
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 28, 2018

OR

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

For the transition period from ___ to ___

Commission File Number: 001-37961

ICHOR HOLDINGS, LTD.

(Exact Name of Registrant as Specified in its Charter)

Cayman Islands
(State or other jurisdiction of
incorporation or organization)
3185 Laurelview Ct.
Fremont, CA
(Address of principal executive offices)

Not Applicable
(I.R.S. Employer
Identification No.)

94538
(Zip Code)

Registrant's telephone number, including area code: (510) 897-5200

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files). Yes No

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

Large accelerated filer

Accelerated filer

Non-accelerated filer

Small 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

As of November 2, 2018, the registrant had 22,853,025 ordinary shares, \$0.0001 par value per share, outstanding.

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PART I

ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

ICHOR HOLDINGS, LTD.
Consolidated Balance Sheets
(dollars in thousands, except per share amounts)

	September 28, 2018	December 29, 2017
Assets		
Current assets:		
Cash	\$ 33,021	\$ 68,794
Restricted cash	—	510
Accounts receivable, net	65,358	49,249
Inventories, net	133,663	154,541
Prepaid expenses and other current assets	4,373	5,357
Current assets from discontinued operations	—	3
Total current assets	236,415	278,454
Property and equipment, net	40,359	34,380
Other noncurrent assets	860	1,052
Deferred tax assets	994	994
Intangible assets, net	60,728	73,405
Goodwill	173,004	169,399
Total assets	<u>\$ 512,360</u>	<u>\$ 557,684</u>
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 77,697	\$ 121,405
Accrued liabilities	9,249	12,211
Other current liabilities	4,281	6,715
Current portion of long-term debt	8,750	6,490
Current liabilities from discontinued operations	—	400
Total current liabilities	99,977	147,221
Long-term debt, less current portion, net	182,065	180,247
Deferred tax liabilities	4,032	10,558
Other non-current liabilities	3,062	2,896
Total liabilities	289,136	340,922
Shareholders' equity:		
Preferred shares (\$0.0001 par value; 20,000,000 shares authorized; zero shares issued and outstanding)	—	—
Ordinary shares (\$0.0001 par value; 200,000,000 shares authorized; 23,881,249 and 25,892,162 shares outstanding, respectively; 26,563,213 and 25,892,162 shares issued, respectively)	2	3
Additional paid in capital	227,079	214,697
Treasury shares at cost (2,681,964 and zero shares, respectively)	(60,317)	—
Retained earnings	56,460	2,062
Total shareholders' equity	223,224	216,762
Total liabilities and shareholders' equity	<u>\$ 512,360</u>	<u>\$ 557,684</u>

See accompanying notes.

ICHOR HOLDINGS, LTD.
Consolidated Statements of Operations
(dollars in thousands, except per share amounts)

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
Net sales	\$ 175,207	\$ 164,519	\$ 682,209	\$ 472,956
Cost of sales	146,993	140,323	567,521	401,239
Gross profit	<u>28,214</u>	<u>24,196</u>	<u>114,688</u>	<u>71,717</u>
Operating expenses:				
Research and development	2,123	1,992	7,152	5,686
Selling, general, and administrative	10,658	11,430	38,016	26,272
Amortization of intangible assets	3,885	2,220	11,536	5,818
Total operating expenses	<u>16,666</u>	<u>15,642</u>	<u>56,704</u>	<u>37,776</u>
Operating income	11,548	8,554	57,984	33,941
Interest expense	2,553	739	7,360	2,104
Other expense (income), net	(84)	73	(60)	(325)
Income from continuing operations before income taxes	9,079	7,742	50,684	32,162
Income tax benefit from continuing operations	(558)	(6,556)	(3,714)	(5,558)
Net income from continuing operations	<u>9,637</u>	<u>14,298</u>	<u>54,398</u>	<u>37,720</u>
Discontinued operations:				
Loss from discontinued operations before taxes	—	—	—	(721)
Income tax expense from discontinued operations	—	8	—	9
Net loss from discontinued operations	—	(8)	—	(730)
Net income	<u>\$ 9,637</u>	<u>\$ 14,290</u>	<u>\$ 54,398</u>	<u>\$ 36,990</u>
Net income per share from continuing operations:				
Basic	\$ 0.40	\$ 0.57	\$ 2.15	\$ 1.51
Diluted	\$ 0.39	\$ 0.54	\$ 2.11	\$ 1.45
Net income per share:				
Basic	\$ 0.40	\$ 0.57	\$ 2.15	\$ 1.48
Diluted	\$ 0.39	\$ 0.54	\$ 2.11	\$ 1.42
Shares used to compute net income from continuing operations per share:				
Basic	24,352,995	25,267,113	25,352,489	24,923,298
Diluted	24,674,912	26,278,147	25,840,494	26,008,346
Shares used to compute net income per share:				
Basic	24,352,995	25,267,113	25,352,489	24,923,298
Diluted	24,674,912	26,278,147	25,840,494	26,008,346

See accompanying notes.

