 2020.

During the six months ended March 31, 2017, under the Versum Long-Term Incentive Plan we made a one-time Founders grant of 424,247 time-based restricted stock units at a weighted-average grant-date fair value of $22.53 per unit. One third of the Founders RSUs vest on October 1, 2018, one third vest on October 1, 2019, and one third vest on October 1, 2020, subject to the holder's continued employment with the Company.

In addition, during the six months ended March 31, 2017, under its Long-Term Incentive Plan Versum granted 304,520 market-based restricted stock units, consisting of performance-based restricted stock units and performance-based market stock units. The performance-based restricted stock units are earned at the end of a performance period beginning October 1, 2016 and ending September 30, 2019, conditioned on the level of Versum's total shareholder return in relation to a defined peer group over the three-year performance period. The performance-based market stock units are earned based on the percentage change in the price of Versum's common stock over the performance period beginning October 1, 2016 and ending September 30, 2019.

Subject to the recipient's continued employment, these restricted stock units granted during the six months ended March 31, 2018 and 2017 generally vest on the date that the Versum Compensation Committee certifies the payout determination under the performance goals, which date must be within 90 days after the end of the performance period. Vesting is subject to certain exceptions in the event of involuntary termination by Versum, death, disability or retirement. Under GAAP, both the performance-based restricted stock units and performance-based market stock units are considered market-based awards. Upon vesting, restricted stock units represent the right to receive shares of our common stock. Dividend equivalent rights accrue for these awards, but do not vest unless the underlying awards vest.

The market-based restricted stock units awarded during the six months ended March 31, 2018 and 2017 had an estimated grant-date fair value of $50.18 and $29.68, respectively, per unit for the performance-based restricted stock units and $45.71 and $28.37, respectively, for the performance-based market stock units. The fair value of market-based restricted stock units was estimated using a Monte Carlo simulation model as these equity awards are tied to a market condition. The model utilizes multiple input variables that determine the probability of satisfying the market condition stipulated in the grant and calculates the fair value of the awards.

We generally expense the grant-date fair value of these awards on a straight-line basis over the vesting period; however, expense recognition is accelerated for retirement eligible individuals who meet the requirements for vesting upon retirement.

The calculation of the fair value of market-based restricted stock units during the six months ended March 31, 2018 and 2017 used the following assumptions:

	Six Months Ended March 31,	
	2018	**2017**
(In percentages)		
Expected volatility	28.0%	28.7%
Risk-free interest rate	1.9%	1.4%
Expected dividend yield	0.5%	—%

A summary of restricted stock unit activity is presented below:

(In millions, except weighted average)	**Shares**	**Weighted Average Grant-Date Fair Value**
Outstanding, September 30, 2017	1.1	$ 25.30
Granted	0.2	47.23
Paid out	(0.2)	29.68
Outstanding, March 31, 2018	1.1	$ 29.40

(In millions, except weighted average)	**Shares**	**Weighted Average Grant-Date Fair Value**
Outstanding, September 30, 2016	—	$ —
Converted on October 1, 2016	0.5	22.85
Granted	0.7	25.30
Paid out	(0.1)	15.55
Outstanding, March 31, 2017	1.1	$ 25.30

No cash payments were made for restricted stock units for the three and six months ended March 31, 2018 and 2017. As of March 31, 2018 and 2017, there was $18.9 million and $18.1 million, respectively, of unrecognized compensation cost related to restricted stock units. The cost is expected to be recognized over a weighted average period of 2.3 and 3.0 years, respectively. The total fair value of restricted stock units paid out during the three and six months ended March 31, 2018, including shares vested in prior periods, was $0.0 million and $5.0 million, respectively. The total fair value of restricted stock units paid out during the three and six months ended March 31, 2017, including shares vested in prior periods, was $0.2 million and $1.7 million, respectively.

Stock Options

We may grant awards of options to purchase common stock to executive officers and selected employees. All of our outstanding stock options are a result of the conversion in connection with the Separation as described above. The exercise price of stock options equals the market price of our stock on the date of the grant. Options generally vest incrementally over three years and remain exercisable for ten years from the date of grant.

During the three and six months ended March 31, 2018 and 2017, no stock options were granted.

A summary of stock option activity is presented below:

	Shares	Weighted Average Exercise Price
(In millions, except weighted average)		
Outstanding, September 30, 2017	0.5	$ 18.55
Granted	—	—
Exercised	—	—
Outstanding, March 31, 2018	0.5	$ 18.61

	Shares	Weighted Average Exercise Price
(In millions, except weighted average)		
Outstanding, September 30, 2016	—	$ —
Converted on October 1, 2016	0.5	18.37
Granted	—	—
Exercised	—	—
Outstanding, March 31, 2017	0.5	$ 18.36

	Weighted Average Remaining Contractual Terms (In years)	Aggregate Intrinsic Value
(In millions, except years)		
Outstanding, March 31, 2018	5.2	$ 8.8
Exercisable, March 31, 2018	5.2	8.8

	Weighted Average Remaining Contractual Terms (In years)	Aggregate Intrinsic Value
(In millions, except years)		
Outstanding, March 31, 2017	5.9	$ 6.3
Exercisable, March 31, 2017	5.8	6.2

The aggregate intrinsic value represents the amount by which our closing stock price of $37.63 and $30.60 as of March 31, 2018 and 2017 exceeds the exercise price multiplied by the number of in-the-money options outstanding or exercisable.

The total intrinsic value of stock options exercised was $0.3 million during the three and six months ended March 31, 2018. The total intrinsic value of stock options exercised was $0.1 million during the three and six months ended March 31, 2017.

Compensation cost is generally recognized over the stated vesting period consistent with the terms of the arrangement (i.e., either on a straight-line or graded-vesting basis). Expense recognition is accelerated for retirement-eligible individuals who would meet the requirements for vesting of awards upon their retirement. As of March 31, 2018 the stock options were fully expensed. As of March 31, 2017, there was $0.1 million of unrecognized compensation cost related to non-vested stock options, which is expected to be recognized over a weighted average period of 0.6 years.

Director Awards

Non-employee directors were granted equity awards under the Versum Long-Term Incentive Plan, with a grant date fair value of $100,000 annually. In the second quarter 2018 non-employee directors were granted restricted stock units (“RSUs”) for service on our Board of Directors through the 2019 annual meeting of stockholders. Subject to continued service on the Board of Directors, the RSUs vest on the earlier of February 8, 2019, and the date immediately prior to Versum's next annual meeting of stockholders, and will be settled in common stock upon vesting. The grant date fair value per share is equal to the closing sales price of our common stock as reported on the New York Stock Exchange on the date of grant.

During the three and six months ended March 31, 2018, $0.2 million and $0.3 million, respectively, in share-based compensation expense was recognized related to these awards.

12. STOCKHOLDERS' EQUITY

Accumulated Other Comprehensive Income (Loss)

The table below summarizes changes in accumulated other comprehensive income (loss) ("AOCL"), net of tax:

(In millions)	Net income on derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance, September 30, 2017	$ (0.2)	$ (16.0)	$ (2.2)	$ (18.4)
Other comprehensive income before reclassifications	0.1	26.3	—	26.4
Amounts reclassified from AOCL	—	—	—	—
Net current period other comprehensive income	0.1	26.3	—	26.4
Other comprehensive income attributable to non-controlling interest	—	1.6	—	1.6
Balance, March 31, 2018	$ (0.1)	$ 8.7	$ (2.2)	$ 6.4

(In millions)	Net loss on derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance, September 30, 2016	$ (0.2)	$ (9.8)	$ —	$ (10.0)
Other comprehensive loss before reclassifications	—	(4.6)	—	(4.6)
Net transfers from Air Products	—	3.8	(5.9)	(2.1)
Amounts reclassified from AOCL	—	—	0.2	0.2
Net current period other comprehensive loss	—	(0.8)	(5.7)	(6.5)
Other comprehensive loss attributable to non-controlling interest	—	1.4	—	1.4
Balance, March 31, 2017	$ (0.2)	$ (12.0)	$ (5.7)	$ (17.9)

The table below summarizes the reclassifications out of accumulated other comprehensive income (loss) and the affected line item on the consolidated income statements:

	Six Months Ended March 31,	
(In millions)	2018	2017
Pension and Postretirement Benefits, net of tax[(A)]	$ —	$ 0.2

(A) The components include actuarial loss amortization and are reflected in net periodic benefit cost. Refer to Note 10, Retirement Benefits, for further information.

Cash Dividend

Holders of the Company's common stock are entitled to receive dividends when they are declared by the Company's Board of Directors. On October 31, 2017, the Company's Board of Directors declared a quarterly cash dividend of $0.05 per share, totaling $5.5 million, which was paid on November 27, 2017 to shareholders of record as of November 13, 2017. On January 30, 2018, the Company's Board of Directors declared a quarterly cash dividend of $0.05 per share, totaling $5.4 million, which was paid on February 27, 2018 to shareholders of record as of February 13, 2018.

