
FORM 10-Q
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

(Mark One)

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

For the quarterly period ended July 31, 2017

OR

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

For the transition period from ____ to ____

Commission file number 0-7977

NORDSON CORPORATION

(Exact name of registrant as specified in its charter)

Ohio
(State of incorporation)

28601 Clemens Road
Westlake, Ohio

(Address of principal executive offices)

34-0590250
(I.R.S. Employer Identification No.)

44145
(Zip Code)

(440) 892-1580
(Telephone Number)

Securities registered pursuant to Section 12(b) of the Act:
Common Shares without par value

Securities registered pursuant to Section 12(g) of the Act:
None

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, 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, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐ (Do not check if 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 ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: Common Shares, without par value as of July 31, 2017: 57,692,283

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Part I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

Condensed Consolidated Statements of Income

	Three Months Ended		Nine Months Ended	
	July 31, 2017	July 31, 2016	July 31, 2017	July 31, 2016
<i>(In thousands, except for per share data)</i>				
Sales	\$ 589,438	\$ 489,899	\$ 1,493,044	\$ 1,299,711
Operating costs and expenses:				
Cost of sales	263,173	216,679	666,130	581,179
Selling and administrative expenses	172,799	149,534	494,000	440,964
	435,972	366,213	1,160,130	1,022,143
Operating profit	153,466	123,686	332,914	277,568
Other income (expense):				
Interest expense	(11,306)	(4,647)	(24,854)	(15,490)
Interest and investment income	268	176	813	501
Other - net	27	(1,978)	(1,452)	551
	(11,011)	(6,449)	(25,493)	(14,438)
Income before income taxes	142,455	117,237	307,421	263,130
Income taxes	40,999	33,023	91,454	67,154
Net income	\$ 101,456	\$ 84,214	\$ 215,967	\$ 195,976
Average common shares	57,594	57,085	57,495	57,012
Incremental common shares attributable to outstanding stock options, restricted stock, and deferred stock-based compensation	665	531	676	407
Average common shares and common share equivalents	58,259	57,616	58,171	57,419
Basic earnings per share	\$ 1.76	\$ 1.48	\$ 3.76	\$ 3.44
Diluted earnings per share	\$ 1.74	\$ 1.46	\$ 3.71	\$ 3.41
Dividends declared per share	\$ 0.27	\$ 0.24	\$ 0.81	\$ 0.72

See accompanying notes.

Nordson Corporation**Condensed Consolidated Statements of Comprehensive Income**

	Three Months Ended		Nine Months Ended	
	July 31, 2017	July 31, 2016	July 31, 2017	July 31, 2016
<i>(In thousands)</i>				
Net income	\$ 101,456	\$ 84,214	\$ 215,967	\$ 195,976
Components of other comprehensive income (loss):				
Translation adjustments	27,126	(8,148)	27,224	586
Amortization of prior service cost and net actuarial losses, net of tax	2,199	1,743	5,598	5,231
Total other comprehensive income (loss)	29,325	(6,405)	32,822	5,817
Total comprehensive income	<u>\$ 130,781</u>	<u>\$ 77,809</u>	<u>\$ 248,789</u>	<u>\$ 201,793</u>

See accompanying notes.

Nordson Corporation

Condensed Consolidated Balance Sheets

	July 31, 2017	October 31, 2016
<i>(In thousands)</i>		
Assets		
Current assets:		
Cash and cash equivalents	\$ 110,705	\$ 67,239
Receivables - net	498,848	428,560
Inventories - net	275,705	220,361
Prepaid expenses	34,901	29,415
Total current assets	920,159	745,575
Property, plant and equipment - net	335,680	273,129
Goodwill	1,586,955	1,107,137
Intangible assets - net	560,537	260,302
Deferred income taxes	25,220	10,681
Other assets	31,965	23,759
Total assets	<u>\$ 3,460,516</u>	<u>\$ 2,420,583</u>
Liabilities and shareholders' equity		
Current liabilities:		
Notes payable	\$ 957	\$ 2,141
Accounts payable	80,745	75,130
Income taxes payable	34,773	22,762
Accrued liabilities	151,828	162,798
Customer advanced payments	37,805	26,175
Current maturities of long-term debt	126,583	38,093
Current obligations under capital leases	4,695	4,444
Total current liabilities	437,386	331,543
Long-term debt	1,569,680	942,771
Deferred income taxes	140,946	61,836
Pension obligations	122,453	130,376
Postretirement obligations	71,284	70,397
Other long-term liabilities	34,336	32,057
Shareholders' equity:		
Common shares	12,253	12,253
Capital in excess of stated value	405,368	376,625
Retained earnings	2,102,054	1,932,635
Accumulated other comprehensive loss	(135,425)	(168,247)
Common shares in treasury, at cost	(1,299,819)	(1,301,663)
Total shareholders' equity	1,084,431	851,603
Total liabilities and shareholders' equity	<u>\$ 3,460,516</u>	<u>\$ 2,420,583</u>

See accompanying notes.

Nordson Corporation

Condensed Consolidated Statements of Cash Flows

<u>Nine months ended</u>	<u>July 31, 2017</u>	<u>July 31, 2016</u>
<i>(In thousands)</i>		
Cash flows from operating activities:		
Net income	\$ 215,967	\$ 195,976
Depreciation and amortization	65,366	52,824
Non-cash stock compensation	14,892	13,765
Deferred income taxes	(1,162)	(3,050)
Other non-cash expense	3,181	2,113
(Gain) loss on sale of property, plant and equipment	(145)	385
Tax benefit from the exercise of stock options	(5,600)	(2,795)
Changes in operating assets and liabilities	(76,308)	(64,484)
Net cash provided by operating activities	<u>216,191</u>	<u>194,734</u>
Cash flows from investing activities:		
Additions to property, plant and equipment	(49,324)	(45,452)
Proceeds from sale of property, plant and equipment	3,906	1,044
Equity investments	(4,470)	—
Acquisition of businesses, net of cash acquired	(805,943)	—
Net cash used in investing activities	<u>(855,831)</u>	<u>(44,408)</u>
Cash flows from financing activities:		
Proceeds from short-term borrowings	6,017	12,984
Repayment of short-term borrowings	(7,184)	(6,903)
Proceeds from long-term debt	838,318	27,622
Repayment of long-term debt	(123,753)	(106,890)
Repayment of capital lease obligations	(4,308)	(4,250)
Issuance of common shares	13,209	7,866
Purchase of treasury shares	(3,114)	(33,421)
Tax benefit from the exercise of stock options	5,600	2,795
Dividends paid	(46,549)	(41,008)
Net cash provided by (used in) financing activities	<u>678,236</u>	<u>(141,205)</u>
Effect of exchange rate changes on cash	<u>4,870</u>	<u>905</u>
Increase in cash and cash equivalents	<u>43,466</u>	<u>10,026</u>
Cash and cash equivalents:		
Beginning of year	<u>67,239</u>	<u>50,268</u>
End of period	<u>\$ 110,705</u>	<u>\$ 60,294</u>

See accompanying notes.

Notes to Condensed Consolidated Financial Statements

July 31, 2017

NOTE REGARDING AMOUNTS AND FISCAL YEAR REFERENCES

In this quarterly report, all amounts related to United States dollars and foreign currency and to the number of Nordson Corporation's common shares, except for per share earnings and dividend amounts, are expressed in thousands.

Unless otherwise noted, all references to years relate to our fiscal year ending October 31.

1. Significant accounting policies

Basis of presentation. The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included. Operating results for the three and nine months ended July 31, 2017 are not necessarily indicative of the results that may be expected for the full year. For further information, refer to the consolidated financial statements and footnotes included in our Annual Report on Form 10-K for the year ended October 31, 2016.

Basis of consolidation. The consolidated financial statements include the accounts of Nordson Corporation and its majority-owned and controlled subsidiaries. Investments in affiliates and joint ventures in which our ownership is 50% or less or in which we do not have control but have the ability to exercise significant influence, are accounted for under the equity method. All significant intercompany accounts and transactions have been eliminated in consolidation.

Use of estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements. Actual amounts could differ from these estimates.

Revenue recognition. Most of our revenues are recognized upon shipment, provided that persuasive evidence of an arrangement exists, the sales price is fixed or determinable, collectibility is reasonably assured, and title and risk of loss have passed to the customer.

Certain arrangements may include installation, installation supervision, training, and spare parts, which tend to be completed in a short period of time, at an insignificant cost, and utilizing skills not unique to us, therefore, are typically regarded as inconsequential or perfunctory. Revenue for undelivered items is deferred and included within accrued liabilities in the accompanying balance sheet. Revenues deferred in 2017 and 2016 were not material.

Earnings per share. Basic earnings per share are computed based on the weighted-average number of common shares outstanding during each year, while diluted earnings per share are based on the weighted-average number of common shares and common share equivalents outstanding. Common share equivalents consist of shares issuable upon exercise of stock options computed using the treasury stock method, as well as restricted shares and deferred stock-based compensation. Options whose exercise price is higher than the average market price are excluded from the calculation of diluted earnings per share because the effect would be anti-dilutive. No options were excluded from the calculation of diluted earnings per share for the three and nine months ended July 31, 2017. No options were excluded from the calculation of diluted earnings per share for the three months ended July 31, 2016. Options excluded from the calculation of diluted earnings per share for the nine months ended July 31, 2016 were 527.

2. Recently issued accounting standards

In May 2014, the Financial Accounting Standards Board (FASB) issued a new standard regarding revenue recognition. Under this standard, a company recognizes revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. The standard implements a five-step process for customer contract revenue recognition that focuses on transfer of control. In August 2015, the FASB issued a standard to delay the effective date by one year. In accordance with this delay, the new standard is effective for us beginning in the first quarter of 2019. Early adoption is permitted. The new standard is required to be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying it recognized at the date of initial application. We have performed a detailed review of the new guidance as compared to our current accounting policies, and have begun the process of assessing the impact this new standard will have on our consolidated financial statements and related disclosures. During 2018, we plan to finalize our assessment and determine our method of adoption.

In February 2016, the FASB issued a new standard which requires a lessee to recognize on the balance sheet the assets and liabilities for the rights and obligations created by those leases with a lease term of more than twelve months. Leases will continue to be classified as either financing or operating, with classification affecting the recognition, measurement and presentation of expenses and cash flows arising from a lease. It will be effective for us beginning in 2020. We are currently assessing the impact this standard will have on our consolidated financial statements.