ICHOR HOLDINGS, LTD.
Consolidated Statements of Shareholders' Equity
(dollars in thousands)

	Ordinary Shares		Additional Paid-In Capital	Treasury Shares		Retained Earnings	Total Shareholders' Equity
	Shares	Amount		Shares	Amount		
Balance at December 29, 2017	25,892,162	\$ 3	\$ 214,697	—	\$ —	\$ 2,062	\$ 216,762
Ordinary shares issued from exercise of stock options	573,162	—	5,661	—	—	—	5,661
Ordinary shares issued from vesting of restricted share units	68,512	—	(70)	—	—	—	(70)
Ordinary shares issued from employee share purchase plan	29,377	—	514	—	—	—	514
Repurchase of ordinary shares	(2,681,964)	(1)	—	2,681,964	(60,317)	—	(60,318)
Share-based compensation expense	—	—	6,277	—	—	—	6,277
Net income	—	—	—	—	—	54,398	54,398
Balance at September 28, 2018	<u>23,881,249</u>	<u>\$ 2</u>	<u>\$ 227,079</u>	<u>2,681,964</u>	<u>\$ (60,317)</u>	<u>\$ 56,460</u>	<u>\$ 223,224</u>

See accompanying notes.

ICHOR HOLDINGS, LTD.
Consolidated Statements of Cash Flows
(in thousands)

	Nine Months Ended	
	September 28, 2018	September 29, 2017
Cash flows from operating activities:		
Net income	\$ 54,398	\$ 36,990
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	17,405	8,351
Gain on sale of investments and settlement of note receivable	—	(241)
Share-based compensation	6,277	1,536
Deferred income taxes	(6,246)	(6,207)
Amortization of debt issuance costs	731	412
Changes in operating assets and liabilities, net of acquisitions:		
Accounts receivable, net	(14,646)	(22,632)
Inventories	22,569	(18,915)
Prepaid expenses and other assets	1,336	4,112
Accounts payable	(48,104)	(2,081)
Accrued liabilities	(3,711)	(1,280)
Other liabilities	(2,639)	881
Net cash provided by operating activities	<u>27,370</u>	<u>926</u>
Cash flows from investing activities:		
Capital expenditures	(11,385)	(6,609)
Cash paid for acquisitions, net of cash acquired	(1,443)	(49,542)
Proceeds from sale of investments and settlement note receivable	—	2,430
Net cash used in investing activities	<u>(12,828)</u>	<u>(53,721)</u>
Cash flows from financing activities:		
Issuance of ordinary shares, net of fees	—	7,278
Issuance of ordinary shares under share-based compensation plans	6,215	6,331
Employees' taxes paid upon vesting of restricted share units	(70)	—
Repurchase of ordinary shares	(60,318)	—
Debt issuance and modification costs	(2,092)	(319)
Borrowings on revolving credit facility	17,162	10,000
Repayments on revolving credit facility	(5,000)	—
Proceeds from term loan	—	20,000
Repayments on term loan	(6,722)	(295)
Net cash provided by (used in) financing activities	<u>(50,825)</u>	<u>42,995</u>
Net decrease in cash	(36,283)	(9,800)
Cash at beginning of year	69,304	52,648
Cash at end of quarter	<u>\$ 33,021</u>	<u>\$ 42,848</u>
Supplemental disclosures of cash flow information:		
Cash paid during the period for interest	\$ 5,987	\$ 2,518
Cash paid during the period for taxes	\$ 2,166	\$ 150
Supplemental disclosures of non-cash activities:		
Capital expenditures included in accounts payable	\$ 790	\$ 267

See accompanying notes.

ICHOR HOLDINGS, LTD.