Future dividend declarations, if any, as well as the record and payment dates for such dividends, are subject to the final determination of the Company's Board of Directors.

13. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per share:

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions, except per share data)				
Numerator				
Net Income Attributable to Versum	$ 61.6	$ 44.9	$ 80.2	$ 95.7
Denominator				
Weighted average number of common shares - Basic	108.9	108.7	108.9	108.7
Effect of dilutive securities				
Employee stock option and other award plans	0.8	0.6	0.9	0.5
Weighted average number of common shares - Diluted	109.7	109.3	109.8	109.2
Earnings Per Common Share Attributable to Versum				
Net Income Attributable to Versum - Basic	$ 0.57	$ 0.41	$ 0.74	$ 0.88
Net Income Attributable to Versum - Diluted	0.56	0.41	0.73	0.88

For the three and six months ended March 31, 2018, outstanding share-based awards of 0.2 million and 0.1 million shares, respectively, were anti-dilutive and therefore excluded from the computation of diluted earnings per share. For the three and six months ended March 31, 2017, outstanding share-based awards of 0.0 million and 0.1 million shares, respectively, were anti-dilutive and therefore excluded from the computation of diluted earnings per share.

14. COMMITMENTS AND CONTINGENCIES

Litigation

In the normal course of business, Versum may be involved in various legal proceedings, including commercial, environmental, health, safety, and product liability matters. Although litigation with respect to these matters is routine and incidental to the conduct of our business, such litigation may result in large monetary awards for compensatory and punitive damages. Versum does not currently believe that there are any legal proceedings, individually or in the aggregate, that are reasonably possible to have a material impact on its financial condition, results of operations, or cash flows. While Versum cannot predict the outcome of any litigation, environmental, or regulatory matter or the potential for future litigation or regulatory action, we have evaluated all litigation, environmental and regulatory proceedings, claims and assessments in which Versum is involved, and do not believe that any of these matters, individually or in the aggregate, will result in losses that are materially in excess of amounts already recognized, if any.

Refer to Note 21 of "Notes to the Annual Consolidated Financial Statements" in Item 8 of Part II of our Annual Report on Form 10-K for the fiscal year ended September 30, 2017, for additional information regarding commitments and contingencies.

15. SEGMENT INFORMATION

We are comprised of two primary operating segments, Materials and Delivery Systems and Services, under which we manage our operations and assess performance, and a Corporate segment. Our segments are differentiated by the types of products sold.

Segment

	Three Months Ended March 31,		Six Months Ended March 31,	
	2018	2017	2018	2017
(In millions)				
Sales				
Materials	$ 218.9	$ 198.3	$ 433.5	$ 406.3
Delivery Systems and Services	121.1	71.7	236.4	133.6
Corporate	0.7	0.8	1.6	1.7
Total	$ 340.7	$ 270.8	$ 671.5	$ 541.6
Operating Income (Loss)				
Materials	$ 71.6	$ 65.1	$ 137.4	$ 138.0
Delivery Systems and Services	32.9	17.7	66.3	30.1
Corporate	(6.9)	(6.8)	(15.4)	(9.8)
Segment Total	$ 97.6	$ 76.0	$ 188.3	$ 158.3
Business separation, restructuring and cost reduction actions	(8.2)	(6.1)	(10.0)	(9.3)
Total	$ 89.4	$ 69.9	$ 178.3	$ 149.0

	March 31, 2018	September 30, 2017
(In millions)		
Total Assets		
Materials	$ 831.8	$ 773.8
Delivery Systems and Services	151.1	110.9
Corporate	362.5	362.1
Total	$ 1,345.4	$ 1,246.8

16. SUBSEQUENT EVENT

Cash Dividend

On May 2, 2018, the Company's Board of Directors declared a quarterly cash dividend of $0.06 per share, to be paid on May 29, 2018 to shareholders of record as of May 15, 2018.

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

The following discussion should be read in conjunction with, and is qualified in its entirety by reference to, the financial statements and notes thereto included in Part I, Item 1 of this Quarterly Report on Form 10-Q and our Management's Discussion and Analysis of Financial Condition and Results of Operations for the year ended September 30, 2017, included in our Annual Report on Form 10-K. This Quarterly Report on Form 10-Q contains certain "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements may be identified by references to future periods, and include statements about the fiscal year 2018 outlook for Versum, and statements about our business strategies, operating plans, anticipated growth rates, anticipated profitability and margins, sales expectations, future operating income and Adjusted EBITDA, estimates regarding future capital requirements, estimates of expenses and cost reduction efforts, estimates of future tax liability and effective tax rates, our ability to execute on our strategy and deliver on our commitments to customers and stakeholders, our ability to meet customer demand, estimates of the size of the market for our products, forecasted industry capital spending and anticipated demand for our products, inorganic growth opportunities, our ability to compete successfully as a leading materials supplier to the semiconductor industry, and other matters. The words "believe," "expect," "anticipate," "project," "estimate," "budget," "continue," "could," "intend," "may," "plan," "potential," "predict," "seek," "should," "will," "would," "objective," "forecast," "goal," "guidance," "outlook," "target," and similar expressions, among others, generally identify forward-looking statements, which are based on management's reasonable expectations and assumptions as of the date the statements were made. Actual results and the outcomes of future events may differ materially from those expressed or implied in the forward-looking statements because of a number of risks and uncertainties, including, without limitation, product supply versus demand imbalances in the semiconductor industry or in certain geographic markets may decrease the demand for our goods and services; our concentrated customer base; our dependence upon the capital expenditure cycles of our customers; our ability to continue technological innovation and successfully introduce new products to meet the evolving needs of our customers; our ability to protect and enforce our intellectual property rights and to avoid violating any third party intellectual property or technology rights; unexpected interruption of or shortages in our raw material supply; inability of sole source, limited source or qualified suppliers to deliver to us in a timely manner or at all; hazards associated with specialty chemical manufacturing, such as fires, explosions and accidents, could disrupt our operations or the operations of our suppliers or customers; increased competition and new product development by our competitors, changing customer needs and price changes in materials and components could result in declining demand for our products; operational, political and legal risks of our international operations, including government actions such as trade wars; recent changes in U.S. tax laws; the impact of changes in environmental and health and safety regulations, anticorruption enforcement, sanctions, import/export controls, tax and other legislation and regulations in jurisdictions in which Versum Materials and its affiliates operate; our available cash and access to additional capital may be limited by substantial leverage and debt service obligations; uncertainty regarding the availability of financing to us in the future and the terms of such financing; agreements governing our indebtedness may restrict our current and future operations, and hamper our ability to respond to changes or to take certain actions; government regulation of raw materials, products and facilities may impact our product manufacturing processes, handling, storage, transportation, uses and applications; possible liability for contamination, personal injury or third party impacts if hazardous materials are released into the environment; cyber security threats may compromise our data or disrupt our information technology applications or services; fluctuation of currency exchange rates; costs and outcomes of litigation or regulatory investigations; the timing, impact, and other uncertainties of future acquisitions or divestitures; restrictions in our governing documents and of Delaware law may prevent or delay an acquisition of us; tax and other potential liabilities to Air Products assumed in connection with the separation and spin-off; restrictions against engaging in certain corporate transactions for two years following the separation and spin-off; potential conflicts of interest between us and Air Products by our directors and officers; potential liabilities arising out of state and federal fraudulent conveyance laws and legal dividend requirements with respect to the separation and spin-off and related internal reorganization transactions; and other risk factors described in our most recent Annual Report on Form 10-K and in any of our subsequently filed Quarterly Reports on Form 10-Q, each as filed with the Securities and Exchange Commission ("SEC") and available on the Internet at www.sec.gov. Versum disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements contained in this document to reflect any change in assumptions, beliefs or expectations or any change in circumstances upon which any such forward-looking statements are based.

The discussion that follows includes comparisons to non-GAAP financial measures. The presentation of non-GAAP measures is intended to enhance the usefulness of financial information by providing measures which, when viewed together with our *financial results reported in accordance with GAAP, provide a more complete understanding of the factors and trends affecting our historical financial performance and projected future results. The reconciliation of reported GAAP results to non-GAAP measures is presented in this Management's Discussion and Analysis of Financial Condition and Results of Operations.*

OVERVIEW

Description of the Company

Versum is a global business that provides innovative solutions for specific customer applications based on our expertise in specialty materials for the semiconductor industry. Versum is comprised of two operating segments, Materials and Delivery Systems and Services ("DS&S"), under which we manage our operations and assess performance, and a Corporate segment. Strong customer relationships, collaborative development, technology leadership, unique product positioning and a strong global infrastructure with in-region flexible manufacturing capabilities are fundamental to our business.