In March 2016, the FASB issued a new standard which simplifies the accounting for share-based payment transactions. This guidance requires that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the Consolidated Statements of Income rather than additional paid-in capital. Additionally, the excess tax benefits will be classified along with other income tax cash flows as an operating activity, rather than a financing activity, on the Statement of Cash Flows. Further, the update allows an entity to make a policy election to recognize forfeitures as they occur or estimate the number of awards expected to be forfeited. It will be effective for us beginning in 2018 and should be applied prospectively, with certain cumulative effect adjustments. Early adoption is permitted. We are currently assessing the impact this standard will have on our consolidated financial statements.

In January 2017, the FASB issued a new standard which eliminates Step 2 from the goodwill impairment test in order to simplify the subsequent measurement of goodwill. It will be effective for us beginning in 2021. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We are currently assessing the impact this standard will have on our consolidated financial statements.

In March 2017, the FASB issued a new standard which requires the presentation of the service cost component of the net periodic benefit cost in the same income statement line item as other employee compensation costs arising from services rendered during the period. All other components of net periodic benefit cost will be presented below operating income. Additionally, only the service cost component will be eligible for capitalization in assets. It will be effective for us beginning in 2019. Early adoption is permitted. We are currently assessing the impact this standard will have on our consolidated financial statements.

3. Severance and restructuring costs

During the fourth quarter of 2016, we implemented an initiative within our Adhesive Dispensing Systems segment to consolidate certain polymer processing product line facilities in the U.S. This initiative is designed to improve customer experience, accelerate growth, optimize performance and realize synergies for sustained long term success. During the three and nine months ended July 31, 2017, costs of \$703 and \$1,421 were recognized relating to this initiative, respectively. Payments of \$527 and \$901 related to these actions were paid during the three and nine months ended July 31, 2017, respectively. Total costs for this action to-date have been \$6,986, which consisted primarily of severance costs. Additional costs related to this initiative are not expected to be material in future periods. Cash payments related to this initiative are expected to be paid during 2017 and 2018.

The following table summarizes severance and restructuring activity during the nine months ended July 31, 2017 related to this action:

	Employee severance charges	Other one-time costs	Total
Accrual Balance at October 31, 2016	\$ 4,576	\$ 104	\$ 4,680
Charged to expense	(202)	1,623	1,421
Cash payments	(62)	(839)	(901)
Non cash utilization	—	(448)	(448)
Accrual Balance at July 31, 2017	\$ 4,312	\$ 440	\$ 4,752

During the second half of 2015, we implemented initiatives across each of our segments to optimize operations and to enhance operational efficiency and customer service. No costs were recognized during the three and nine months ended July 31, 2017 related to these initiatives. Costs of \$1,714 and \$4,364 were recognized during the three and nine months ended July 31, 2016 related to these initiatives, respectively, which consisted primarily of severance costs.

Within the Adhesives Dispensing Systems segment, restructuring initiatives to optimize operations in the U.S. and Belgium resulted in costs of \$759 and \$2,230 during the three and nine months ended July 31, 2016, respectively. Payments of \$122 related to these actions were paid during the nine months ended July 31, 2017.

Within the Advanced Technology Systems segment, a restructuring initiative to enhance operational efficiency and customer service resulted in costs of \$680 during the nine months ended July 31, 2016. No costs were recorded during the three months ended July 31, 2016. Payments of \$503 related to these actions were paid during the nine months ended July 31, 2017.

Within the Industrial Coating Systems segment, a restructuring program to enhance operational efficiency and customer service resulted in severance costs of \$955 and \$1,454 during the three and nine months ended July 31, 2016, respectively. Payments of \$345 related to these actions were paid during the nine months ended July 31, 2017.

Total costs for these actions to-date have been \$16,621, which include \$12,592 of severance costs, \$759 of fixed asset impairment charges, \$1,383 of lease termination costs, and \$1,887 of other one-time restructuring costs.

The following table summarizes severance and restructuring activity during the nine months ended July 31, 2017 related to actions initiated in 2015:

	Employee severance charges	Lease termination charges	Other one-time costs	Total
Accrual Balance at October 31, 2016	\$ 1,136	\$ 143	\$ 497	\$ 1,776
Cash payments	(473)	(143)	(354)	(970)
Accrual Balance at July 31, 2017	\$ 663	\$ —	\$ 143	\$ 806

Additional costs related to these initiatives are not expected to be material in future periods. The remainder of the cash payments related to these initiatives are expected to be paid through 2019. Other severance and restructuring costs unrelated to these initiatives are not considered material. All severance and restructuring costs are included in selling and administrative expenses in the Consolidated Statements of Income.

4. Acquisitions

On March 31, 2017, we completed the acquisition of Vention Medical's Advanced Technologies business ("Vention"), a Salem, New Hampshire leading designer, developer and manufacturer of minimally invasive interventional delivery devices, catheters and advanced components for the global medical technology market. This is a highly complementary business that adds significant scale and enhances strategic capabilities of our existing medical platform. We acquired Vention for an aggregate purchase price of \$705,000, net of \$3,313 of cash and other closing adjustments of \$10,726. The acquisition was funded primarily through a new term loan facility, as well as through cash and borrowings on our credit facility. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$432,051 and identifiable intangible assets of \$286,000 were recorded. The identifiable intangible assets consist primarily of \$240,000 of customer relationships (amortized over 14 years), \$2,000 of tradenames (amortized over 6 years), and \$44,000 of technology, consisting of \$36,000 (amortized over 14 years) and \$8,000 (amortized over 10 years). Goodwill associated with this acquisition is not tax deductible. Goodwill represents the value we expect to achieve through the expansion of our existing medical platform. This acquisition is being reported in our Advanced

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Technology Systems segment. As of July 31, 2017, the purchase price allocations are considered preliminary as we complete our assessments of goodwill, intangible assets, income taxes and certain reserves. The following table summarizes the preliminary fair values of the assets acquired and liabilities assumed at the acquisition date:

Assets acquired:		
Cash	\$	3,313
Receivables		27,636
Inventories		14,995
Prepaid expenses		3,079
Property, plant and equipment		34,319
Goodwill		432,051
Intangible assets		286,000
Other noncurrent assets		16,871
Total assets acquired	\$	818,264
Liabilities assumed:		
Current liabilities		21,249
Deferred tax liabilities		77,976
Total liabilities assumed	\$	99,225
Net assets acquired	\$	719,039

The transaction was accounted for under the acquisition method of accounting and, accordingly, the results of Vention's operations, including \$54,108 in sales and net income of \$4,312, are included in our Condensed Consolidated Statements of Income from the date of acquisition. As of July 31, 2017, we incurred \$14,280 of corporate charges related to Vention acquisition transaction costs which have been included within selling and administrative expenses in our Condensed Consolidated Statements of Income.

The following unaudited pro forma financial information for 2017 and 2016 assumes the Vention acquisition occurred as of the beginning of 2016 and is based on our historical financial statements and those of Vention. The pro forma results have been prepared for comparative purposes only and are not necessarily indicative of the results of operations which may occur in the future or that would have occurred had the acquisition of Vention been effected on the date indicated, nor are they necessarily indicative of our future results of operations.

	Nine Months Ended	
	July 31, 2017	July 31, 2016
Sales	\$ 1,558,479	\$ 1,396,126
Net income	215,455	186,277
Diluted earnings per share	3.70	3.24

The most significant pro forma adjustments included within the unaudited pro forma financial information presented in the table above relate to acquisition transaction costs, amortization of intangible assets, depreciation of property, plant and equipment, charges related to the fair value adjustment of acquisition-date inventory and interest expense associated with the new term loan facility.

Also on March 31, 2017, we entered into a \$705,000 term loan facility with a group of banks. The Term Loan Agreement provides for the following term loans in three tranches: \$200,000 due in October 2018, \$200,000 due in March 2020, and \$305,000 due in March 2022. The weighted average interest rate for borrowings under this agreement was 2.51% at July 31, 2017. Borrowings under this agreement were used for the single purpose of acquiring Vention. We were in compliance with all covenants at July 31, 2017.

On February 16, 2017, we purchased 100 percent of the outstanding shares of InterSelect GmbH ("InterSelect"), a German designer and manufacturer of selective soldering systems used in a variety of automotive, aerospace and industrial electronics assembly applications. We acquired InterSelect for an aggregate purchase price of \$5,518, net of cash acquired of \$492. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$2,857 and identifiable intangible assets of \$1,879 were recorded. The identifiable intangible assets consist primarily of \$1,109 of customer relationships (amortized over 9 years), \$348 of tradenames (amortized over 12 years), and \$422 of technology (amortized over 9 years). Goodwill associated with this acquisition is not tax deductible. This acquisition is being reported in our Advanced Technology Systems segment. As of July 31, 2017, the purchase price allocations are considered preliminary as we complete our assessments of deferred taxes and certain reserves.

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On February 1, 2017, we purchased 100 percent of the outstanding shares of Plas-Pak Industries, Inc. ("Plas-Pak"), a Norwich, Connecticut designer and manufacturer of injection molded, single-use plastic dispensing products. Plas-Pak's broad product offering includes two-component (2K) cartridges for industrial and commercial do-it-yourself adhesives, dial-a-dose calibrated syringes for veterinary and animal health applications, and specialty syringes for pesticide, dental and other markets. We acquired Plas-Pak for an aggregate purchase price of \$70,798, net of cash acquired of \$543. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$24,995 and identifiable intangible assets of \$33,800 were recorded. The identifiable intangible assets consist primarily of \$23,700 of customer relationships (amortized over 17 years), \$4,100 of tradenames (amortized over 12 years), \$5,000 of technology (amortized over 9 years) and \$1,000 of non-compete agreements (amortized over 5 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment. As of July 31, 2017, the purchase price allocations remain preliminary as we complete our assessments of deferred taxes and certain reserves.

On January 3, 2017, we purchased certain assets of ACE Production Technologies, Inc. ("ACE"), a Spokane, Washington based designer and manufacturer of selective soldering systems used in a variety of automotive and industrial electronics assembly applications. We acquired the assets for an aggregate purchase price of \$13,761. Based on the fair value of the assets acquired and the liabilities assumed, goodwill of \$6,383 and identifiable intangible assets of \$5,010 were recorded. The identifiable intangible assets consist primarily of \$2,800 of customer relationships (amortized over 7 years), \$1,000 of tradenames (amortized over 11 years), \$1,100 of technology (amortized over 7 years) and \$110 of non-compete agreements (amortized over 3 years). Goodwill associated with this acquisition is tax deductible. This acquisition is being reported in our Advanced Technology Systems segment. As of July 31, 2017, the purchase price allocations are considered preliminary as we complete our assessments of deferred taxes.