Notes to Consolidated Financial Statements (Unaudited)

(dollar figures in tables in thousands, except share and per share amounts and percentages)

Note 1 – Basis of Presentation

Basis of Presentation

These consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the U.S. (“GAAP”). All intercompany balances and transactions have been eliminated upon consolidation. All financial figures presented in the notes to consolidated financial statements are in thousands, except share, per share, and percentage figures.

Year End

We use a 52 or 53 week fiscal year ending on the last Friday in December. The three months ended September 28, 2018 and September 29, 2017 were both 13 weeks. The nine months then ended were both 39 weeks. References to the third quarters of 2018 and 2017 relate to the three months ended September 28, 2018 and September 29, 2017, respectively. References to fiscal year 2018 relate to our fiscal year ending December 28, 2018.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods presented. We base our estimates and judgments on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Actual results could differ from the estimates made by management. Significant estimates include the fair value of assets and liabilities acquired in acquisitions, estimated useful lives for long-lived assets, allowance for doubtful accounts, inventory valuation, uncertain tax positions, fair value assigned to stock options granted, and impairment analysis for both definite-lived intangible assets and goodwill.

Revenue Recognition

We recognize revenue when control of promised goods or services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. This amount is recorded as net sales in our consolidated statements of operations.

Transaction price – In most of our contracts, prices are generally determined by a customer-issued purchase order and generally remain fixed over the duration of the contract. Certain contracts contain variable consideration, including early-payment discounts and rebates. When a contract includes variable consideration, we evaluate the estimate of the variable consideration to determine whether the estimate needs to be constrained; therefore, we include the variable consideration in the transaction price only to the extent that it is probable that a significant reversal will not occur. Variable consideration estimates are updated at each reporting date. Historically, we have not incurred significant costs to obtain a contract. All amounts billed to a customer relating to shipping and handling are classified as net sales, while all costs incurred by us for shipping and handling are classified as cost of goods sold.

Performance obligations – Substantially all of our performance obligations pertain to promised goods (“products”), which are primarily comprised of fluid delivery subsystems, weldments, and other components. Most of our contracts contain a single performance obligation. Product sales are recognized at a point-in-time, generally upon delivery, as such term is defined within the contract, as that is when control of the promised good has transferred. Products are covered by a standard assurance warranty, varying in length by customer, which promises that delivered products conform to contract specifications. As such, we account for such warranties under ASC 460, *Guarantees*, and not as a separate performance obligation.

Contract balances – Accounts receivable represents our unconditional right to receive consideration from our customers. Accounts receivable are carried at invoice price less an estimate for doubtful accounts and estimated payment discounts. Payment terms vary by customer but are generally due within 15-60 days. Historically, we have not incurred significant payment issues with our customers. We had no significant contract assets or liabilities on our consolidated balance sheets in any of the periods presented.

Accounting Pronouncements Recently Adopted

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Updated (“ASU”) 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which supersedes nearly all existing revenue recognition guidance. Subsequent to the issuance of ASU 2014-09, the FASB clarified the guidance through several ASUs. We adopted Accounting Standards Codification (“ASC”) Topic 606, *Revenue from Contracts with Customers*, on December 30, 2017, the first day of fiscal year 2018, using the modified retrospective method. After assessing our contracts with our customers, we determined that there was not a significant change to the nature, timing, and extent of our revenues under the new standard. Accordingly, we did not make a cumulative-effect adjustment to retained earnings on December 30, 2017, as there was no adjustment to be made.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows – Classification of Certain Cash Receipts and Cash Payments*. The amendment provides and clarifies guidance on the classification of certain cash receipts and cash payments in the statement of cash flows to eliminate diversity in practice. We adopted ASU 2016-15 on December 30, 2017, the first day of fiscal year 2018, which did not have a significant impact on our consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*. The amendments in this update clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. We adopted ASU 2017-01 on December 30, 2017, the first day of fiscal year 2018, which did not have a significant impact on our consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718) – Scope of Modification Accounting*, which provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. We adopted ASU 2017-09 on December 30, 2017, the first day of fiscal year 2018, which did not have a significant impact on our consolidated financial statements.