Versum is a leading global producer of critical materials, including high purity process materials, cleaners and etchants, slurries, organosilanes and organometallics, and equipment which we sell to the semiconductor and display industries. Through our global network, our business positions its research, manufacturing and technical support close to its customer facilities, enabling supply chain optimization and rapid response times to the product and service needs of our customers. Many of our products have undergone rigorous product performance and quality reviews by our customers to be qualified for use in their products or manufacturing processes. Once these qualification processes are completed and our products are designated by our customers for use in their processes or products, it is often time consuming and costly for our customers to change suppliers. Our products perform critical tasks in customers' products or manufacturing processes, yet typically represent a very small portion of the cost of the end product. Over the last 20 plus years, we have developed strong relationships with the majority of the industry-leading Integrated Device Manufacturers, Foundries and Original Equipment Manufacturers through on-site service and technical personnel at these customers' facilities.

In addition to our two operating segments, our Corporate segment includes certain administrative costs associated with operating a public company, foreign exchange gains and losses and other income and expense that cannot be directly associated with operating segments. Assets in the Corporate segment include cash and deferred tax assets.

Our Markets

Our business is driven primarily by the demand for semiconductors for both logic and memory and to a lower extent, displays. Growth in mobile devices, cloud computing, connectivity and data monitoring and storage are driving increasing demand for semiconductors and displays into durable goods and other devices. This has resulted in increased correlation between semiconductor demand and global gross domestic product ("GDP"). In our Materials segment, demand for our products is correlated to the level of semiconductor production which in turn is correlated to general GDP. Demand for our products is further enhanced by participation in the advanced technologies and changing architecture of semiconductor devices. In our DS&S segment, product demand more closely follows the amount of capital investment for equipment and manufacturing capacity in the semiconductor industry and sales are impacted by our customers' investment in new fabrication facilities or in refurbishing existing fabrication facilities.

In fiscal 2017, we experienced growth in our business due to favorable trends in the underlying semiconductor market. This included strong VNAND memory demand fueled by the industry's move to more vertical layers and the transition to 10 NM production in advanced logic devices. Capital spending by the semiconductor industry was at historically high levels, driving demand for equipment in our DS&S segment. In addition, increasing semiconductor output levels fueled demand for our products in the Materials segment.

Longer term semiconductor industry growth is expected to remain attractive, growing at a multiple of GDP driven by the broadening use of technology into many market segments including automotive, industrial, medical, data analytic and consumer applications.

For 2018, we expect semiconductor growth to be in the 5 to 7% range as measured by MSI (millions of square inches of silicon produced) and semiconductor capital spending, measured by WFE (wafer fab equipment spending) to be 9 to 11%.

We believe semiconductor growth will continue to translate into strong demand for both new and legacy material products in our Materials segment. To take advantage of the strong market we expect to continue to innovate and increase manufacturing capability for our new products in our Advanced Materials product line. We expect to increase our investment to support organic growth to enhance our positions in key geographies such as Korea and China and improve our cost and capacity positions for key products in our Materials segment. We expect lessening headwinds from pricing and continued capacity constraints for certain products in our Process Materials product line.

We expect our DS&S segment to continue to grow based on the continued high level of industry capital spending especially for the memory market, our position with key customers and the further development of the semiconductor market in China.

Performance Summary

Second Quarter 2018 vs Second Quarter 2017

- Sales of $340.7 million increased $69.9 million, or 25.8%. Sales increased due to higher volumes of 28% partially offset by unfavorable price/mix of 4%. The increase in sales was attributable to robust growth in our DS&S segment with strong volume growth in both Advanced Materials and Process Materials product lines offset by unfavorable price/mix. Currency changes had a favorable impact on sales of 2%.

- Operating income of $89.4 million increased $19.5 million, or 27.9%, due to higher volumes of $34 million partially offset by higher Selling & Administrative and Research & Development ("SARD") and other costs of $7 million, unfavorable gross profit impacts of $5 million and unfavorable separation, restructuring and cost reduction actions of $2 million. Operating income margin was 26.2%, up 40 basis points ("bp").

- Adjusted EBITDA of $109.9 million increased $23.0 million, or 26.5%, primarily due to higher volumes of $34 million partially offset by higher SARD and other costs of $7 million and unfavorable gross profit impacts of $4 million. The major drivers of the improved performance were the strong volumes in both DS&S and Materials coupled with modestly favorable currency. These were partially offset by unfavorable gross profit impacts in Materials and higher SARD and other costs to support growth. Adjusted EBITDA margin was 32.3%, up 20 bp.

- Cash flows from operations for the six months ended March 31, 2018 was $56.5 million, with cash used for capital spending of $65.1 million, including $26.7 million of capital spending related to one-time restructuring activities versus cash flows from operations for the six months ended March 31, 2017 of $93.0 million. The reduction of $36.5 million is primarily due to vendor prepayments in advance of our SAP system go live and prior year spin related positive cash flow impacts.

RESULTS OF OPERATIONS

Discussion of Consolidated Results - Three Months Ended March 31, 2018 vs. Three Months Ended March 31, 2017

	Three Months Ended March 31,	
(In millions)	2018	2017
Sales	$ 340.7	$ 270.8
Cost of sales	195.9	154.5
Selling and administrative	36.6	29.5
Research and development	11.1	10.9
Business separation, restructuring and cost reduction actions	8.2	6.1
Other (income) expense, net	(0.5)	(0.1)
Operating income	89.4	69.9
Interest expense	11.9	11.6
Income Before Taxes	77.5	58.3
Income tax provision	14.2	11.5
Net Income	63.3	46.8
Less: Net Income Attributable to Non-controlling Interests	1.7	1.9
Net Income Attributable to Versum	$ 61.6	$ 44.9
Non-GAAP Basis		
Adjusted EBITDA	$ 109.9	$ 86.9

Three Months Ended March 31, 2018 vs. 2017

	% Change from Prior Period
	Three Months Ended March 31, 2018
Sales	
Volume	28 %
Price/mix	(4)%
Currency	2 %
Total Versum Change	26 %

Sales of $340.7 million increased $69.9 million, or 25.8%. Sales increased due to higher volumes of 28% partially offset by unfavorable price/mix of 4%. Currency changes had a favorable impact on sales of 2%. The Materials segment's sales increased 10% from strong volume growth in both Advanced Materials and Process Materials partially offset by unfavorable price/mix. The DS&S segment's sales increased 69% primarily driven by continued strong equipment and installation sales growth due to robust demand across all markets, especially Korea and China.

Operating Income and Operating Margin

Operating income of $89.4 million increased $19.5 million, or 27.9%, due to higher volumes of $34 million partially offset by higher SARD and other costs of $7 million, unfavorable gross profit impacts of $5 million and unfavorable separation, restructuring and cost reduction actions of $2 million. Operating margin increased 40 bp.

Cost of Sales and Gross Profit Margin

Cost of sales of $195.9 million increased $41.4 million, or 26.8%, as a result of higher delivery systems activity of $33 million and higher raw materials cost of $7 million due to higher volumes and higher costs of $2 million. Gross profit margin of 42.5% decreased by 40 bp primarily as a result of unfavorable segment mix due to robust DS&S revenues.

Selling and Administrative Expense

Selling and administrative expense of $36.6 million increased by $7.1 million. The increase was primarily due to increased staffing to support our business growth and infrastructure costs attributed to becoming an independent company. Selling and administrative expense as a percent of sales decreased to 10.7% from 10.9%.

Research and Development

Research and development expense of $11.1 million increased $0.2 million, or 1.8%, due to increased spending following our prior year restructuring. Research and development expense as a percent of sales remained flat at 3.3%.

Business Separation, Restructuring and Cost Reduction Actions

During the three months ended March 31, 2018, we recognized a net charge of $8.2 million. The net charge primarily consisted of additional costs as a result of the relocation of certain research and development activities and headquarters and set up of the stand-alone organization and infrastructure.

Other (Income) Expense, Net

Items recorded to other (income) expense, net arise from transactions and events not directly related to our principal income earning activities.

Other income, net was $0.5 million for the three months ended March 31, 2018 compared to $0.1 million for the three months ended March 31, 2017. The increase was not significant.