On September 1, 2016, we purchased 100 percent of the outstanding shares of LinkTech Quick Couplings, Inc. ("LinkTech"), a Ventura, California designer, manufacturer and distributor of highly engineered precision couplings and fittings. This acquisition is being reported in our Advanced Technology Systems segment. As of July 31, 2017, no material measurement period adjustments were recorded, and the purchase price allocations are considered preliminary as we complete our assessments of income taxes.

5. Inventories

At July 31, 2017 and October 31, 2016, inventories consisted of the following:

	July 31, 2017	October 31, 2016
Raw materials and component parts	\$ 116,027	\$ 85,802
Work-in-process	46,016	36,681
Finished goods	155,186	134,602
	317,229	257,085
Obsolescence and other reserves	(35,532)	(29,324)
LIFO reserve	(5,992)	(7,400)
	<u>\$ 275,705</u>	<u>\$ 220,361</u>

6. Goodwill and other intangible assets

Changes in the carrying amount of goodwill for the nine months ended July 31, 2017 by operating segment are as follows:

	Adhesive Dispensing Systems	Advanced Technology Systems	Industrial Coating Systems	Total
Balance at October 31, 2016	\$ 385,733	\$ 697,346	\$ 24,058	\$ 1,107,137
Acquisitions	—	466,513	—	466,513
Currency effect	8,501	4,804	—	13,305
Balance at July 31, 2017	<u>\$ 394,234</u>	<u>\$ 1,168,663</u>	<u>\$ 24,058</u>	<u>\$ 1,586,955</u>

Accumulated impairment losses, which were recorded in 2009, were \$232,789 at July 31, 2017 and October 31, 2016. Of these losses, \$229,173 related to the Advanced Technology Systems segment, and \$3,616 related to the Industrial Coating Systems segment.

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Information regarding our intangible assets subject to amortization is as follows:

	July 31, 2017		
	Carrying Amount	Accumulated Amortization	Net Book Value
Customer relationships	\$ 480,164	\$ 93,229	\$ 386,935
Patent/technology costs	150,716	45,886	104,830
Trade name	93,581	26,843	66,738
Non-compete agreements	11,191	9,160	2,031
Other	1,390	1,387	3
Total	<u>\$ 737,042</u>	<u>\$ 176,505</u>	<u>\$ 560,537</u>

	October 31, 2016		
	Carrying Amount	Accumulated Amortization	Net Book Value
Customer relationships	\$ 207,493	\$ 71,608	\$ 135,885
Patent/technology costs	97,640	37,873	59,767
Trade name	85,271	22,140	63,131
Non-compete agreements	9,855	8,347	1,508
Other	1,400	1,389	11
Total	<u>\$ 401,659</u>	<u>\$ 141,357</u>	<u>\$ 260,302</u>

Amortization expense for the three months ended July 31, 2017 and 2016 was \$13,689 and \$7,707, respectively. Amortization expense for the nine months ended July 31, 2017 and 2016 was \$31,478 and \$22,312, respectively.

7. Pension and other postretirement plans

The components of net periodic pension cost for the three and nine months ended July 31, 2017 and July 31, 2016 were:

	U.S.		International	
	2017	2016	2017	2016
<u>Three Months Ended</u>				
Service cost	\$ 3,104	\$ 2,873	\$ 604	\$ 723
Interest cost	3,180	3,983	401	600
Expected return on plan assets	(5,143)	(4,917)	(334)	(368)
Amortization of prior service cost (credit)	12	19	(76)	(25)
Amortization of net actuarial loss	2,366	2,120	664	468
Settlement loss	648	—	—	—
Total benefit cost	<u>\$ 4,167</u>	<u>\$ 4,078</u>	<u>\$ 1,259</u>	<u>\$ 1,398</u>

	U.S.		International	
	2017	2016	2017	2016
<u>Nine Months Ended</u>				
Service cost	\$ 9,346	\$ 8,618	\$ 1,763	\$ 2,143
Interest cost	9,635	11,949	1,169	1,822
Expected return on plan assets	(15,585)	(14,750)	(978)	(1,133)
Amortization of prior service cost (credit)	35	57	(223)	(70)
Amortization of net actuarial loss	7,150	6,360	1,926	1,404
Settlement loss	648	—	—	—
Total benefit cost	<u>\$ 11,229</u>	<u>\$ 12,234</u>	<u>\$ 3,657</u>	<u>\$ 4,166</u>

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The components of other postretirement benefit cost for the three and nine months ended July 31, 2017 and July 31, 2016 were:

Three Months Ended	U.S.		International	
	2017	2016	2017	2016
Service cost	\$ 188	\$ 212	\$ 5	\$ 4
Interest cost	576	731	5	5
Amortization of prior service cost (credit)	(41)	(67)	—	—
Amortization of net actuarial (gain) loss	217	171	(4)	(6)
Total benefit cost	<u>\$ 940</u>	<u>\$ 1,047</u>	<u>\$ 6</u>	<u>\$ 3</u>

Nine Months Ended	U.S.		International	
	2017	2016	2017	2016
Service cost	\$ 563	\$ 637	\$ 15	\$ 12
Interest cost	1,728	2,192	15	17
Amortization of prior service cost (credit)	(123)	(201)	—	—
Amortization of net actuarial (gain) loss	651	514	(13)	(18)
Total benefit cost	<u>\$ 2,819</u>	<u>\$ 3,142</u>	<u>\$ 17</u>	<u>\$ 11</u>

8. Income taxes

We record our interim provision for income taxes based on our estimated annual effective tax rate, as well as certain items discrete to the current period. The effective tax rates for the three and nine months ended July 31, 2017 were 28.8% and 29.8%, respectively. The effective tax rate for the three and nine months ended July 31, 2016 were 28.2% and 25.5%, respectively.

During the nine months ended July 31, 2017, we recorded a discrete tax expense of \$2,600 related to nondeductible acquisition costs.

During the three months ended July 31, 2016, we recorded a favorable adjustment to unrecognized tax benefits of \$1,651 related to the effective settlement of a tax exam.

On December 18, 2015, the Protecting Americans from Tax Hikes Act of 2015 was enacted which retroactively reinstated the Federal Research and Development Tax Credit (Federal R&D Tax Credit) as of January 1, 2015, and made it permanent. As a result, our income tax provision for the nine months ended July 31, 2016 includes a discrete tax benefit of \$2,025 primarily related to 2015. The tax rate for the nine months ended July 31, 2016 also includes a discrete tax benefit of \$6,184 related to dividends paid from previously taxed foreign earnings generated prior to 2015 and \$1,136 related to the effective settlement of a tax exam.

9. Accumulated other comprehensive loss

The components of accumulated other comprehensive loss, including adjustments for items that are reclassified from accumulated other comprehensive loss to net income, are shown below.

	Cumulative translation adjustments	Pension and postretirement benefit plan adjustments	Accumulated other comprehensive loss
Balance at October 31, 2016	\$ (51,120)	\$ (117,127)	\$ (168,247)
Pension and postretirement plan changes, net of tax of \$(3,263)	—	5,598	5,598
Currency translation losses	27,224	—	27,224
Balance at July 31, 2017	<u>\$ (23,896)</u>	<u>\$ (111,529)</u>	<u>\$ (135,425)</u>

10. Stock-based compensation

During the 2013 Annual Meeting of Shareholders, our shareholders approved the 2012 Stock Incentive and Award Plan (the "2012 Plan"). The 2012 Plan provides for the granting of stock options, stock appreciation rights, restricted shares, performance shares, stock purchase rights, stock equivalent units, cash awards and other stock or performance-based incentives. A maximum of 2,900 common shares is available for grant under the Plan.

Stock Options

Nonqualified or incentive stock options may be granted to our employees and directors. Generally, options granted to employees may be exercised beginning one year from the date of grant at a rate not exceeding 25 percent per year and expire 10 years from the date of grant. Vesting accelerates upon the occurrence of events that involve or may result in a change of control. For grants made prior to November 2012, vesting ceases upon retirement, death and disability, and unvested shares are forfeited. For grants made during and after November 2012, in the event of termination of employment due to early retirement or normal retirement at age 65, options granted within 12 months prior to termination are forfeited, and vesting continues post retirement for all other unvested options granted. In the event of disability or death, all unvested stock options fully vest. Termination for any other reason results in forfeiture of unvested options and vested options in certain circumstances. The amortized cost of options is accelerated if the retirement eligibility date occurs before the normal vesting date. Option exercises are satisfied through the issuance of treasury shares on a first-in, first-out basis. We recognized compensation expense related to stock options of \$2,390 and \$1,927 in the three months ended July 31, 2017 and 2016, respectively. Corresponding amounts for the nine months ended July 31, 2017 and 2016 were \$7,024 and \$5,940, respectively.

The following table summarizes activity related to stock options for the nine months ended July 31, 2017:

	Number of Options	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value	Weighted Average Remaining Term
Outstanding at October 31, 2016	1,881	\$ 58.41		
Granted	381	\$ 107.68		
Exercised	(298)	\$ 44.84		
Forfeited or expired	(14)	\$ 79.10		
Outstanding at July 31, 2017	1,950	\$ 69.98	\$ 111,202	6.6 years
Vested or expected to vest at July 31, 2017	1,928	\$ 69.69	\$ 110,506	6.6 years
Exercisable at July 31, 2017	1,016	\$ 54.16	\$ 74,008	5.0 years

As of July 31, 2017, there was \$9,107 of total unrecognized compensation cost related to unvested stock options. That cost is expected to be amortized over a weighted average period of approximately 1.5 years.

The fair value of each option grant was estimated at the date of grant using the Black-Scholes option-pricing model with the following assumptions:

Nine months ended	July 31, 2017	July 31, 2016
Expected volatility	26.0%-29.2%	29.1%-30.4%
Expected dividend yield	0.91%-1.17%	1.54%
Risk-free interest rate	1.89%-2.06%	1.78%-1.90%
Expected life of the option (in years)	5.4-6.2	5.4-6.2

The weighted-average expected volatility used to value the 2017 and 2016 options was 29.1%, and 29.6%, respectively.