Accounting Pronouncements Recently Issued

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which consists of a comprehensive lease accounting standard. Under the new standard, assets and liabilities arising from most leases will be recognized on the balance sheet. Leases will be classified as either operating or financing, and the lease classification will determine whether expense is recognized on a straight-line basis (operating leases) or based on an effective interest method (financing leases). The new standard is effective for interim and annual periods starting in 2019. A modified retrospective transition approach is required with certain practical expedients available. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842): Targeted Improvements*, which provides an optional transition method allowing entities to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We plan to use the optional transition method and apply the lease standard as of December 29, 2018, first first day of our fiscal 2019. We anticipate this standard will have a material impact on our consolidated balance sheet. Although we continue to assess all potential impacts of the standard, we believe the most significant impact relates to recognizing lease assets and lease liabilities on our balance sheet related to our facility leases. We do not anticipate a material cumulative-effect adjustment to the opening balance of retained earnings.

In June 2018, the FASB issued ASU 2018-07, *Compensation-Stock Compensation (Topic 718): Improvements to Non-Employee Share-Based Payment Accounting*. This standard is intended to reduce cost and complexity and to improve financial reporting for share-based payments issued to nonemployees. ASU 2018-07 expands the scope of ASC Topic 718, which currently only includes share-based payments issued to employees, to also include share-based payments issued to nonemployees for goods and services. The provisions are effective for annual periods beginning after December 15, 2018. We do not expect this ASU to have a material impact on our consolidated financial statements.

Note 2 – Acquisitions

IAN Engineering Co., Ltd.

On April 19, 2018, we completed the acquisition of IAN Engineering Co., Ltd. (“IAN”), a Seoul-based leader in providing locally-sourced design and manufacturing of gas delivery systems to customers in South Korea, for an aggregate purchase price of \$6.5 million, inclusive of \$5.3 million paid at closing and contingent consideration with a fair value of \$1.3 million. Contingent consideration consists of an earn-out liability, included in our consolidated balance sheet, that becomes payable in 2019 and 2020 if certain financial targets are achieved. IAN provides us exposure to and growth opportunities in the South Korean semiconductor capital equipment market.

The following table presents the preliminary purchase price allocation as of April 19, 2018:

	Preliminary Allocation April 19, 2018
Cash acquired	\$ 3,952
Accounts receivable	863
Inventories	1,870
Prepaid expenses and other current assets	56
Property and equipment	396
Other noncurrent assets	101
Intangible assets	1,559
Goodwill	2,856
Accounts payable	(4,193)
Accrued liabilities	(452)
Other current liabilities	(82)
Deferred tax liabilities	(383)
Total acquisition consideration	<u>\$ 6,543</u>

We preliminarily allocated \$1.6 million to customer relationships with an amortization period of 6 years. Goodwill recognized from the acquisition was primarily attributed to an assembled workforce and expected synergies and is not tax deductible. The allocation of acquisition consideration for IAN is preliminary as we have not obtained all of the information to finalize our procedures on the opening balance sheet or the allocation between goodwill and intangible assets. We have recorded allocations based on information currently available.

Our consolidated statements of operations for nine months ended September 28, 2018 include approximately five months of IAN operating activity, including revenue of \$5.8 million.

Talon Innovations Corporation

On December 11, 2017, we completed the acquisition of Talon Innovations Corporation (“Talon”), a Minnesota-based leader in the design and manufacturing of high precision machined parts used in leading edge semiconductor tools, for \$137.8 million. Talon expanded our capacity and capabilities in the area of component manufacturing for gas and chemical delivery tools used in semiconductor manufacturing and other industrial applications.

The following table presents the preliminary purchase price allocation as of December 29, 2017 and September 28, 2018, as well as measurement period adjustments recorded during the nine months ended September 28, 2018. Measurement period adjustments primarily relate to the fair value of Talon's opening balance of accounts receivable, inventory, income taxes payable, deferred taxes, developed technology, and other working capital amounts.

	Preliminary Allocation December 29, 2017	Measurement Period Adjustment	Preliminary Allocation September 28, 2018
Cash acquired	\$ 5,586	\$ —	\$ 5,586
Accounts receivable	11,471	600	12,071
Inventories	19,399	209	19,608
Prepaid expenses and other current assets	182	—	182
Property and equipment	16,655	—	16,655
Other noncurrent assets	76	—	76
Intangible assets	38,000	(2,700)	35,300
Goodwill	74,594	892	75,486
Accounts payable	(4,706)	—	(4,706)
Accrued liabilities	(2,767)	170	(2,597)
Other current liabilities	(1,838)	972	(866)
Deferred tax liabilities	(19,652)	652	(19,000)
Total acquisition consideration	<u>\$ 137,000</u>	<u>\$ 795</u>	<u>\$ 137,795</u>

Cal-Weld, Inc.