Interest Expense

Interest incurred increased $0.3 million. The increase was not significant.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. The effective tax rate was 18.3% for the three months ended March 31, 2018 compared to 19.7% for the three months ended March 31, 2017. The decrease in effective tax rate was attributable primarily to (1) a decrease in the provisional U.S. tax charge on the deemed mandatory repatriation of certain accumulated foreign earnings as a result of the newly-enacted Tax Act, (2) a tax benefit related to reversal of an uncertain tax position in a foreign jurisdiction as a result of a statute of limitation expiration; and (3) the reduction in the benefits associated with foreign tax holidays. See Note 7, “Income Taxes”, to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Discussion of Consolidated Results - Six Months Ended March 31, 2018 vs. Six Months Ended March 31, 2017

	Six Months Ended March 31,	
(In millions)	**2018**	**2017**
Sales	$ 671.5	$ 541.6
Cost of sales	387.5	305.4
Selling and administrative	71.9	59.7
Research and development	23.8	21.2
Business separation, restructuring and cost reduction actions	10.0	9.3
Other (income) expense, net	—	(3.0)
Operating income	178.3	149.0
Interest expense	23.2	23.1
Write-off of financing costs	2.1	—
Income Before Taxes	153.0	125.9
Income tax provision	69.1	26.8
Net Income	83.9	99.1
Less: Net Income Attributable to Non-controlling Interests	3.7	3.4
Net Income Attributable to Versum	$ 80.2	$ 95.7
Non-GAAP Basis		
Adjusted EBITDA	$ 212.2	$ 180.1

Six Months Ended March 31, 2018 vs. 2017

	% Change from Prior Period
	Six Months Ended March 31, 2018
Sales	
Volume	26 %
Price/mix	(4)%
Currency	2 %
Total Versum Change	24 %

Sales of $671.5 million increased $129.9 million, or 24.0%. Sales increased due to higher volumes of 26% partially offset by unfavorable price/mix of 4%. Currency changes had a favorable impact on sales of 2%. The Materials segment's sales increased 7% led by strong volume growth in both Advanced Materials and Process Materials offset by unfavorable price/mix. The DS&S segment's sales increased 77% primarily driven by continued strong equipment and installation sales growth due to robust demand across all markets especially Korea and China.

Operating Income and Operating Margin

Operating income of $178.3 million increased $29.3 million, or 19.7%, due to higher volumes of $58 million offset by higher SARD and other costs of $18 million, unfavorable gross profit impacts of $10 million and unfavorable separation, restructuring and cost reduction actions of $1 million. Operating margin decreased 90 bp.

Cost of Sales and Gross Profit Margin

Cost of sales of $387.5 million increased $82.1 million, or 26.9%, as a result of higher delivery systems activity of $65 million and higher raw materials cost of $14 million due to higher volumes and higher costs of $3 million. Gross profit margin of 42.3% decreased by 130 bp primarily as a result of unfavorable segment and customer mix.

Selling and Administrative Expense

Selling and administrative expense of $71.9 million increased by $12.2 million. The increase was primarily due to increased staffing to support business growth and infrastructure costs attributed to becoming an independent company. Selling and administrative expense as a percent of sales decreased to 10.7% from 11.0%.

Research and Development

Research and development expense of $23.8 million increased $2.6 million, or 12.3%, due to increased spending following our prior year restructuring. Research and development expense as a percent of sales remained flat at 3.5%.

Business Separation, Restructuring and Cost Reduction Actions

During the six months ended March 31, 2018, we recognized a net charge of $10.0 million. The net charge primarily consisted of additional costs as a result of the relocation of certain research and development activities and headquarters and set up of the stand-alone organization and infrastructure.

Other (Income) Expense, Net

Items recorded to other (income) expense, net arise from transactions and events not directly related to our principal income earning activities.

Other income, net was zero for the six months ended March 31, 2018 compared to $3.0 million for the six months ended March 31, 2017. This change is mainly due to changes in foreign exchange on overseas cash holdings.

Interest Expense

Interest incurred increased $0.1 million. The increase was not significant.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. The effective tax rate was 45.2% for the six months ended March 31, 2018 compared to 21.3% for the six months ended March 31, 2017. The change in effective tax rate was attributable primarily to (1) a one-time U.S. tax charge on the deemed mandatory repatriation of certain accumulated foreign earnings as a result of the newly-enacted Tax Act, (2) a one-time revaluation of deferred tax assets and liabilities as a result of the tax rate and compensation deductibility provisions in the Tax Act, (3) the reduction in the benefits associated with foreign tax holidays; and (4) a tax benefit related to reversal of an uncertain tax position in a foreign jurisdiction as a result of a statute of limitation expiration. See Note 7, “Income Taxes”, to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

The discussion of our results includes comparisons to non-GAAP financial measures, including Adjusted EBITDA and Adjusted EBITDA Margin. The presentation of non-GAAP measures is intended to enhance the usefulness of financial information by providing measures which management uses internally to evaluate our operating performance.

We use non-GAAP measures to assess our operating performance by excluding certain disclosed items that we believe are not representative of our underlying business. Management may use these non-GAAP measures to evaluate our performance period over period and relative to competitors in our industry, to analyze underlying trends in our business, to establish operational budgets and forecasts or for incentive compensation purposes. We use Adjusted EBITDA to calculate performance-based cash bonuses. Adjusted EBITDA is also used for certain covenants under our senior secured credit facilities. We use Segment Adjusted EBITDA as the primary measure to evaluate the ongoing performance of our business segments. We believe non-GAAP financial measures provide security analysts, investors and other interested parties with meaningful information to understand our underlying operating results and to analyze financial and business trends. Non-GAAP financial measures, including Adjusted EBITDA, should not be viewed in isolation, are not a substitute for GAAP measures, and have limitations which include but are not limited to:

- Our measures exclude (1) expenses related to business separation, restructuring and cost reduction actions, as detailed in Note 3, "Business Separation, Restructuring and Cost Reduction Actions", to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q, and (2) the write-off of financing costs, each of which we do not consider to be representative of our underlying business operations. However, these disclosed items represent costs to Versum.

- Though not business operating costs, interest expense and income tax provision represent ongoing costs of Versum.

- Depreciation and amortization charges represent the wear and tear or reduction in value of the plant, equipment, and intangible assets which permit us to manufacture and market our products.

- Other companies may define non-GAAP measures differently than we do, limiting their usefulness as comparative measures.

A reader may find any one or all of these items important in evaluating our performance. Management compensates for the limitations of using non-GAAP financial measures by using them only to supplement our GAAP results to provide a more complete understanding of the factors and trends affecting our business. In evaluating these non-GAAP financial measures, the reader should be aware that we may incur expenses similar to those eliminated in this presentation in the future.

Presented below is a reconciliation of the reported GAAP results to the non-GAAP measure:

Adjusted EBITDA and EBITDA Margin

We define Adjusted EBITDA as net income excluding certain disclosed items, which we do not believe to be indicative of underlying business trends, before interest expense, write-off of financing costs, income tax provision, depreciation and amortization expense, non-controlling interest and business separation, restructuring, and cost reduction actions. Adjusted EBITDA provides a useful metric for management to assess operating performance. Adjusted EBITDA margin is calculated by dividing Adjusted EBITDA by sales.

Three Months Ended March 31, 2018 vs. 2017

Below is a reconciliation of net income to Adjusted EBITDA:

	Three Months Ended March 31,	
	2018	2017
(In millions, except percentages)		
Net Income Attributable to Versum	$ 61.6	$ 44.9
Add: Interest expense	11.9	11.6
Add: Income tax provision	14.2	11.5
Add: Depreciation and amortization	12.3	10.9
Add: Non-controlling interests	1.7	1.9
Add: Business separation, restructuring and cost reduction actions	8.2	6.1
Adjusted EBITDA	$ 109.9	$ 86.9
Adjusted EBITDA Margin	32.3%	32.1%
Change from prior year	$ 23.0	
% change from prior year	26.5%	

Adjusted EBITDA of $109.9 million increased $23.0 million, or 26.5%, primarily due to higher volumes of $34 million partially offset by higher SARD and other costs of $7 million and unfavorable gross profit impacts of $4 million.

SEGMENT LEVEL FINANCIAL RESULTS

Sales

	Three Months Ended March 31,	
	2018	2017
(In millions)		
Materials	$ 218.9	$ 198.3
DS&S	121.1	71.7
Corporate	0.7	0.8
Total Company Sales	$ 340.7	$ 270.8

Below is a reconciliation of segment operating income to segment adjusted EBITDA:

	Three Months Ended March 31,	
(In millions, except percentages)	2018	2017
Materials		
Operating income	$ 71.6	$ 65.1
Add: Depreciation and amortization	11.6	10.1
Segment Adjusted EBITDA	$ 83.2	$ 75.2
Segment Adjusted EBITDA margin[(A)]	38.0%	37.9%
DS&S		
Operating income	$ 32.9	$ 17.7
Add: Depreciation and amortization	0.4	0.4
Segment Adjusted EBITDA	$ 33.3	$ 18.1
Segment Adjusted EBITDA margin[(A)]	27.5%	25.2%
Corporate		
Operating loss	$ (6.9)	$ (6.8)
Add: Depreciation and amortization	0.3	0.4
Segment Adjusted EBITDA	$ (6.6)	$ (6.4)
Total Versum Adjusted EBITDA	$ 109.9	$ 86.9

(A) Segment adjusted EBITDA margin is calculated by dividing segment Adjusted EBITDA by segment sales.