Historical information was the primary basis for the selection of the expected volatility, expected dividend yield and the expected lives of the options. The risk-free interest rate was selected based upon yields of U.S. Treasury issues with a term equal to the expected life of the option being valued.

The weighted average grant date fair value of stock options granted during the nine months ended July 31, 2017 and 2016 was \$28.86 and \$18.23, respectively.

The total intrinsic value of options exercised during the three months ended July 31, 2017 and 2016 was \$1,824 and \$6,928, respectively. The total intrinsic value of options exercised during the nine months ended July 31, 2017 and 2016 was \$21,081 and \$10,247, respectively.

Cash received from the exercise of stock options for the nine months ended July 31, 2017 and 2016 was \$13,209 and \$7,866, respectively. The tax benefit realized from tax deductions from exercises for the nine months ended July 31, 2017 and 2016 was \$5,600 and \$2,795, respectively.

Restricted Shares and Restricted Share Units

We may grant restricted shares and/or restricted share units to our employees and directors. These shares or units may not be transferred for a designated period of time (generally one to three years) defined at the date of grant.

For employee recipients, in the event of termination of employment due to early retirement, restricted shares granted within 12 months prior to termination are forfeited, and other restricted shares vest on a pro-rata basis. In the event of termination of employment due to normal retirement at age 65, restricted shares granted within 12 months prior to termination are forfeited, and, for other restricted shares, the restriction period will lapse and the shares will vest and be transferable. Restrictions lapse in the event of a recipient's disability or death. Termination for any other reason prior to the lapse of any restrictions results in forfeiture of the shares.

For non-employee directors, all restrictions lapse in the event of disability or death of the non-employee director. Termination of service as a director for any other reason within one year of date of grant results in a pro-rata vesting of shares or units.

As shares or units are issued, deferred stock-based compensation equivalent to the fair value on the date of grant is expensed over the vesting period. Tax benefits arising from the lapse of restrictions are recognized when realized and credited to capital in excess of stated value.

The following table summarizes activity related to restricted shares during the nine months ended July 31, 2017:

	Number of Shares	Weighted-Average Grant Date Fair Value
Restricted shares at October 31, 2016	60	\$ 73.56
Granted	24	\$ 108.88
Forfeited	(2)	\$ 71.42
Vested	(24)	\$ 73.53
Restricted shares at July 31, 2017	58	\$ 88.58

As of July 31, 2017, there was \$3,043 of unrecognized compensation cost related to restricted shares. The cost is expected to be amortized over a weighted average period of 1.9 years. The amount charged to expense related to restricted shares during the three months ended July 31, 2017 and 2016 was \$551 and \$484, respectively. These amounts included common share dividends for the three months ended July 31, 2017 and 2016 of \$15 and \$14, respectively. For the nine months ended July 31, 2017 and 2016, the amounts charged to expense related to restricted shares were \$1,639 and \$1,477, respectively. These amounts included common share dividends for the nine months ended July 31, 2017 and 2016 of \$46 and \$44, respectively.

The following table summarizes activity related to restricted share units during the nine months ended July 31, 2017:

	Number of Units	Weighted-Average Grant Date Fair Value
Restricted share units at October 31, 2016	0	\$ —
Granted	10	\$ 97.43
Restricted share units at July 31, 2017	10	\$ 97.43

As of July 31, 2017, there was \$250 of remaining expense to be recognized related to outstanding restricted share units, which is expected to be recognized over a weighted average period of 0.3 years. The amount charged to expense related to restricted share units during the three months ended July 31, 2017 and 2016 was \$252 and \$243, respectively. For the nine months ended July 31, 2017 and 2016, the corresponding amounts were \$758 and \$730, respectively.

Deferred Directors' Compensation

Non-employee directors may defer all or part of their cash and equity-based compensation until retirement. Cash compensation may be deferred as cash or as share equivalent units. Deferred cash amounts are recorded as liabilities, and share equivalent units are recorded as equity. Additional share equivalent units are earned when common share dividends are declared.

The following table summarizes activity related to director deferred compensation share equivalent units during the nine months ended July 31, 2017:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding at October 31, 2016	99	\$ 41.72
Dividend equivalents	1	\$ 118.09
Distributions	(5)	\$ 26.89
Outstanding at July 31, 2017	95	\$ 43.09

The amount charged to expense related to director deferred compensation for the three months ended July 31, 2017 and 2016 was \$25 and \$39, respectively. For the nine months ended July 31, 2017 and 2016, the corresponding amounts were \$77 and \$118, respectively.

Performance Share Incentive Awards

Executive officers and selected other key employees are eligible to receive common share-based incentive awards. Payouts, in the form of unrestricted common shares, vary based on the degree to which corporate financial performance exceeds predetermined threshold, target and maximum performance goals over three-year performance periods. No payout will occur unless threshold performance is achieved.

The amount of compensation expense is based upon current performance projections for each three-year period and the percentage of the requisite service that has been rendered. The calculations are also based upon the grant date fair value determined using the closing market price of our common shares at the grant date, reduced by the implied value of dividends not to be paid. The per share values were \$103.75 and \$104.49 for 2017, \$67.69 per share for 2016 and \$76.48 per share for 2015. During the three months ended July 31, 2017 and 2016, \$1,813 and \$1,461 was charged to expense, respectively. For the nine months ended July 31, 2017 and 2016, the corresponding amounts were \$5,243 and \$5,386, respectively. The cumulative amount recorded in shareholders' equity at July 31, 2017 was \$10,664.

Deferred Compensation

Our executive officers and other highly compensated employees may elect to defer up to 100% of their base pay and cash incentive compensation and, for executive officers, up to 90% of their share-based performance incentive payout each year. Additional share units are credited for quarterly dividends paid on our common shares. Expense related to dividends paid under this plan for the three months ended July 31, 2017 and 2016 was \$68 and \$54, respectively. For the nine months ended July 31, 2017 and 2016, the corresponding amounts were \$197 and \$158, respectively.

11. Warranties

We offer warranties to our customers depending on the specific product and terms of the customer purchase agreement. A typical warranty program requires that we repair or replace defective products within a specified time period (generally one year) from the date of delivery or first use. We record an estimate for future warranty-related costs based on actual historical return rates. Based on analysis of return rates and other factors, the adequacy of our warranty provisions are adjusted as necessary. The liability for warranty costs is included in accrued liabilities in the Consolidated Balance Sheet.

Following is a reconciliation of the product warranty liability for the nine months ended July 31, 2017 and 2016:

	July 31, 2017	July 31, 2016
Beginning balance at October 31	\$ 11,770	\$ 10,537
Accruals for warranties	8,728	9,474
Warranty assumed from acquisitions	61	—
Warranty payments	(7,025)	(9,050)
Currency effect	376	(272)
Ending balance	\$ 13,910	\$ 10,689

12. Operating segments

We conduct business across three primary business segments: Adhesive Dispensing Systems, Advanced Technology Systems, and Industrial Coating Systems. The composition of segments and measure of segment profitability is consistent with that used by our chief operating decision maker. The primary measure used by the chief operating decision maker for purposes of making decisions about allocating resources to the segments and assessing performance is operating profit, which equals sales less cost of sales and certain operating expenses. Items below the operating profit line of the Consolidated Statement of Income (interest and investment income, interest expense and other income/expense) are excluded from the measure of segment profitability reviewed by our chief operating decision maker and are not presented by operating segment. The accounting policies of the segments are the same as those described in Note 1, Significant Accounting Policies, of our annual report on Form 10-K for the year ended October 31, 2016.

The following table presents information about our segments:

	Adhesive Dispensing Systems	Advanced Technology Systems	Industrial Coating Systems	Corporate	Total
Three months ended					
July 31, 2017					
Net external sales	\$ 233,367	\$ 290,406	\$ 65,665	\$ —	\$ 589,438
Operating profit (loss)	66,451 (a)	87,385	13,192	(13,562)	153,466
Three months ended					
July 31, 2016					
Net external sales	\$ 220,800	\$ 205,372	\$ 63,727	\$ —	\$ 489,899
Operating profit (loss)	60,423 (b)	63,115	10,612 (d)	(10,464)	123,686
Nine months ended					
July 31, 2017					
Net external sales	\$ 668,146	\$ 645,907	\$ 178,991	\$ —	\$ 1,493,044
Operating profit (loss)	185,226 (a)	168,054	30,529	(50,895)	332,914
Nine months ended					
July 31, 2016					
Net external sales	\$ 645,269	\$ 481,787	\$ 172,655	\$ —	\$ 1,299,711
Operating profit (loss)	173,760 (b)	109,819 (c)	25,082 (d)	(31,093)	277,568

(a) Includes \$703 and \$1,421 of severance and restructuring costs in the three and nine months ended July 31, 2017, respectively.

(b) Includes \$759 and \$2,230 of severance and restructuring costs in the three and nine months ended July 31, 2016, respectively.

(c) Includes \$680 of severance and restructuring costs in the nine months ended July 31, 2016.

(d) Includes \$955 and \$1,454 of severance and restructuring costs in the three and nine months ended July 31, 2016, respectively.

A reconciliation of total segment operating income to total consolidated income before income taxes is as follows:

	Three Months Ended		Nine Months Ended	
	July 31, 2017	July 31, 2016	July 31, 2017	July 31, 2016
Total profit for reportable segments	\$ 153,466	\$ 123,686	\$ 332,914	\$ 277,568
Interest expense	(11,306)	(4,647)	(24,854)	(15,490)
Interest and investment income	268	176	813	501
Other-net	27	(1,978)	(1,452)	551
Income before income taxes	<u>\$ 142,455</u>	<u>\$ 117,237</u>	<u>\$ 307,421</u>	<u>\$ 263,130</u>

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We have significant sales in the following geographic regions:

	Three Months Ended		Nine Months Ended	
	July 31, 2017	July 31, 2016	July 31, 2017	July 31, 2016
United States	\$ 182,953	\$ 135,067	\$ 464,569	\$ 383,720
Americas	41,604	30,534	107,971	90,823
Europe	133,846	128,583	381,473	374,234
Japan	41,472	34,709	96,504	83,578
Asia Pacific	189,563	161,006	442,527	367,356
Total net external sales	\$ 589,438	\$ 489,899	\$ 1,493,044	\$ 1,299,711

Total assets for our Advanced Technology Systems reportable segment increased to \$1,712,243 at July 31, 2017 as compared to \$1,080,711 at October 31, 2016 primarily as a result of our acquisition of businesses in 2017 as described in Note 4, *Acquisitions*. There have been no material changes in total assets of our other reportable segments from October 31, 2016.