On July 27, 2017, we completed the acquisition of Cal-Weld, Inc. ("Cal-Weld"), a California-based leader in the design and fabrication of precision, high purity industrial components, subsystems, and systems, for \$56.2 million. Cal-Weld expanded our capacity and capabilities in the area of component manufacturing for gas delivery tools used in semiconductor manufacturing.

The following table presents the preliminary purchase price allocation as of December 29, 2017 and the final allocation on June 29, 2018, as well as measurement period adjustments recorded during the six months ended June 29, 2018. Measurement period adjustments primarily relate to the fair value of Cal-Weld's opening balance of inventory, income taxes payable, and other working capital amounts.

	Preliminary Allocation December 29, 2017	Measurement Period Adjustment	Final Allocation June 29, 2018
Cash acquired	\$ 7,337	\$ —	\$ 7,337
Accounts receivable	10,318	—	10,318
Inventories	20,836	(388)	20,448
Prepaid expenses and other current assets	400	—	400
Property and equipment	1,639	—	1,639
Other noncurrent assets	587	—	587
Intangible assets	12,140	—	12,140
Goodwill	17,734	(143)	17,591
Accounts payable	(5,991)	—	(5,991)
Accrued liabilities	(1,937)	(173)	(2,110)
Other non-current liabilities	(908)	—	(908)
Deferred tax liabilities	(5,276)	11	(5,265)
Total acquisition consideration	<u>\$ 56,879</u>	<u>\$ (693)</u>	<u>\$ 56,186</u>

Note 3 – Inventories

Inventories consist of the following:

	September 28, 2018	December 29, 2017
Raw materials	\$ 94,755	\$ 91,109
Work in process	25,330	42,186
Finished goods	21,397	27,268
Excess and obsolete adjustment	(7,819)	(6,022)
Total inventories, net	<u>\$ 133,663</u>	<u>\$ 154,541</u>

Note 4 – Property and Equipment

Property and equipment consist of the following:

	September 28, 2018	December 29, 2017
Machinery	\$ 28,467	\$ 23,464
Leasehold improvements	15,046	15,329
Computer software, hardware and equipment	4,841	4,551
Office furniture, fixtures and equipment	1,057	868
Vehicles	60	51
Construction-in-process	8,017	2,771
	<u>57,488</u>	<u>47,034</u>
Less accumulated depreciation	(17,129)	(12,654)
Total property and equipment, net	<u>\$ 40,359</u>	<u>\$ 34,380</u>

Depreciation expense was \$2.0 million and \$0.9 million for the third quarter of 2018 and 2017, respectively, and \$5.9 million and \$2.5 million for the nine months ended September 28, 2018 and September 29, 2017, respectively.

Note 5 – Intangible Assets and Goodwill

Definite-lived intangible assets consist of the following:

	September 28, 2018				
	Gross value	Accumulated amortization	Accumulated impairment charges	Carrying amount	Weighted average useful life
Trademarks	\$ 9,690	\$ (6,540)	\$ —	\$ 3,150	10.0 years
Customer relationships	82,986	(28,477)	—	54,509	7.8 years
Developed technology	20,290	(17,221)	—	3,069	7.4 years
Total intangible assets	<u>\$ 112,966</u>	<u>\$ (52,238)</u>	<u>\$ —</u>	<u>\$ 60,728</u>	

	December 29, 2017				
	Gross value	Accumulated amortization	Accumulated impairment charges	Carrying amount	Weighted average useful life
Trademarks	\$ 9,690	\$ (5,814)	\$ —	\$ 3,876	10.0 years
Customer relationships	81,427	(20,060)	—	61,367	7.8 years
Developed technology	22,990	(14,938)	—	8,052	7.7 years
Backlog	660	(550)	—	110	0.5 years
Total intangible assets	<u>\$ 114,767</u>	<u>\$ (41,362)</u>	<u>\$ —</u>	<u>\$ 73,405</u>	

The following table presents changes to goodwill during the nine months ended September 28, 2018:

	Goodwill
Balance at December 29, 2017	\$ 169,399
Acquisitions	3,605
Impairment	—
Balance at September 28, 2018	<u>\$ 173,004</u>

Note 6 – Commitments and Contingencies

Operating Leases

We lease offices under various non-cancellable net operating leases expiring through 2024. In addition to base rental payments, we are responsible for utilities and our proportionate share of operating expenses. Escalating rental payments are recognized on a straight-line basis over the lease term. As of September 28, 2018, our future minimum rental payment obligation was \$17.5 million.