Below is a reconciliation of segment total operating income to consolidated operating income:

	Three Months Ended March 31,	
(In millions)	2018	2017
Operating Income		
Segment total	$ 97.6	$ 76.0
Business separation, restructuring and cost reduction actions	(8.2)	(6.1)
Combined Total	$ 89.4	$ 69.9

Materials

	% Change from Prior Period
	Three Months Ended March 31, 2018
Sales	
Volume	15 %
Price/mix	(7)%
Currency	2 %
Total Materials Sales Change	10 %

Sales of $218.9 million increased $20.6 million, or 10.4%, primarily due to higher volumes of 15% and favorable currency impacts of 2%. The higher volumes of 15% were driven by strong growth in both Advanced Materials and Process Materials. These increases were partially offset by unfavorable price/mix of 7% primarily in Process Materials.

Operating income of $71.6 million increased $6.5 million, or 10.0%, due to higher volumes of $14 million partially offset by higher SARD costs of $5 million in support of growth investments and expansion initiatives and unfavorable gross profit impacts of $2 million primarily from Process Materials carryover pricing impacts, mix and higher material costs.

Adjusted EBITDA of $83.2 million increased $8.0 million, or 10.6%, due to higher volumes of $14 million partially offset by higher SARD costs of $5 million in support of growth investments and expansion initiatives and unfavorable gross profit impacts of $1 million primarily from Process Materials carryover pricing, mix and higher material costs. Adjusted EBITDA margin of 38.0% increased 10 bp.

Delivery Systems and Services

	% Change from Prior Period
	Three Months Ended March 31, 2018
Sales	
Volume	66%
Price/mix	—%
Currency	3%
Total DS&S Sales Change	69%

Sales of $121.1 million increased $49.4 million, or 68.9%, due to continued strong equipment and installation sales growth due to robust demand across all markets especially China and Korea.

Operating income of $32.9 million increased $15.2 million, or 85.9%, due to higher volumes of $20 million partially offset by unfavorable gross profit impacts of $3 million and higher SARD costs of $2 million.

Adjusted EBITDA of $33.3 million increased $15.2 million, or 84.0%, due to higher volumes of $20 million partially offset by unfavorable gross profit impacts of $3 million and higher SARD costs of $2 million. Adjusted EBITDA margin of 27.5% increased 230 bp driven by the benefits from higher volumes.

Corporate

Operating loss of $6.9 million increased by $0.1 million, or 1.5%, which is not material.

Adjusted EBITDA loss of $6.6 million increased by $0.2 million, or 3.1%, primarily due to foreign exchange on overseas cash holdings.

Six Months Ended March 31, 2018 vs. 2017

Below is a reconciliation of net income to Adjusted EBITDA:

	Six Months Ended March 31,	
	2018	2017
(In millions, except percentages)		
Net Income Attributable to Versum	$ 80.2	$ 95.7
Add: Interest expense	23.2	23.1
Add: Write-off of financing costs	2.1	—
Add: Income tax provision	69.1	26.8
Add: Depreciation and amortization	23.9	21.8
Add: Non-controlling interests	3.7	3.4
Add: Business separation, restructuring and cost reduction actions	10.0	9.3
Adjusted EBITDA	$ 212.2	$ 180.1
Adjusted EBITDA Margin	31.6%	33.3%
Change from prior year	$ 32.1	
% change from prior year	17.8%	

Adjusted EBITDA of $212.2 million increased $32.1 million, or 17.8%, primarily due to higher volumes of $58 million partially offset by higher SARD and other costs of $18 million and unfavorable gross profit impacts of $8 million.

SEGMENT LEVEL FINANCIAL RESULTS

Sales

	Six Months Ended March 31,	
	2018	2017
(In millions)		
Materials	$ 433.5	$ 406.3
DS&S	236.4	133.6
Corporate	1.6	1.7
Total Company Sales	$ 671.5	$ 541.6

Below is a reconciliation of segment operating income to segment adjusted EBITDA:

(In millions, except percentages)	Six Months Ended March 31, 2018		Six Months Ended March 31, 2017	
Materials				
Operating income	$	137.4	$	138.0
Add: Depreciation and amortization		22.6		20.3
Segment Adjusted EBITDA	$	160.0	$	158.3
Segment Adjusted EBITDA margin[(A)]		36.9%		39.0%
DS&S				
Operating income	$	66.3	$	30.1
Add: Depreciation and amortization		0.7		0.7
Segment Adjusted EBITDA	$	67.0	$	30.8
Segment Adjusted EBITDA margin[(A)]		28.3%		23.1%
Corporate				
Operating loss	$	(15.4)	$	(9.8)
Add: Depreciation and amortization		0.6		0.8
Segment Adjusted EBITDA	$	(14.8)	$	(9.0)
Total Versum Adjusted EBITDA	$	212.2	$	180.1

(A) Segment adjusted EBITDA margin is calculated by dividing segment Adjusted EBITDA by segment sales.

Below is a reconciliation of segment total operating income to consolidated operating income:

(In millions)	Six Months Ended March 31, 2018		Six Months Ended March 31, 2017	
Operating Income				
Segment total	$	188.3	$	158.3
Business separation, restructuring and cost reduction actions		(10.0)		(9.3)
Combined Total	$	178.3	$	149.0

Materials

	% Change from Prior Period Six Months Ended March 31, 2018
Sales	
Volume	11 %
Price/mix	(6)%
Currency	2 %
Total Materials Sales Change	7 %

Sales of $433.5 million increased $27.2 million, or 6.7%, primarily due to higher volumes of 11% and favorable currency impacts of 2%. The higher volumes of 11% were driven by strong growth in both Advanced Materials and Process Materials. These increases were partially offset by unfavorable price/mix of 6%.

Operating income of $137.4 million decreased $0.6 million, or 0.4%, due to higher volumes of $17 million offset by higher SARD costs of $10 million in support of growth investments and expansion initiatives and unfavorable gross profit impacts of $8 million primarily from Process Materials carryover pricing, mix and higher material costs.

Adjusted EBITDA of $160.0 million increased $1.7 million, or 1.1%, due to higher volumes of $17 million partially offset by higher SARD costs of $10 million in support of growth investments and expansion initiatives and unfavorable gross profit impacts of $5 million primarily from Process Materials carryover pricing impacts, mix and higher material costs. Adjusted EBITDA margin of 36.9% decreased 210 bp, primarily due to higher SARD costs in part to support of our growth investments and expansion initiatives.

Delivery Systems and Services

	% Change from Prior Period Six Months Ended March 31, 2018
Sales	
Volume	75%
Price/mix	—%
Currency	2%
Total DS&S Sales Change	77%

Sales of $236.4 million increased $102.8 million, or 76.9%, due to continued strong equipment and installation sales growth due to robust demand across all markets especially China and Korea.

Operating income of $66.3 million increased $36.2 million, or 120.3%, due to higher volumes of $41 million partially offset by higher SARD and other costs of $3 and gross profit impacts of $2 million.

Adjusted EBITDA of $67.0 million increased $36.2 million, or 117.5%, due to higher volumes of $41 million partially offset by higher SARD and other costs of $3 million and unfavorable gross profit impacts of $2 million. Adjusted EBITDA margin of 28.3% increased 520 bp.

Corporate

Operating loss of $15.4 increased by $5.6 million, or 57.1%, primarily due to unfavorable foreign exchange impact on overseas cash holdings and higher corporate staffing associated with becoming an independent company.

Adjusted EBITDA loss of $14.8 million increased by $5.8 million, or 64.4%, primarily due to foreign exchange on overseas cash holdings and higher corporate staffing.

LIQUIDITY AND CAPITAL RESOURCES

Historically, a significant portion of our cash balances are generated by operating activities. Our primary sources of liquidity are cash on hand, which was $254.4 million at March 31, 2018, short-term investments, our cash flows from operations, our Revolving Facility and various non-U.S. credit facilities. We anticipate that our primary uses of cash will be for working capital, debt service, capital expenditures for expansion, productivity and maintenance, potential dividends, acquisitions and general corporate purposes. Our ability to fund these uses of liquidity also will often depend upon where we generate cash, our ability to reinvest in such countries and our ability to repatriate cash into the U.S. Our ability to fund operations and capital needs will depend upon our ongoing ability to generate cash from operations and access the capital markets. We believe that future cash from operations, our Revolving Facility, and access to capital markets will provide adequate resources to meet working capital needs, potential dividends, capital expenditures and strategic investments.

As of March 31, 2018, the majority of our cash and cash items of $254.4 million were held outside the U.S. If we elect to repatriate the foreign cash, we may be required to accrue and pay withholding taxes on a portion of these amounts.

As of March 31, 2018, we had availability of $200.0 million under our Revolving Facility and approximately $20.8 million under our various non-US credit facilities.

As of March 31, 2018, we had $991.4 million of total debt. Our scheduled principal repayments on debt include $2.9 million due in 2018, $5.8 million due in 2019, $5.8 million due in 2020, $5.8 million due in 2021, $5.8 million due in 2022 and $965.3 million due thereafter. We were in compliance with all of our debt covenants at March 31, 2018, and we expect to remain in compliance with these covenants for at least the next twelve months.