13. Fair value measurements

The inputs to the valuation techniques used to measure fair value are classified into the following categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data.

Level 3: Unobservable inputs that are not corroborated by market data.

The following table presents the classification of our assets and liabilities measured at fair value on a recurring basis at July 31, 2017:

	Total	Level 1	Level 2	Level 3
Assets:				
Foreign currency forward contracts (a)	2,945	—	2,945	—
Total assets at fair value	\$ 2,945	\$ —	\$ 2,945	\$ —
Liabilities:				
Deferred compensation plans (b)	\$ 10,475	\$ —	\$ 10,475	\$ —
Foreign currency forward contracts (a)	6,198	—	6,198	—
Total liabilities at fair value	\$ 16,673	\$ —	\$ 16,673	\$ —

- (a) We enter into foreign currency forward contracts to reduce the risk of foreign currency exposures resulting from receivables, payables, intercompany receivables, intercompany payables and loans denominated in foreign currencies. Foreign currency forward contracts are valued using market exchange rates. Foreign currency forward contracts are not designated as hedges. Gains on foreign currency forward contracts are classified in Receivables-net and losses on foreign currency forward contracts are classified in Accrued liabilities on the Consolidated Balance Sheets.
- (b) Executive officers and other highly compensated employees may defer up to 100% of their salary and annual cash incentive award and for executive officers, up to 90% of their long-term performance share incentive award, into various non-qualified deferred compensation plans. Deferrals can be allocated to various market performance measurement funds. Changes in the value of compensation deferred under these plans are recognized each period based on the fair value of the underlying measurement funds.

14. Financial instruments

We operate internationally and enter into intercompany transactions denominated in foreign currencies. Consequently, we are subject to market risk arising from exchange rate movements between the dates foreign currencies are recorded and the dates they are settled. We regularly use foreign currency forward contracts to reduce our risks related to most of these transactions. These contracts usually have maturities of 90 days or less and generally require us to exchange foreign currencies for U.S. dollars at maturity, at rates stated in the contracts. These contracts are not designated as hedging instruments. We do not use financial instruments for trading or speculative purposes.

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Gains and losses on foreign currency forward contracts are recorded in “Other – net” on the Consolidated Statement of Income together with the transaction gain or loss from the hedged balance sheet position. For the three months ended July 31, 2017, we recognized losses of \$1,314 on foreign currency forward contracts and gains of \$1,617 from the change in fair value of balance sheet positions. For the three months ended July 31, 2016, we recognized gains of \$1,520 on foreign currency forward contracts and losses of \$172 from the change in fair value of balance sheet positions. For the nine months ended July 31, 2017, we recognized losses of \$3,214 on foreign currency forward contracts and gains of \$2,523 from the change in fair value of balance sheet positions. For the nine months ended July 31, 2016, we recognized gains of \$2,382 on foreign currency forward contracts and losses of \$506 from the change in fair value of balance sheet positions.

The following table summarizes, by currency, the foreign currency forward contracts outstanding at July 31, 2017:

	Sell		Buy	
	Notional Amounts	Fair Market Value	Notional Amounts	Fair Market Value
Euro	\$ 146,936	\$ 152,735	\$ 44,062	\$ 45,146
British pound	31,008	31,479	44,480	45,238
Japanese yen	31,211	31,402	23,929	23,991
Australian dollar	589	600	7,333	7,863
Hong Kong dollar	—	—	96,331	95,880
Singapore dollar	568	591	12,403	12,701
Others	4,475	4,560	43,305	44,369
Total	<u>\$ 214,787</u>	<u>\$ 221,367</u>	<u>\$ 271,843</u>	<u>\$ 275,188</u>

The carrying amounts and fair values of financial instruments at July 31, 2017, other than receivables and accounts payable, are shown in the table below. The carrying values of receivables and accounts payable approximate fair value due to the short-term nature of these instruments.

	Carrying Amount	Fair Value
Cash and cash equivalents	\$ 110,705	\$ 110,705
Notes payable	957	957
Long-term debt, including current maturities	1,696,263	1,703,180
Foreign currency forward contracts (net)	(3,253)	(3,253)

We used the following methods and assumptions in estimating the fair value of financial instruments:

- Cash, cash equivalents and notes payable are valued at their carrying amounts due to the relatively short period to maturity of the instruments.
- Long-term debt is valued by discounting future cash flows at currently available rates for borrowing arrangements with similar terms and conditions, which are considered to be Level 2 inputs under the fair value hierarchy.
- Foreign currency forward contracts are valued using observable market based inputs, which are considered to be Level 2 inputs under the fair value hierarchy.

15. Contingencies

We are involved in pending or potential litigation regarding environmental, product liability, patent, contract, employee and other matters arising from the normal course of business. Including the environmental matter discussed below, it is our opinion, after consultation with legal counsel, that resolutions of these matters are not expected to result in a material effect on our financial condition, quarterly or annual operating results or cash flows.

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We have voluntarily agreed with the City of New Richmond, Wisconsin and other Potentially Responsible Parties to share costs associated with the remediation of the City of New Richmond municipal landfill (the “Site”) and the construction of a potable water delivery system serving the impacted area down gradient of the Site. At July 31, 2017 and October 31, 2016, our accrual for the ongoing operation, maintenance and monitoring obligation at the Site was \$472 and \$516, respectively. The liability for environmental remediation represents management’s best estimate of the probable and reasonably estimable undiscounted costs related to known remediation obligations. The accuracy of our estimate of environmental liability is affected by several uncertainties such as additional requirements that may be identified in connection with remedial activities, the complexity and evolution of environmental laws and regulations, and the identification of presently unknown remediation requirements. Consequently, our liability could be greater than our current estimate. However, we do not expect that the costs associated with remediation will have a material adverse effect on our financial condition or results of operations.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following is Management's discussion and analysis of certain significant factors affecting our financial condition and results of operations for the periods included in the accompanying condensed consolidated financial statements.

Overview

Founded in 1954, Nordson Corporation delivers precision technology solutions to help customers succeed worldwide. We engineer, manufacture and market differentiated products and systems used to dispense, apply and control adhesives, coatings, sealants, biomaterials, polymers, plastics and other materials, and fluid management; to test and inspect for quality; and to treat and cure surfaces. These products are supported with extensive application expertise and direct global sales and service. We serve a wide variety of consumer non-durable, consumer durable and technology end-markets including packaging, nonwovens, electronics, medical, appliances, energy, transportation, building and construction, and general product assembly and finishing. We have approximately 7,400 employees and direct operations in more than 35 countries.

Critical Accounting Policies and Estimates

The preparation and fair presentation of the consolidated unaudited interim financial statements and accompanying notes included in this report are the responsibility of management. The financial statements and footnotes have been prepared in accordance with U.S. generally accepted accounting principles for interim financial statements and contain certain amounts that were based upon management's best estimates, judgments and assumptions that were believed to be reasonable under the circumstances. On an ongoing basis, we evaluate the accounting policies and estimates used to prepare financial statements. Estimates are based on historical experience, judgments and assumptions believed to be reasonable under current facts and circumstances. Actual amounts and results could differ from these estimates used by management.

A comprehensive discussion of the Company's critical accounting policies and management estimates and significant accounting policies followed in the preparation of the financial statements is included in Item 7 of our Annual Report on Form 10-K for the year ended October 31, 2016. There have been no significant changes in critical accounting policies, management estimates or accounting policies followed since the year ended October 31, 2016.

Results of Operations

Sales

Sales – Worldwide sales for the three months ended July 31, 2017 were \$589,438, an increase of 20.3% from sales of \$489,899 for the comparable period of 2016. Sales volume increased 20.7%, consisting of 10.8% organic growth and 9.9% from the first year effect of the LinkTech, ACE, InterSelect, Plas-Pak and Vention acquisitions. Unfavorable currency translation effects reduced sales by 0.4%.

Sales of the Adhesive Dispensing Systems segment for the three months ended July 31, 2017 were \$233,367 compared to \$220,800 in the comparable period of 2016, an increase of \$12,567, or 5.7%. The increase was the net result of a sales volume increase of 6.0% partially offset by unfavorable currency effects that reduced sales by 0.3%. Within this segment, sales volume increased in all regions with the exception of Europe. Growth in product lines serving rigid packaging, consumer non-durable and disposable hygiene, and polymer processing end markets was offset by product lines serving general product assembly end markets.

Sales of the Advanced Technology Systems segment for the three months ended July 31, 2017 were \$290,406 compared to \$205,372 in the comparable period of 2016, an increase of \$85,034, or 41.4%. The increase was the net result of a sales volume increase of 41.8% partially offset by unfavorable currency effects that reduced sales by 0.4%. The sales volume increase consisted of 18.1% from organic volume and 23.7% from the first year effect of acquisitions. Within this segment, sales volume, inclusive of acquisitions, increased in all geographic regions, and was most pronounced in the United States, Americas and Japan. Organic volume increased in most product lines and was driven by demand for automated dispensing, test and inspection and surface treatment solutions serving electronics end markets, as well as continued strength in fluid management product lines serving medical end markets.

Sales of the Industrial Coating Systems segment for the three months ended July 31, 2017 were \$65,665 compared to \$63,727 in the comparable period of 2016, an increase of \$1,938, or 3.0%. The increase was the net result of a sales volume increase of 3.4% partially offset by unfavorable currency effects that reduced sales by 0.4%. Within this segment, sales volume increased in the Americas and Asia Pacific regions, and was offset by decreases in the United States, Europe and Japan regions. Growth in cold material, liquid painting and UV curing product lines serving industrial end markets was offset by softness in product lines serving container and powder end markets.