Litigation

We are periodically involved in legal actions and claims that arise as a result of events that occur in the normal course of operations. The ultimate resolution of these actions is not expected to have a material adverse effect on our financial position or results of operations.

Note 7 – Income Taxes

Income tax information for the periods reported are as follows:

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
Income tax benefit from continuing operations	\$ (558)	\$ (6,556)	\$ (3,714)	\$ (5,558)
Income from continuing operations before income taxes	\$ 9,079	\$ 7,742	\$ 50,684	\$ 32,162
Effective income tax rate	-6.1%	-84.7%	-7.3%	-17.3%

Our effective tax rate for the third quarter of 2018 differs from the statutory rate due to taxes on foreign income that differ from the U.S. tax rate and a change in our expectation of full-year 2018 income that occurred in the third quarter of 2018. Our effective tax rate for the nine months ended September 28, 2018 differs from the statutory rate due to taxes on foreign income that differ from the U.S. tax rate and the release of a valuation allowance against our foreign tax credit carryforwards.

Our effective tax rate for the three and nine months ended September 29, 2017 differs from the statutory rate due to a full valuation allowance that was provided against our U.S. net deferred tax assets, taxes on foreign income that differ from the U.S. tax rate, and discrete tax benefits recognized in connection with our acquisition of Cal-Weld and our re-characterization of intercompany debt to equity.

During the second quarter of 2018, we determined that we would be able realize our foreign tax credit carryforwards as a result of additional analysis of the Tax Cuts and Jobs Act (the "Act"). As such, we recognized a \$4.1 million discrete tax benefit in the second quarter of 2018 associated with the release of the valuation allowance on those credits. As of September 28, 2018, our accounting for the Act was not complete. We are still evaluating other changes under the Act, including the impacts of mandatory repatriation and the tax rate change. We expect to finalize these items in the fourth quarter of 2018.

The ending balance for the unrecognized tax benefits for uncertain tax positions was approximately \$2.2 million at September 28, 2018. The related interest and penalties were \$0.1 million and \$0.4 million, respectively. The uncertain tax positions that are reasonably possible to decrease in the next twelve months are insignificant.

As of September 28, 2018, we were not under examination by tax authorities.

Note 8 – Employee Benefit Programs

401(k) Plan

We sponsor a 401(k) plan available to employees of our U.S.-based subsidiaries. Participants may make salary deferral contributions not to exceed 50% of a participant's annual compensation or the maximum amount otherwise allowed by law. Eligible employees receive a discretionary matching contribution equal to 50% of a participant's deferral, up to an annual maximum of 4% of a participant's annual compensation. Matching contributions were \$0.3 million and \$0.1 million for the third quarter of 2018 and 2017, respectively, and \$1.1 million and \$0.4 million for the nine months ended September 28, 2018 and September 29, 2017, respectively.

Medical Insurance

We sponsor a self-insured group medical insurance plan for our U.S. employees and their dependents. The self-insured plan is designed to provide a specified level of coverage, with stop-loss coverage provided by a commercial insurer, in order to limit our exposure. Expense incurred related to this plan was \$2.4 million and \$0.6 million for the third quarter of 2018 and 2017, respectively, and \$7.5 million and \$2.0 million for the nine months ended September 28, 2018 and September 29, 2017, respectively.

Note 9 – Long-Term Debt

Long-term debt consists of the following:

	September 28, 2018	December 29, 2017
Term loan	\$ 172,812	\$ 179,535
Revolving credit facility	22,162	10,000
Total principal amount of long-term debt	194,974	189,535
Less unamortized debt issuance costs	(4,159)	(2,798)
Total long-term debt, net	190,815	186,737
Less current portion	(8,750)	(6,490)
Total long-term debt, less current portion, net	<u>\$ 182,065</u>	<u>\$ 180,247</u>

On February 15, 2018, we amended and restated our credit agreement (the "amendment"), which replaced our existing credit facilities with a \$175.0 million term loan and a revolving credit facility (the "revolver") allowing for borrowings up to \$125.0 million. Additionally, the amendment reduced our borrowing rate, depending on our leverage ratio, and extended the maturity date. We incurred debt issuance costs of \$2.1 million in connection with the amendment. The amendment did not meet the definition of an extinguishment and was accounted for as a debt modification.