On October 10, 2017, Versum amended its credit agreement. The amendment decreased the interest rate on borrowings under the Term Facility to LIBOR plus a margin of 2.00%, or an alternate base rate plus a margin of 1.00%. The amendment removed the minimum floor on LIBOR and the alternate base rate. If our total leverage ratio is equal to or less than 2.00:1.00 (calculated without any netting of cash on hand) the interest rate on the term loan facility will decrease further to LIBOR plus a margin of 1.75%, or an alternate base rate plus a margin of 0.75%.

For a summary of our Senior Credit Facilities and the Notes, see Note 6, "Debt", to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

To take advantage of the continued strong market demand and the opportunity to drive organic growth, we anticipate increasing our capital expenditures in fiscal year 2018. This includes enhancing our research and manufacturing capabilities in key geographies such as Korea and China and improving our cost and capacity positions in certain Materials products.

In connection with the Tax Act, we recorded a provisional liability of $45.9 million for the Federal and State taxes on the mandatory deemed repatriation of certain foreign accumulated earnings. Due to taxes on the mandatory deemed repatriation, less certain foreign tax credits, we expect our Federal and State cash taxes to increase $4.4 million in 2018, $2.5 million in 2019, $2.5 million in 2020, $2.5 million in 2021, $2.5 million in 2022 and $18.9 million thereafter.

Additionally, in support of finalizing our transition to an independent company, we expect to spend an additional $2-5 million of additional capital for relocating the remainder of our infrastructure and establishing our own IT systems during fiscal year 2018.

CASH FLOWS

Our cash flows provided by (used in) operating, investing, and financing activities as reflected in the consolidated statements of cash flows, are summarized in the following table:

	Six Months Ended March 31,	
	2018	2017
(In millions)		
Operating activities	$ 56.5	$ 93.0
Investing activities	(64.1)	(19.3)
Financing activities	(16.6)	(4.2)

Operating Activities

For the six months ended March 31, 2018, cash provided by operating activities was $56.5 million. Net income attributable to Versum of $80.2 million is adjusted for reconciling items that include depreciation and amortization, deferred income taxes, gain on sale of assets and share-based compensation expense. Working capital was a use of cash of $46.6 million. The change in working capital was primarily a result of a decrease in payables and accrued liabilities due to payment of annual incentive compensation from fiscal year 2017 and prepayment of payables in advance of the SAP implementation as well as an increase in trade receivables and contracts in progress due to increased sales activity and period over period timing differences related to collections. This was partially offset by an increase in accrued income taxes of $39.2 million largely attributable to a charge as a result of the Tax Act.

For the six months ended March 31, 2017, cash provided by operating activities was $93.0 million. Net income attributable to Versum of $95.7 million is adjusted for reconciling items that include depreciation and amortization, deferred income taxes, gain on sale of assets and share-based compensation expense. Working capital was a use of cash of $29.0 million. The change in working capital was primarily a result of an increase in trade receivables of $32.0 million due to increased sales and period over period timing differences related to collections.

Investing Activities

For the six months ended March 31, 2018, cash used by investing activities was $64.1 million primarily due to spending for plant and equipment. For the six months ended March 31, 2017, cash used in investing activities was $19.3 million primarily due to spending for plant and equipment.

Capital expenditures in the six months ended March 31, 2018 totaled $65.1 million, including $26.7 million of capital spending related to one-time restructuring activities, compared to $20.2 million in the six months ended March 31, 2017. The increase in capital expenditures of $44.9 million for the period was primarily due to restructuring capital expenditures such as the relocation of our research and development activities and ERP project spending in addition to revenue generating projects.

Financing Activities

For the six months ended March 31, 2018, cash used for financing activities was $16.6 million primarily due to the payment of long-term debt and dividends to shareholders. For the six months ended March 31, 2017, cash used for financing activities was $4.2 million primarily due to the payment of long-term debt and debt issuance costs.

CONTRACTUAL OBLIGATIONS

We are obligated to make future payments under various contracts such as debt agreements, lease agreements, unconditional purchase obligations, and other long-term obligations. There have been no material changes to contractual obligations since September 30, 2017.

LONG-TERM EMPLOYEE BENEFITS

Refer to Note 10, "Retirement Benefits", to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for further discussion.

OFF-BALANCE SHEET ARRANGEMENTS

As of March 31, 2018, we did not have any off-balance sheet arrangements.

RELATED PARTY TRANSACTIONS

There have been no material changes to related party transactions since September 30, 2017.

INFLATION

We operate in many countries that experience volatility in inflation and foreign exchange rates. The ability to pass on inflationary cost increases is an uncertainty due to general economic conditions and competitive situations. It is estimated that the cost of replacing our plant and equipment today is greater than its historical cost.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our critical accounting policies are disclosed in our Annual Report on Form 10-K for our fiscal year ended September 30, 2017. During the three months ended March 31, 2018, there have been no significant changes in our critical accounting policies as reported in our 2017 Annual Report on Form 10-K.

NEW ACCOUNTING GUIDANCE

See Note 2, "New Accounting Guidance", to our Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for information concerning the implementation and impact of new accounting guidance.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Our earnings, cash flows, and financial position are exposed to market risks relating to fluctuations in interest rates and foreign currency exchange rates. It is our policy to minimize our cash flow exposure to adverse changes in currency exchange rates and to manage the financial risks inherent in funding with debt capital.

We address these financial exposures through a controlled program of risk management that includes the use of derivative financial instruments. Counterparties to all derivative contracts are major financial institutions, thereby minimizing the risk of credit loss. All instruments are entered into for other than trading purposes. For details on the types and use of these derivative instruments, see Note 8, Financial Instruments, to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q, for additional information.

Our derivative and other financial instruments consist of foreign exchange-forward contracts and long-term debt (including current portion). The net market value of these financial instruments combined is referred to below as the net financial instrument position and is disclosed in Note 9, Fair Value, to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

At March 31, 2018, the net financial instrument position was a liability of $1.0 billion.

Interest Rate Risk

We have interest rate risk with respect to our long-term debt. Our fixed rate debt consists of senior notes and our variable rate debt consists of term loans under our Term Facility. Changes in interest rates have different impacts on the fixed and variable rate portions of our debt portfolio. A change in interest rates on the fixed portion of the debt portfolio impacts the fair value of the debt instrument but has no impact on interest expense or cash flows. A change in interest rates on the variable portion of the debt portfolio impacts the interest incurred but not the fair value of the instrument.

The sensitivity analysis related to the interest rate risk on the fixed portion of our debt assumes an instantaneous 100 bp move in interest rates from the level at March 31, 2018, with all other variables held constant. A 100 bp increase in market interest rates would result in a decrease of $23.9 million in the fair value of our fixed rate debt at March 31, 2018.

Based on the variable-rate debt balance at March 31, 2018, a 100 bp increase in interest rates would result in an additional $5.7 million of interest incurred per year at the end of March 31, 2018.

Foreign Currency Exchange Rate Risk

Our earnings, cash flows, and financial position are exposed to market risks relating to foreign currency exchange rates. It is our policy to minimize our cash flow exposure to adverse changes in currency exchange rates and to manage the financial risks inherent in funding with debt capital.

The sensitivity analysis related to foreign currency exchange rates assumes an instantaneous 10% change in the foreign currency exchange rates from their levels at March 31, 2018, with all other variables held constant. A 10% strengthening or weakening of the functional currency of an entity versus all other currencies would result in a decrease or increase, respectively, of $3.4 million in the net asset position of financial instruments at March 31, 2018.

We enter into forward exchange contracts to hedge the cash flow exposure on intercompany loans. The primary currency pairs for which we have exchange rate exposure are Japanese Yen and U.S. Dollars as well as Euros and U.S. Dollars. There is fair value exposure related to all of the financial instruments in the above sensitivity analysis for which the impact of a movement in exchange rates would be in the opposite direction and materially equal to the impact on the instruments in the analysis.

Approximately 57% of Versum's sales are denominated in currencies other than the U.S. dollar. Financial results therefore will be affected by changes in currency exchange rates. If all foreign currencies were to see a 10% reduction versus the U.S. dollar during the six months ended March 31, 2018, the operating income would be negatively impacted by approximately $9.6 million.

Item 4. Controls and Procedures.

Management's Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this report, our principal executive officer and principal financial officer evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act), which are designed to provide reasonable assurance that we are able to record, process, summarize and report the information required to be disclosed in our reports under the Exchange Act within the time periods specified in the rules and forms of the SEC. Based on the evaluation, as of March 31, 2018, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that the information required to be disclosed in reports that we file or submit under the Exchange Act is accumulated and communicated to management, including our principal executive officer and principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosures and to ensure that such information is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

Changes in Internal Control over Financial Reporting

Prior to the Separation, we relied on certain financial information and resources of Air Products to manage specific aspects of our business and report results. These included investor relations, corporate communications, accounting, tax, legal, human resources, benefit plan administration, benefit plan reporting, general management, real estate, treasury, insurance and risk management, and oversight functions, such as Board of Directors and internal audit, which includes Sarbanes-Oxley compliance. In conjunction with the Separation, we revised and adopted policies, as needed, to meet all regulatory requirements applicable to us as a stand-alone public company. We continue to review and document our internal controls over financial reporting and may from time to time make changes aimed at enhancing their effectiveness. These efforts may lead to additional changes in our internal controls over financial reporting.