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Sales outside the United States accounted for 69.0% of our sales in the three months ended July 31, 2017 compared to 72.4% for the comparable period of 2016. On a geographic basis, sales in the United States were \$182,953, an increase of 35.5% from 2016. The increase in sales volume consisted of 10.0% from organic volume and 25.5% from acquisitions. In the Americas region, sales were \$41,604, an increase of 36.3% from 2016, with volume increasing 35.6%, and favorable currency effects of 0.7%. The increase in sales volume consisted of 19.8% from organic volume and 15.8% from acquisitions. Sales in Europe were \$133,846, an increase of 4.1% from 2016, with volume increasing 4.0% and favorable currency effects of 0.1%. The increase in sales volume consisted of 5.1% from acquisitions, offset by a 1.1% decrease in organic volume. Sales in Japan were \$41,472, an increase of 19.5% from 2016, with volume increasing 25.4%, offset by unfavorable currency effects of 5.9%. The increase in sales volume consisted of 22.7% from organic volume and 2.7% from acquisitions. Sales in the Asia Pacific region were \$189,563, an increase of 17.7% from 2016, with volume increasing 17.9% partially offset by unfavorable currency effects of 0.2%. The increase in sales volume consisted of 16.7% from organic volume and 1.2% from acquisitions.

Worldwide sales for the nine months ended July 31, 2017 were \$1,493,044, a 14.9% increase from sales of \$1,299,711 for the comparable period of 2016. Sales volume increased 16.0%, consisting of 10.2% organic growth and 5.8% from the first year effect of the LinkTech, ACE, InterSelect, Plas-Pak and Vention acquisitions. Unfavorable currency translation effects reduced sales by 1.1%.

Sales of the Adhesive Dispensing Systems segment for the nine months ended July 31, 2017 were \$668,146 compared to \$645,269 in the comparable period of 2016, an increase of 3.5%. The increase was the net result of a sales volume increase of 4.5%, partially offset by unfavorable currency translation effects that reduced sales by 1.0%. Within this segment, sales volume increased in all regions with the exception of Europe. Growth in product lines serving rigid packaging, consumer non-durable and disposable hygiene end markets, was offset by softness in product lines serving general product assembly and polymer processing end markets.

Sales of the Advanced Technology Systems segment for the nine months ended July 31, 2017 were \$645,907 compared to \$481,787 in the comparable period of 2016, an increase of 34.1%. Sales volume increased 35.1%, consisting of 19.5% organic growth and 15.6% from the first year effect of acquisitions. Unfavorable currency translation effects reduced sales by 1.0%. Within this segment, sales volume, inclusive of acquisitions, increased in all geographic regions. Organic volume increased in all product lines, and was driven by demand for automated dispensing, test and inspection and surface treatment solutions serving electronics end markets, as well as continued strength in fluid management product lines serving medical and industrial end markets.

Sales of the Industrial Coating Systems segment for the nine months ended July 31, 2017 were \$178,991 compared to \$172,655 in the comparable period of 2016, an increase of 3.7%. Sales volume increased 4.9% and unfavorable currency translation effects reduced sales by 1.2%. Within this segment, sales volume increased in all geographic regions, except for Europe and Asia Pacific. Sales volume increased in most product lines, and was driven by demand for liquid and UV curing product lines serving industrial end markets.

Sales outside the United States accounted for 68.9% of sales in the nine months ended July 31, 2017 compared to 70.5% in the comparable period of 2016. On a geographic basis, sales in the United States were \$464,569, an increase of 21.1% from 2016. The increase in sales volume consisted of 7.1% from organic volume and 14.0% growth from acquisitions. In the Americas region, sales were \$107,971, an increase of 18.9% from 2016, with volume increasing 19.7%, offset by unfavorable currency effects of 0.8%. The increase in sales volume consisted of 11.4% from organic volume and 8.3% from acquisitions. Sales in Europe were \$381,473, an increase of 1.9% from 2016, with volume increasing 4.2% offset by unfavorable currency effects of 2.3%. The increase in sales volume consisted of 1.5% from organic volume and 2.7% from acquisitions. Sales in Japan were \$96,504, an increase of 15.5% from 2016, with volume increasing 16.1% offset by unfavorable currency effects of 0.6%. The increase in sales volume consisted of 14.7% from organic volume and 1.4% from acquisitions. Sales in the Asia Pacific region were \$442,527, an increase of 20.5% from 2016, with volume increasing 21.6% offset by unfavorable currency effects of 1.1%. The increase in sales volume consisted of 20.8% from organic volume and 0.8% from acquisitions.

It is estimated that the effect of pricing on total revenue during the nine months ended July 31, 2017 was not material relative to 2016.

Operating profit – Cost of sales for the three months ended July 31, 2017 were \$263,173, up from \$216,679 in the comparable period of 2016. Gross profit, expressed as a percentage of sales, decreased to 55.4% for this same period from 55.8% in 2016. Of the 0.4 percentage point decline in gross margin, the first year effect of acquisitions, including short-term purchase price accounting charges for acquired inventory contributed 0.3 percentage points, and unfavorable currency translation effects contributed 0.1 percentage points.

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Cost of sales for the nine months ended July 31, 2017 were \$666,130, up from \$581,179 in the comparable period of 2016. Gross profit, expressed as a percentage of sales, increased to 55.4% for this same period from 55.3% in 2016. The 0.1 percentage point increase in gross margin was primarily due to favorable product mix related to higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments.

Selling and administrative expenses for the three months ended July 31, 2017 were \$172,799, compared to \$149,534 in 2016. The 15.6% increase includes 9.7% related to the first year effect of acquisitions, 6.4% primarily in support of higher sales growth and 0.6% of corporate charges related to acquisition transaction costs, offset by 0.7% due to lower severance and restructuring costs and 0.4% due to currency translation effects in the current period.

Selling and administrative expenses for the nine months ended July 31, 2017 were \$494,000 compared to \$440,964 in 2016. The 12.0% increase includes 5.5% primarily in support of higher sales growth, 5.0% related to the first year effect of acquisitions and 3.2% of corporate charges related to acquisition transaction costs, offset by 1.0% due to currency translation effects and 0.7% due to lower severance and restructuring costs in the current period.

Selling and administrative expenses as a percentage of sales decreased to 29.3% for the three months ended July 31, 2017 compared to 30.5% in 2016. Of the 1.2 percentage point improvement, 3.6 percentage points is due to leveraging higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments, and 0.2 percentage points is primarily due to lower severance and restructuring expenses in the current period. This improvement was partially offset by 2.5 percentage points due to the first year effect of acquisitions and 0.1 percentage points due to corporate charges related to acquisition transaction costs.

Selling and administrative expenses as a percentage of sales decreased to 33.1% for the nine months ended July 31, 2017 compared to 33.9% in 2016. Of the 0.8 percentage point improvement, 3.0 percentage points is due to leveraging higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments and 0.3 percentage points is primarily due to lower severance and restructuring expenses. This improvement was partially offset by 1.5 percentage points due to the first year effect of acquisitions and 1.0 percentage points due to corporate charges related to acquisition transaction costs.

During the three and nine months ended July 31, 2017, we recognized severance and restructuring costs of \$703 and \$1,421, respectively. These costs were all recognized within our Adhesives Dispensing Systems segment, and are associated with a restructuring initiative to consolidate certain polymer processing product line facilities in the U.S. Additional costs related to these initiatives are not expected to be material in future periods. All severance and restructuring costs are included in selling and administrative expenses in the Condensed Consolidated Statements of Income.

Operating capacity for each of our segments can support fluctuations in order activity without significant changes in operating costs. Also, currency translation affects reported operating margins. Operating margins for each segment were unfavorably impacted by a stronger dollar primarily against the Euro during 2017 as compared to 2016.

Operating profit as a percentage of sales increased to 26.0% for the three months ended July 31, 2017 compared to 25.2% in 2016. Of the 0.8 percentage point improvement in operating margin, favorable leverage of our selling and administrative expenses contributed 3.6 percentage points, and lower severance and restructuring expenses added 0.2 percentage points. This improvement was offset by 2.5 percentage points due to the first year effect of acquisitions, 0.3 percentage points due to short term purchase price accounting charges for acquired inventory and 0.2 percentage points due to corporate charges related to acquisition transaction costs.

Operating profit as a percentage of sales increased to 22.3% for the nine months ended July 31, 2017 compared to 21.4% in 2016. Of the 0.9 percentage point improvement in operating margin, favorable leverage of our selling and administrative expenses contributed 3.0 percentage points, favorable product mix added 0.3 percentage points primarily related to higher sales growth in our Adhesive Dispensing Systems and Advanced Technology Systems segments, and 0.2 percentage points is related to lower severance and restructuring expenses. This improvement was offset by 0.9 percentage points due to corporate charges related to acquisition transaction costs, 1.5 percentage points related to the first year effect of acquisitions, and 0.2 percentage points due to short term purchase price accounting charges for acquired inventory.

For the Adhesive Dispensing Systems segment, operating profit as a percentage of sales increased to 28.5% for the three months ended July 31, 2017 compared to 27.4% in 2016. The 1.1 percentage point improvement in operating margin was primarily due to favorable leverage of selling and administrative expenses.

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For the Adhesive Dispensing Systems segment, operating profit as a percentage of sales increased to 27.7% for the nine months ended July 31, 2017 compared to 26.9% in 2016. Of the 0.8 percentage point improvement in operating margin, favorable leverage of selling and administrative expenses added 0.3 percentage points, favorable product mix added 0.2 percentage points due to increased sales to consumer non-durable, disposable hygiene, general product assembly and rigid packaging end markets, favorable foreign currency translation effects added 0.2 percentage points, and lower severance and restructuring expenses added 0.1 percentage points.

For the Advanced Technology Systems segment, operating profit as a percentage of sales decreased to 30.1% for the three months ended July 31, 2017 compared to 30.7% in 2016. Of the 0.6 percentage point decline in operating margin, 5.0 percentage points were due to the first year effect of acquisitions, 0.6 percentage points were due to short term purchase price accounting charges for acquired inventory, 0.5 percentage points were due to unfavorable product mix and 0.1 percentage points was due to unfavorable currency translation effects. These decreases were offset by 5.6 percentage points related to favorable leverage of our selling and administrative expenses due to higher sales.

For the Advanced Technology Systems segment, operating profit as a percentage of sales increased to 26.0% for the nine months ended July 31, 2017 compared to 22.8% in 2016. Of the 3.2 percentage point increase in operating margin, favorable leverage of our selling and administrative expenses due to higher sales contributed 6.3 percentage points, favorable product mix contributed 0.6 percentage points, and lower severance and restructuring expenses contributed 0.1 percentage points. These increases were offset by 3.4 percentage points related to the first year effect of acquisitions, 0.2 percentage points due to unfavorable currency translation effects and 0.2 percentage points due to short term purchase price accounting charges for acquired inventory.

For the Industrial Coating Systems segment, operating profit as a percentage of sales increased to 20.1% for the three months ended July 31, 2017 compared to 16.7% in 2016. Of the 3.4 percentage point increase in operating margin, 1.5 percentage points were due to lower severance and restructuring expenses during the current period, 1.4 percentage points were due to favorable leverage of our selling and administrative expenses, and favorable product mix contributed 0.6 percentage points. The 0.1 percentage point offset was primarily due to unfavorable currency translation effects.

For the Industrial Coating Systems segment, operating profit as a percentage of sales increased to 17.1% for the nine months ended July 31, 2017 compared to 14.5% in 2016. Of the 2.6 percentage point improvement in operating margin, favorable leverage of our selling and administrative expenses added 2.3 percentage points and lower severance and restructuring expenses added 0.8 percentage points. These increases were offset by 0.4 percentage points related to unfavorable foreign currency translation effects and 0.1 percentage points related to unfavorable product mix.

Interest and other income (expense) - Interest expense for the three months ended July 31, 2017 was \$11,306, up from \$4,647 for the comparable period of 2016. Interest expense for the nine months ended July 31, 2017 was \$24,854, up from \$15,490 for the comparable period of 2016. These increases were due primarily to higher borrowing levels between periods.

Other income was \$27 for the three months ended July 31, 2017, compared to other expense of \$1,978 for the comparable period of 2016. Included in the prior year's other expense was a \$2,722 unfavorable adjustment related to the reversal of an indemnification asset resulting from the effective settlement of a tax exam.

Other expense was \$1,452 for the nine months ended July 31, 2017, compared to other income of \$551 for the comparable period of 2016. Included in the current year's other expense is foreign currency losses of \$691. Included in the prior year's other income were a litigation settlement of \$800 and foreign currency gains of \$1,876. These gains were partially offset by \$1,530 of net unfavorable adjustments primarily related to the reversal of an indemnification asset resulting from the effective settlement of a tax exam.

Income taxes – We record our interim provision for income taxes based on our estimated annual effective tax rate, as well as certain items discrete to the current period. Significant judgment is involved regarding the application of global income tax laws and regulations and when projecting the jurisdictional mix of income. We have considered several factors in determining the probability of realizing deferred income tax assets which include forecasted operated earnings, available tax planning strategies and the time period over which the temporary differences will reverse. We review our tax positions on a regular basis and adjust the balances as new information becomes available. The effective tax rates for the three and nine month periods ended July 31, 2017 were 28.8% and 29.8%, respectively. The effective tax rate for the three and nine month periods ended July 31, 2016 were 28.2% and 25.5%, respectively.

During the nine months ended July 31, 2017, we recorded a discrete tax expense of \$2,600 related to nondeductible acquisition costs.

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During the three months ended July 31, 2016, we recorded a favorable adjustment to unrecognized tax benefits of \$1,651 related to the effective settlement of a tax exam.

On December 18, 2015, the Protecting Americans from Tax Hikes Act of 2015 was enacted which retroactively reinstated the Federal Research and Development Tax Credit (Federal R&D Tax Credit) as of January 1, 2015, and made it permanent. As a result, our income tax provision for the nine months ended July 31, 2016 includes a discrete tax benefit of \$2,025 primarily related to 2015. The tax rate for the nine months ended July 31, 2016 also includes a discrete tax benefit of \$6,184 related to dividends paid from previously taxed foreign earnings generated prior to 2015 and \$1,136 related to the effective settlement of a tax exam.

Net income – Net income for the three months ended July 31, 2017 was \$101,456, or \$1.74 per diluted share, compared to \$84,214, or \$1.46 per diluted share, in the same period of 2016. This represents a 20.5% increase in net income and a 19.2% increase in diluted earnings per share. The impact on net income and diluted earnings per share due to acquisition transaction costs for the three months ended July 31, 2017 was \$614 and \$0.01, respectively. For the nine months ended July 31, 2017, net income was \$215,967, or \$3.71 per diluted share, compared to \$195,976, or \$3.41 per diluted share, in the same period of 2016. This represents a 10.2% increase in net income and an 8.8% increase in diluted earnings per share. The impact on net income and diluted earnings per share due to acquisition transaction costs for the nine months ended July 31, 2017 was \$10,025 and \$0.17, respectively.

Foreign Currency Effects

In the aggregate, average exchange rates for 2017 used to translate international sales and operating results into U.S. dollars were unfavorable compared with average exchange rates existing during 2016. It is not possible to precisely measure the impact on operating results arising from foreign currency exchange rate changes, because of changes in selling prices, sales volume, product mix and cost structure in each country in which we operate. However, if transactions for the three months ended July 31, 2017 were translated at exchange rates in effect during the same period of 2016, sales would have been approximately \$1,939 higher while third-party costs and expenses would have been approximately \$843 higher. If transactions for the nine months ended July 31, 2017 were translated at exchange rates in effect during the same period of 2016, sales would have been approximately \$13,708 higher while third-party costs and expenses would have been approximately \$9,052 higher.

Financial Condition

Liquidity and Capital Resources

During the nine months ended July 31, 2017, cash and cash equivalents increased \$43,466. Cash provided by operations during this period was \$216,191, compared to \$194,734 for the nine months ended July 31, 2016. Cash of \$298,099 was generated from net income adjusted for non-cash income and expenses (consisting of depreciation and amortization, non-cash stock compensation, deferred income taxes, other non-cash expense and gain on sale of property, plant and equipment), compared to \$262,013 for the comparable period of 2016. Changes in operating assets and liabilities and the effect of the tax benefit from the exercise of stock options used \$81,908 of cash in the nine months ended July 31, 2017, compared to \$67,279 in the comparable period of 2016.

Cash used by investing activities was \$855,831 for the nine months ended July 31, 2017, compared to \$44,408 in the comparable period of 2016. In the current year, cash of \$805,943 was used for the ACE, InterSelect GmbH, Plas-Pak, and Vention acquisitions and \$4,470 was used for equity investments, partially offset by cash received of \$3,906 which was primarily due to the sale of a building in the U.S. Capital expenditures in the nine months ended July 31, 2017 were \$49,324, compared to \$45,452 in the comparable period of 2016.

Cash provided by financing activities was \$678,236 for the nine months ended July 31, 2017, compared to \$141,205 used in the comparable period of 2016. Net proceeds from long-term debt and short-term borrowings provided \$713,398. This was primarily due to our new \$705,000 term loan facility used for the Vention acquisition during the second quarter of 2017. Cash of \$3,114 was used for the purchase of treasury shares tendered for taxes related to vesting of restricted stock and cash of \$46,549 was used for dividend payments. Issuance of common shares related to employee benefit plans generated \$13,209 compared to \$7,866 in the comparable period of 2016.

The following is a summary of significant changes in balance sheet captions from October 31, 2016 to July 31, 2017. Receivables increased \$70,288 primarily due to higher sales volume. Inventories increased \$55,344 due to acquisitions completed during the first half of 2017 and higher level of business activity expected through the remainder of 2017 as compared to expectations at October 31, 2016. Net property, plant and equipment increased \$62,551 due to capital expenditures of \$49,324 and acquisitions of \$44,046, offset by depreciation expense and the sale of a building during the first quarter of 2017. Goodwill increased \$479,818 due primarily to acquisitions completed during 2017. Net intangible assets increased \$300,235, primarily due to acquisitions completed during 2017,

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partially offset by amortization expense. The increase of \$88,490 in current maturities of long-term debt is due to a reclassification from long-term debt to current portion related to our 2015 term loan facility and one of our 2012 senior notes, partially offset by principal payments made during the third quarter of 2017. The increase of \$626,909 in long-term debt was primarily due to the new \$705,000 term loan facility used for the Vention acquisition during the second quarter of 2017, partially offset by loan repayments during the first three quarters of 2017.

In December 2014, the board of directors authorized a \$300,000 common share repurchase program. In August 2015, the board of directors authorized the repurchase of up to an additional \$200,000 of the Company's common shares. This new authorization added capacity to the board's December 2014 authorization to repurchase \$300,000 of shares. Approximately \$118,971 remained available for share repurchases at July 31, 2017. Uses for repurchased shares include the funding of benefit programs including stock options, restricted stock and 401(k) matching. Shares purchased are treated as treasury shares until used for such purposes. The repurchase program is being funded using cash from operations and proceeds from borrowings under our credit facilities.

Contractual Obligations

In March 2017, we entered into a \$705,000 term loan facility with a group of banks. The Term Loan Agreement provides for the following term loans in three tranches: \$200,000 due in October 2018, \$200,000 due in March 2020, and \$305,000 due in March 2022. The weighted average interest rate for borrowings under this agreement was 2.51% at July 31, 2017. Borrowings under this agreement were used for the single purpose of acquiring Vention during the second quarter of 2017. We were in compliance with all covenants at July 31, 2017.

In February 2015, we increased, amended and extended our existing syndicated revolving credit agreement that was scheduled to expire in December 2016. We entered into a \$600,000 unsecured, multicurrency credit facility with a group of banks. This facility has a five-year term and includes a \$50,000 subfacility for swing-line loans and may be increased from \$600,000 to \$850,000 under certain conditions. It expires in February 2020. Balances outstanding under the prior facility were transferred to the new facility. At July 31, 2017, \$342,580 was outstanding under this facility, compared to \$244,680 outstanding at October 31, 2016. The weighted average interest rate for borrowings under this agreement was 2.45% at July 31, 2017. We were in compliance with all covenants at July 31, 2017, and the amount we could borrow under the facility would not have been limited by any debt covenants.

We entered into a \$150,000 three-year Note Purchase and Private Shelf agreement with New York Life Investment Management LLC in 2011. In 2015, the amount of the facility was increased to \$180,000, and in 2016 it was increased to \$200,000. Notes issued under the agreement may have a maturity of up to 12 years, with an average life of up to 10 years, and are unsecured. The interest rate on each note can be fixed or floating and is based upon the market rate at the borrowing date. At July 31, 2017 and October 31, 2016, \$157,222 was outstanding under this facility. Existing notes mature between September 2018 and September 2026 and bear interest at fixed and floating rates between 2.21% and 2.56% per annum. This agreement contains customary events of default and covenants related to limitations on indebtedness and the maintenance of certain financial ratios. We were in compliance with all covenants at July 31, 2017, and the amount we could borrow would not have been limited by any debt covenants.