We continue to work on implementation of a series of changes to our information technology environment, which includes our financial reporting systems, to support the separate financial reporting requirements of Versum Materials, Inc. There were no other material changes in our internal control over financial reporting during the three months ended March 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

Refer to Note 14, "Commitments and Contingencies", to our Consolidated Financial Statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Additional information on our commitments and contingencies can be found in our Annual Report on Form 10-K for our fiscal year ended September 30, 2017.

Item 1A. Risk Factors.

In addition to the information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the "Risk Factors" disclosed under "Item 1A. Risk Factors" of our Annual Report on Form 10-K for the fiscal year ended September 30, 2017 filed with the SEC and in any of our subsequently filed Quarterly Reports on Form 10-Q. You should be aware that these risk factors and other information may not describe every risk facing Versum. There have been no material changes to the risk factors set forth in our most recently filed Form 10-K and subsequently filed Form 10-Qs.

Item 6. Exhibits.

Exhibit No	Exhibit
10.1#	Versum Materials, Inc. Amended and Restated Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of Versum Materials, Inc. filed on January 31, 2018)
10.2#	Versum Materials, Inc. Amended and Restated Short-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K of Versum Materials, Inc. filed on January 31, 2018)
10.3*#	Form of Restricted Stock Unit Award Agreement for Non-Employee Directors
31.1*	Certification of Chief Executive Officer of Versum Materials, Inc., Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer of Versum Materials, Inc., Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1†	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Rule 13a-14(b) of the Exchange Act and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

*Filed herewith.
†Furnished herewith.

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.

VERSUM MATERIALS, INC.

By:	/s/ George G. Bitto
	George G. Bitto
	Executive Vice President and Chief Financial Officer
Date:	May 9, 2018
By:	/s/ Jessica Feather-Bowman
	Jessica Feather-Bowman
	Controller and Principal Accounting Officer
Date:	May 9, 2018

Exhibit 10.3

VERSUM MATERIALS, INC.

RESTRICTED STOCK UNIT AWARD AGREEMENT
for
NON-EMPLOYEE DIRECTORS

THIS RESTRICTED STOCK UNIT AWARD AGREEMENT FOR NON-EMPLOYEE DIRECTORS (the "*Agreement*") is entered into as of the Grant Date (as defined in Annex A) by and between Versum Materials, Inc. (the "*Company*") and Grantee (as defined in Annex A), a non-employee member of the Company's Board of Directors (the "*Board*").

WHEREAS, the Company has adopted and the stockholders have approved the Versum Materials Inc. Amended and Restated Long-Term Incentive Plan (the "*Plan*"), the terms of which are hereby incorporated by reference; and

WHEREAS, the Board has determined that it would be to the advantage and in the best interests of the Company and its stockholders to grant to the Grantee, as compensation for service on the Board, time-based restricted stock units as provided for hereunder (the "*RSUs*"), payable in Shares of common stock of the Company, par value $1.00 per share (the "*Common Stock*"), pursuant to the Plan.

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto do hereby agree as follows:

1. Notice of Grant. Subject to the terms and conditions of the Plan and the additional terms and conditions set forth in this Agreement, the Company hereby grants to the Grantee the number of RSUs indicated on a Notice of Grant in the form attached hereto as Annex A, which Notice of Grant is incorporated herein by reference. For purposes of this Agreement, capitalized terms not otherwise defined in this Agreement or in the Notice of Grant have the meanings set forth in the Plan. This Agreement is subject to the terms of the Plan, as the Plan may be amended from time to time. The RSUs granted herein constitute an Award within the meaning of the Plan. Each RSU represents the right to receive one Share of Common Stock.

2. Vesting and Settlement.

(a) RSUs. The vesting of the RSUs shall be subject to the conditions set forth in this Section 2(a):

(i) Vesting.

(A) Unless otherwise provided in this Agreement, provided that the Grantee remains on the Board Company through the applicable Vesting Date (as defined below), the Grantee shall vest in the RSUs on the earlier of (i) one year following the Grant Date and (ii) the date immediately prior to the Company's next regular annual meeting of Stockholders (such date, the "*Vesting Date*").

(B) Unless otherwise determined by the Committee, if, prior to a Vesting Date (and absent the occurrence of a Change in Control), the Grantee's service on the Board ends for any reason other than due to the Grantee's death or Disability, then a number of RSUs (rounded down to the nearest whole number) shall immediately vest on a pro rata basis equal to the total number of RSUs granted on the Grant Date multiplied by a fraction the numerator of which is equal to the number of full months that have elapsed from the Grant Date and the denominator of which is 12, and any remaining portion of the RSUs shall be forfeited. The date of termination of Board service shall be deemed to be the Vesting Date for such pro-rata portion for the purposes of Section 2(a)(ii).

(C) If, prior to a Vesting Date (and absent the occurrence of a Change in Control), the Grantee's service on the Board ends due to the Grantee's death or Disability, then any outstanding unvested RSUs shall immediately vest and the date of such termination of Board service shall be deemed to be the Vesting Date for the purposes of Section 2(a)(ii).

(ii) Settlement. Promptly after the Vesting Date (but in no event later than 60 days following such date) the Company shall distribute to the Grantee the number of Shares of Common Stock equal to the number of RSUs that vested in accordance with Section 2(a). Any RSUs that do not vest in accordance with Section 2(a) shall be forfeited by the Grantee without consideration and this Agreement shall terminate without payment in respect thereof.

(b) Change in Control. Notwithstanding anything set forth in Section 2(a), in the event of a Change in Control, the following rules shall apply with respect to the RSUs granted hereunder in lieu of the provisions of Section 2(a):

(i) Unless otherwise determined by the Committee, if a Change in Control occurs prior to the Vesting Date and the Grantee remains on the Board of the Company or acquirer thereof following the completion of such Change in Control, then the RSUs shall be converted into a right to receive a cash payment equal to the sum of (x) the product of (1) the number of RSUs outstanding and (2) the CIC Per Share Price (such product, the "*CIC Cash Value*") and (y) an amount equal to the interest on the CIC Cash Value at a rate equal to LIBOR plus 2.0% per annum, computed on the basis of a year of 364 days, calculated daily for each day following the closing date of the Change in Control transaction through the date immediately preceding the date on which such cash payment becomes vested (the sum of clauses (x) and (y), the "*CIC Settlement Amount*"). Subject to the provisions of Section 2(b)(ii) below, the CIC Settlement Amount shall vest and settle as described in Section 2(a)(i), so long as the Grantee continues on the Board of the Company or acquirer thereof in the Change in Control through the Vesting Date.

(ii) Notwithstanding anything in this Agreement to the contrary, if the Grantee's service on the Board of the Company or acquirer thereof ends for any reason on or following a Change in Control and prior to the Vesting Date (a "*Qualifying Termination*"), the Grantee shall immediately vest in the remaining unvested CIC Settlement Amount, and the CIC Settlement Amount shall be paid to the Grantee within ten business days following such termination date. In the event that, pursuant to Section 2(b)(i), the Committee determines that, upon a Change in Control, the RSUs shall remain outstanding as the right to receive Shares or be converted into a right to receive shares of the successor corporation or an affiliate, then, upon a Qualifying Termination, the Grantee's RSUs or replacement units outstanding on such date will be cancelled in exchange for a cash payment equal to the product of (x) the total number of shares of common stock underlying such outstanding RSUs or replacement units and (y) the per share fair market value of such common stock on the date of the Qualifying Termination.

3. Dividend Equivalents. With respect to each cash dividend or distribution (if any) paid with respect to Common Stock to holders of record on and after the Grant Date, an additional number of RSUs shall be accrued on the books and records of the Company, in an amount equal to the quotient of (a) the product of (i) the amount of such dividend or distribution paid with respect to one share of Common Stock, multiplied by (ii) the number of RSUs granted hereunder then held by the Grantee divided by (b) the Fair Market Value on the applicable dividend record date. At such time(s) thereafter as the Grantee receives a distribution of Shares of Common Stock in respect of his or her vested RSUs granted hereunder pursuant to the applicable provision of Section 2, the Company shall also distribute to the Grantee a number of Shares of Common Stock equal to the additional number of RSUs accrued under this Section 3 that relate to the vested RSUs in respect of which such distribution of Shares is otherwise being made. In the event of any stock dividend, the provisions of Section 10 of the Plan shall apply to the RSUs.

4. Limitation on Obligations. The Company's obligation with respect to the RSUs granted hereunder is limited solely to the delivery to the Grantee of Shares of Common Stock on the date when such Shares are due to be delivered hereunder, and in no way shall the Company become obligated to pay cash in respect of such obligation, except as otherwise expressly provided for herein. The RSUs shall not be secured by any specific assets of the Company or any of its subsidiaries, nor shall any assets of the Company or any of its subsidiaries be designated as attributable or allocated to the satisfaction of the Company's obligations under this Agreement.

5. Rights as a Stockholder. The Grantee shall not have any rights of a common stockholder of the Company unless and until the Grantee receives the Shares of Common Stock pursuant to Section 2. As soon as practicable following the date that the Grantee becomes entitled to receive the Shares of Common Stock pursuant to Section 2, certificates for such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) shall be issued to the Grantee or to the Grantee's legal guardian or representative.

6. Transferability. The RSUs may not at any time be transferred, sold, assigned, pledged, hypothecated or otherwise disposed of, and shall not be subject to alienation, garnishment, execution or levy of any kind, and any attempt to cause any such awards to be so subjected shall not be recognized. The Shares of Common Stock acquired by the Grantee pursuant to Section 2 of this Agreement may not at any time be transferred, sold, assigned, pledged, hypothecated or otherwise disposed of unless such transfer, sale, assignment, pledge, hypothecation or other disposition complies with applicable securities laws.

7. No Right to Continued Service as a Director. Nothing contained in this Agreement shall be deemed to confer upon the Grantee any right to continue to serve as a member of the Board.

8. Change in Capitalization. Except as provided in Section 2(b), in the event of any change in the outstanding Common Stock by reason of a stock split, spin-off, stock dividend, stock combination or reclassification, recapitalization or merger, Change in Control, or similar event, the provisions of Section 10 of the Plan shall govern the treatment of the RSUs.

9. Securities Laws. Upon the delivery of any Common Stock to the Grantee, the Company may require the Grantee to make or enter into such written representations, warranties and agreements as the Committee may reasonably request in order to comply with applicable securities laws or with this Agreement. The delivery of the Common Stock hereunder shall be subject to all applicable laws, rules and regulations and to such approvals of any governmental agencies as may be required.

10. Clawback; Forfeiture on Violation of Code of Ethics.

(a) The Committee in its sole discretion may impose on the RSUs provided for in this Agreement, either through an amendment to the Plan or through a policy that upon adoption by the Committee will be incorporated into this Agreement by reference effective as of the date of such adoption, that the Grantee's rights, payments, and benefits with respect to this Agreement shall be subject to reduction, cancellation, forfeiture or recoupment upon the occurrence of certain specified events, in addition to any otherwise applicable vesting or performance conditions provided in this Agreement, as required by applicable law.

(b) In the event that the Grantee fails to satisfy the Code of Ethics Requirement, all RSUs granted hereunder (to the extent not already previously forfeited) may be immediately forfeited by the Grantee without consideration based upon a determination by the Committee, and this Agreement shall terminate without payment in respect thereof.

11. Section 409A of the Code. It is the Company's intent that payments and benefits under this Agreement comply with Section 409A, to the extent subject thereto, and accordingly, to the maximum extent permitted, this Agreement shall be interpreted and administered to be in compliance therewith. In the event that it is reasonably determined by the Company that, as a result of the deferred compensation tax rules under Section 409A of the Code (and any related regulations or other pronouncements thereunder) (the "*Deferred Compensation Tax Rules*"), benefits that the Grantee is entitled to receive under the terms of this Agreement may not be made at the time contemplated by the terms hereof without causing Grantee to be subject to tax under the Deferred Compensation Tax Rules, (i) the Grantee shall not be considered to have terminated Board service for purposes hereof until the Grantee would be considered to have incurred a "separation from service" within the meaning of Section 409A and (ii) the Company shall, in lieu of providing such benefit when otherwise due under this Agreement, instead provide such benefit on the first day on which such provision would not result in the Grantee incurring any tax liability under the Deferred Compensation Tax Rules; which day, if the Grantee is a "specified Grantee" (within the meaning of the Deferred Compensation Tax Rules), shall, in the event the benefit to be provided is due to the Grantee's "separation from service" (within the meaning of the Deferred Compensation Tax Rules) with the Company and its subsidiaries, be the first day following the six-month period beginning on the date of such separation from Board service. Each amount to be paid or benefit to be provided under this Agreement shall be construed as a separately identified payment for purposes of the Deferred Compensation Tax Rules, and any payments described in this Agreement that are due within the "short term deferral period" as defined in the Deferred Compensation Tax Rules shall not be treated as deferred compensation unless applicable law requires otherwise.

12. Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of its Secretary, and any notice to be given to the Grantee shall be addressed to

him at the address given beneath his signature hereto. By a notice given pursuant to this Section 13, either party may hereafter designate a different address for notices to be given to him. Any notice which is required to be given to the Grantee shall, if the Grantee is then deceased, be given to the Grantee's personal representative if such representative has previously informed the Company of his status and address by written notice under this Section 13. Any notice shall be deemed properly given or made if personally delivered or, if mailed, when mailed by registered or certified mail, postage prepaid.

13. Governing Law. The laws of the State of Delaware (or if the Company reincorporates in another state, the laws of that state) shall govern the interpretation, validity and performance of the terms of this Agreement regardless of the law that might be applied under principles of conflicts of laws.

14. RSUs Subject to Plan. The RSUs shall be subject to all applicable terms and provisions of the Plan. In the event of any conflict between this Agreement and the Plan, the terms of the Plan control.

15. Signature in Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

16. Taxes and Additional Matters. The Grantee, as a Non-Employee Director, is solely responsible for the satisfaction of all taxes and penalties that may arise in connection with the RSUs, and as such the Company has no withholding obligation associated with the RSUs. This Restricted Stock Unit Agreement for Non-Employee Directors is intended to comply with the applicable laws of any country or jurisdiction where RSUs are granted under the Plan, and all provisions hereof shall be construed in a manner to so comply.

17. Definitions.

(a) "**CIC Per Share Price**" means the price paid for one Share of Common Stock in the Change in Control transaction (with the value of any security that is paid as consideration in the Change in Control determined by the Committee as of the date of such Change in Control).

(b) "**Code of Ethics Requirement**" means the Grantee complies with the Company's Code of Conduct as in effect from time to time.

(c) "**Confidential Information**" means all non-public information concerning trade secret, know-how, software, developments, inventions, processes, technology, designs, the financial data, strategic business plans or any proprietary or confidential information, documents or materials in any form or media, including any of the foregoing relating to research, operations, finances, current and proposed products and services, vendors, customers, advertising and marketing, and other non-public proprietary and confidential information of the Company, its affiliates, subsidiaries, successors or assigns.

(d) "**Disability**" means the inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months. A Grantee shall be deemed to have suffered a Disability if determined to be totally disabled by the Social Security Administration.

(e) "**LIBOR**" means the three-month London interbank offered rate as published in the Wall Street Journal on the business day following the closing date of the Change in Control transaction and each anniversary thereafter.

Appendix A

Notice of Grant
Restricted Stock Unit Agreement
for
Non-Employee Directors

The following member of the Board of Directors of Versum Materials, Inc. has been granted Restricted Stock Units in accordance with this Notice of Grant and the Restricted Stock Unit Agreement for Non-Employee Directors to which this Notice of Grant is attached.

The terms below have the meanings ascribed to them below when used in the Restricted Stock Unit Agreement for Non-Employee Directors.

Grantee: __________________________

Grant Date: ________________________

Aggregate Number of RSUs Granted: ________________________

IN WITNESS WHEREOF, the parties hereby agree to the terms of this Notice of Grant and the Restricted Stock Unit Agreement for Non-Employee Directors to which this Notice of Grant is attached, and execute this Notice of Grant and Restricted Stock Unit Agreement for Non-Employee Directors as of the Grant Date.

VERSUM MATERIALS, INC.

____
Grantee

By: ______________________________
Name:
Title:

Exhibit 31.1

PRINCIPAL EXECUTIVE OFFICER'S CERTIFICATION

I, Guillermo Novo, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 9, 2018

/s/ Guillermo Novo

Guillermo Novo

President and Chief Executive Officer

Exhibit 31.2

PRINCIPAL FINANCIAL OFFICER'S CERTIFICATION

I, George G. Bitto, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: May 9, 2018

/s/ George G. Bitto

George G. Bitto
Executive Vice President and Chief Financial Officer

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

In connection with the Quarterly Report on Form 10-Q of Versum Materials, Inc. (the “Company”) for the period ended March 31, 2018, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), we, Guillermo Novo, President and Chief Executive Officer of the Company, and George G. Bitto, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Dated:	May 9, 2018	/s/ Guillermo Novo
		Guillermo Novo President and Chief Executive Officer
		/s/ George G. Bitto
		George G. Bitto Executive Vice President and Chief Financial Officer

This statement is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and it is not to be incorporated by reference into any filing of the Company, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.