In 2012, we entered into a Note Purchase Agreement with a group of insurance companies under which we sold \$200,000 of Senior Notes. At July 31, 2017, \$172,600 was outstanding under this agreement. Existing notes mature between July 2018 and July 2025 and bear interest at fixed rates between 2.62% and 3.13%. We were in compliance with all covenants at July 31, 2017.

In April 2015, we entered into a \$200,000 term loan facility with a group of banks. \$100,000 is due in April 2018 and has a weighted average interest rate of 2.49% and \$100,000 is due in April 2020 and has a weighted average interest rate of 2.37%. This loan was used to pay down \$100,000 of our previous 364-day unsecured credit facility and \$100,000 of our revolving credit facility. We were in compliance with all covenants at July 31, 2017.

In July 2015, we entered into a Note Purchase Agreement under which \$100,000 of Senior Unsecured Notes were purchased primarily by a group of insurance companies. The notes mature in July 2025 and July 2027 and bear interest at fixed rates of 2.89% and 3.19%. We were in compliance with all covenants at July 31, 2017.

In October 2015, we entered into a €70,000 agreement with Bank of America Merrill Lynch International Limited. The term of the agreement is three years and can be extended by one year on two annual occasions if notice is given between 180 days and 30 days before the maturity date. The interest rate is variable based on the EUR LIBOR rate plus applicable margin based on our leverage ratio. In September 2016 this Agreement was increased to €110,000, and amended and extended to September 2019. At October 31, 2016, the balance outstanding was €72,300 (\$79,389). At July 31, 2017, the balance outstanding was €18,458 (\$21,859) and the weighted average interest rate was 1.125%. We were in compliance with all covenants at July 31, 2017.

In addition, we have notes payable that our subsidiaries use for short-term financing needs.

Outlook

For the balance of the year, we expect continued improvement in volume growth, due primarily to the first year effect of acquisitions, and we remain optimistic about longer term growth opportunities in the diverse consumer durable, non-durable, medical, electronics and industrial end markets we serve. We are moving forward in the near-term with caution given continued slow growth in emerging markets, expectations for global GDP indicating a low-growth macroeconomic environment and marketplace effects of political instability in certain areas of the world. Though the pace of improvement in the global economy remains unclear, our growth potential has been demonstrated over time from our capacity to build and enhance our core businesses by entering emerging markets and pursuing market adjacencies. We drive value for our customers through our application expertise, differentiated technology, and direct sales and service support. Our priorities also are focused on operational efficiencies by employing continuous improvement methodologies in our business processes. We expect our efforts will continue to provide more than sufficient cash from operations for meeting our liquidity needs and paying dividends to common shareholders, as well as enabling us to invest in the development of new applications and markets for our technologies. We believe our cash provided from operations, available borrowing capacity, and future ability for raising capital will enable us to meet our current maturities of long-term debt and make other opportunistic investments in our own common shares and strategic business combinations.

For the fourth quarter of 2017, sales are expected to increase 4% to 8% as compared to the fourth quarter a year ago. This outlook is inclusive of an expected decline in organic volume of 3% to 7%, 10% growth from the first year effect of acquisitions, and 1% favorable currency translation effects based on the current exchange rate environment. Diluted earnings per share are expected to be in the range of \$1.18 to \$1.32.

Safe Harbor Statements Under The Private Securities Litigation Reform Act Of 1995

This Form 10-Q, particularly the “Management’s Discussion and Analysis”, contains forward-looking statements within the meaning of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. Such statements relate to, among other things, income, earnings, cash flows, changes in operations, operating improvements, businesses in which we operate and the U.S. and global economies. Statements in this Form 10-Q that are not historical are hereby identified as “forward-looking statements” and may be indicated by words or phrases such as “anticipates”, “supports”, “plans”, “projects”, “expects”, “believes”, “should”, “would”, “could”, “hope”, “forecast”, “management is of the opinion”, use of the future tense and similar words or phrases.

In light of these risks and uncertainties, actual events and results may vary significantly from those included in or contemplated or implied by such statements. Readers are cautioned not to place undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date made. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Factors that could cause actual results to differ materially from the expected results are discussed in Item 1A, Risk Factors in our Form 10-K for the year ended October 31, 2016.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information regarding our financial instruments that are sensitive to changes in interest rates and foreign currency exchange rates was disclosed in our Form 10-K for the year ended October 31, 2016. The information disclosed has not changed materially in the interim period since then.

ITEM 4. CONTROLS AND PROCEDURES

Our management with the participation of the principal executive officer (President and Chief Executive Officer) and principal financial officer (Senior Vice President, Chief Financial Officer) has reviewed and evaluated our disclosure controls and procedures (as defined in the Securities Exchange Act Rule 13a-15(e)) as of July 31, 2017. Based on that evaluation, our management, including the principal executive and financial officers, has concluded that our disclosure controls and procedures were effective as of July 31, 2017 in ensuring that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and is accumulated and communicated to management, including the principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

There were no changes in our internal controls over financial reporting that occurred during the three months ended July 31, 2017 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

We are involved in pending or potential litigation regarding environmental, product liability, patent, contract, employee and other matters arising from the normal course of business. Including the environmental matter discussed below, it is our opinion, after consultation with legal counsel, that resolutions of these matters are not expected to result in a material effect on our financial condition, quarterly or annual operating results or cash flows.

We have voluntarily agreed with the City of New Richmond, Wisconsin and other Potentially Responsible Parties to share costs associated with the remediation of the City of New Richmond municipal landfill (the “Site”) and the construction of a potable water delivery system serving the impacted area down gradient of the Site. At July 31, 2017 and October 31, 2016, our accrual for the ongoing operation, maintenance and monitoring obligation at the Site was \$472 and \$516, respectively. The liability for environmental remediation represents management’s best estimate of the probable and reasonably estimable undiscounted costs related to known remediation obligations. The accuracy of our estimate of environmental liability is affected by several uncertainties such as additional requirements that may be identified in connection with remedial activities, the complexity and evolution of environmental laws and regulations, and the identification of presently unknown remediation requirements. Consequently, our liability could be greater than our current estimate. However, we do not expect that the costs associated with remediation will have a material adverse effect on our financial condition or results of operations.

ITEM 1A. RISK FACTORS

Information regarding our risk factors was disclosed in our Form 10-K filed for the year ended October 31, 2016. The information disclosed has not changed materially in 2017.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

The following table summarizes common stock repurchased by the Company during the three months ended July 31, 2017:

	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Value of Shares that May Yet Be Purchased Under the Plans or Programs
May 1, 2017 to May 31, 2017	—	—	—	\$ 118,971
June 1, 2017 to June 30, 2017	—	—	—	\$ 118,971
July 1, 2017 to July 31, 2017	—	—	—	\$ 118,971
Total	—	—	—	—

In December 2014, the board of directors authorized a \$300,000 common share repurchase program. In August 2015, the board of directors authorized the repurchase of up to an additional \$200,000 of the Company's common shares. This new authorization added capacity to the board's December 2014 authorization to repurchase \$300,000 of shares. Approximately \$118,971 remained available for share repurchases at July 31, 2017. Uses for repurchased shares include the funding of benefit programs including stock options, restricted stock and 401(k) matching. Shares purchased are treated as treasury shares until used for such purposes. The repurchase program is being funded using cash from operations and proceeds from borrowings under our credit facilities.

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ITEM 6. EXHIBITS

- 31.1 [Certification pursuant to Rule 13a-14\(a\)/15d-14\(a\) of the Securities Exchange Act of 1934 by the Chief Executive Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 31.2 [Certification pursuant to Rule 13a-14\(a\)/15d-14\(a\) of the Securities Exchange Act of 1934 by the Chief Financial Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 32.1 [Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*](#)
- 32.2 [Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*](#)
- 101 The following financial information from Nordson Corporation's Quarterly Report on Form 10-Q for the three and nine months ended July 31, 2017, formatted in Extensible Business Reporting Language (XBRL): (i) the Condensed Consolidated Statements of Income for the three and nine months ended July 31, 2017 and 2016, (ii) the Condensed Consolidated Statements of Comprehensive Income for the three and nine months ended July 31, 2017 and 2016, (iii) the Condensed Consolidated Balance Sheets at July 31, 2017 and October 31, 2016, (iv) the Condensed Consolidated Statements of Cash Flows for the nine months ended July 31, 2017 and 2016, and (v) the Notes to Condensed Consolidated Financial Statements.

* Furnished herewith.

SIGNATURE

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.

Date: September 5, 2017

Nordson Corporation

By: /s/ GREGORY A. THAXTON

Gregory A. Thaxton
Senior Vice President, Chief Financial Officer
(Principal Financial Officer)

CERTIFICATIONS

**CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Michael F. Hilton, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Nordson Corporation;
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 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 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 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: September 5, 2017

/s/ Michael F. Hilton

Michael F. Hilton

President and Chief Executive Officer

**CERTIFICATION PURSUANT TO RULE 13a-14(a)/15d-14(a) OF THE SECURITIES EXCHANGE ACT OF 1934, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Gregory A. Thaxton, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Nordson Corporation;
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 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 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 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: September 5, 2017

/s/ Gregory A. Thaxton

Gregory A. Thaxton

Senior Vice President, Chief Financial Officer

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350, Chapter 63 of Title 18, United States Code), I, Michael F. Hilton, President and Chief Executive Officer of Nordson Corporation, an Ohio corporation (the "Company"), do hereby certify that:

1. The Quarterly Report on Form 10-Q for the quarter ended July 31, 2017 of the Company (the "Form 10-Q") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. Information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: September 5, 2017

/s/ Michael F. Hilton

Michael F. Hilton

President and Chief Executive Officer

Certification
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Section 1350, Chapter 63 of Title 18, United States Code), I, Gregory A. Thaxton, Senior Vice President, Chief Financial Officer of Nordson Corporation, an Ohio corporation (the "Company"), do hereby certify that:

1. The Quarterly Report on Form 10-Q for the quarter ended July 31, 2017 of the Company (the "Form 10-Q") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. Information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: September 5, 2017

/s/ Gregory A. Thaxton

Gregory A. Thaxton

Senior Vice President, Chief Financial Officer