Interest is charged at either the Base Rate or the Eurodollar rate (as such terms are defined in the credit agreement) at our option, plus an applicable margin. The Base Rate is equal to the higher of i) the Prime Rate, ii) the Federal Funds Rate plus 0.5%, or iii) the Eurodollar Rate plus 1.00%. The Eurodollar rate is equal to LIBOR. The applicable margin on Base Rate and Eurodollar Rate loans is 0.75-1.50% and 1.75-2.50% per annum, respectively, depending on our leverage ratio. We are also charged a commitment fee of 0.20%-0.35% on the unused portion of our revolver. Base Rate interest payments and commitment fees are due quarterly. Eurodollar interest payments are due on the last day of the applicable interest period. At September 28, 2018, the term loan and revolver bore interest at the Eurodollar rate option of 4.48% and 4.25%, respectively.

Term loan principal payments of \$2.2 million are due on a quarterly basis. The term loan and revolver mature on February 15, 2023.

Note 10 – Shareholders' Equity

Share Repurchase Program

In February 2018, our board of directors authorized a share repurchase program up to \$50.0 million under which we may repurchase our ordinary shares in the open market or through privately negotiated transactions, depending on market conditions and other factors. Ordinary shares repurchased are recorded as treasury shares using the cost method on a first-in, first-out basis. In August 2018, our board of directors authorized a \$50 million increase to the share repurchase program.

During the nine months ended September 28, 2018, we repurchased 2,681,964 ordinary shares for a total cost of \$60.3 million at an average price of \$22.49 per share. At September 28, 2018, \$39.7 million remained available to repurchase ordinary shares under the repurchase program.

Note 11 – Share-Based Compensation

The 2016 Omnibus Incentive Plan (the “2016 Plan”) provides for grants of share-based awards to employees, directors, and consultants. Awards may be in the form of options, tandem and non-tandem stock appreciation rights, restricted share awards or restricted share units (“restricted shares”), performance awards, and other share-based awards. Awards generally vest over four years, 25% on the first anniversary and quarterly thereafter. Upon vesting of restricted shares, employees may elect to have shares withheld to cover statutory minimum withholding taxes. Shares withheld are not reflected as an issuance of ordinary shares within our consolidated statements of shareholders’ equity, as the shares were never issued, and the associated tax payments are reflected as financing activities within our consolidated statements of cash flows.

Share-based compensation expense across all plans for stock options, restricted shares, and employee share purchase rights was \$1.3 million and \$0.6 million for the third quarter of 2018 and 2017, respectively, and \$6.3 million and \$1.5 million for the nine months ended September 28, 2018 and September 29, 2017, respectively.

On January 18, 2018, in connection with the resignation of our former Chief Financial Officer, certain separation benefits became effective, which includes a vesting acceleration of all outstanding and unvested stock options and restricted shares. Consequently, 88,445 stock options and 39,175 restricted shares vested on January 18, 2018. This was accounted for as an equity award modification under ASC Topic 718, resulting in \$2.9 million in share-based compensation expense.

Stock Options

The following table summarizes stock option activity:

	<u>Number of Stock Options</u>		<u>Weighted average exercise price per share</u>	<u>Weighted average remaining contractual term</u>	<u>Aggregate intrinsic value (in thousands)</u>
	<u>Time vesting</u>	<u>Performance vesting</u>			
Outstanding, December 29, 2017	1,452,825	215,908	\$ 12.87		
Granted	748,100	—	\$ 24.92		
Exercised	(423,162)	(150,000)	\$ 9.88		
Forfeited	(62,322)	—	\$ 19.28		
Expired	—	—	\$ —		
Outstanding, September 28, 2018	<u>1,715,441</u>	<u>65,908</u>	\$ 18.67	4.9 years	\$ 6,770
Exercisable, September 28, 2018	<u>538,708</u>	<u>65,908</u>	\$ 11.48	2.7 years	\$ 5,429

Restricted Shares

The following table summarizes restricted share activity:

	<u>Number of Restricted Shares</u>	<u>Weighted average grant date fair value</u>
	<u>Time vesting</u>	
Unvested, December 29, 2017	153,281	\$ 17.53
Granted	113,340	\$ 24.54
Vested	(71,626)	\$ 13.86
Forfeited	—	\$ —
Unvested, September 28, 2018	<u>194,995</u>	\$ 22.95

Employee Share Purchase Plan

The 2017 Employee Stock Purchase Plan (the “2017 ESPP”) grants employees the ability to designate a portion of their base-pay to purchase ordinary shares at a price equal to 85% of the fair market value of our ordinary shares on the first or last day of each 6 month purchase period. Purchase periods begin on January 1 or July 1 and end on June 30 or December 31, or the next business day if such date is not a business day. Shares are purchased on the last day of the purchase period.

During the nine months ended September 28, 2018, 29,377 ordinary shares were purchased by eligible employees under the 2017 ESPP. As of September 28, 2018, 2.5 million ordinary shares remain available for purchase under the 2017 ESPP.

Note 12 – Segment Information

Our Chief Operating Decision Maker, the Chief Executive Officer, reviews our results of operations on a consolidated level and executive staff is structured by function rather than by product category. Therefore, we operate in one operating segment. Key resources, decisions, and assessment of performance are also analyzed on a company-wide level.

Foreign operations are conducted primarily through our wholly owned subsidiaries in Singapore and Malaysia. Our principal markets include North America, Asia and, to a lesser degree, Europe. Sales by geographic area represent sales to unaffiliated customers.

All information on sales by geographic area is based upon the location to which the products were shipped. The following table sets forth sales by geographic area:

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
United States of America	\$ 103,563	\$ 101,975	\$ 417,207	\$ 268,614
Singapore	45,626	50,275	190,843	172,799
Europe	17,692	6,740	46,565	19,116
Other	8,326	5,529	27,594	12,427
Total net sales	\$ 175,207	\$ 164,519	\$ 682,209	\$ 472,956

Note 13 – Earnings per Share

The following table sets forth the computation of basic and diluted earnings per share and a reconciliation of the numerator and denominator used in the calculation:

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
Numerator:				
Net income from continuing operations	\$ 9,637	\$ 14,298	\$ 54,398	\$ 37,720
Net loss from discontinued operations	\$ —	\$ (8)	\$ —	\$ (730)
Net income	\$ 9,637	\$ 14,290	\$ 54,398	\$ 36,990
Denominator:				
Weighted average ordinary shares outstanding	24,352,995	25,267,113	25,352,489	24,923,298
Dilutive effect of stock options	302,468	955,598	459,921	1,039,920
Dilutive effect of restricted shares	18,112	54,088	27,638	44,679
Dilutive effect of employee share purchase plan	1,337	1,348	446	449
Weighted average number of shares used in diluted per share calculation for net income and net income from continuing operations	24,674,912	26,278,147	25,840,494	26,008,346
Weighted average ordinary shares outstanding	24,352,995	25,267,113	25,352,489	24,923,298
Dilutive effect of stock options	—	—	—	—
Dilutive effect of restricted shares	—	—	—	—
Dilutive effect of employee share purchase plan	—	—	—	—
Weighted average number of shares used in diluted per share calculation for net loss from discontinued operations	24,352,995	25,267,113	25,352,489	24,923,298
Earnings per share:				
Net income from continuing operations:				
Basic	\$ 0.40	\$ 0.57	\$ 2.15	\$ 1.51
Diluted	\$ 0.39	\$ 0.54	\$ 2.11	\$ 1.45
Net loss from discontinued operations:				
Basic	\$ —	\$ —	\$ —	\$ (0.03)
Diluted	\$ —	\$ —	\$ —	\$ (0.03)
Net income:				
Basic	\$ 0.40	\$ 0.57	\$ 2.15	\$ 1.48
Diluted	\$ 0.39	\$ 0.54	\$ 2.11	\$ 1.42

An aggregated total of 532,848, 178,136, 427,599, and 226,607 potential ordinary shares have been excluded from the computation of diluted net income per share and diluted net income from continuing operations per share for the third quarters of 2018 and 2017 and the nine months ended September 28, 2018 and September 29, 2017, respectively, because including them would have been antidilutive.

Note 14 – Discontinued Operations

In January 2016, we made the decision to shut down our Kingston, New York facility as this location consumed a significant amount of resources while contributing very little income. We completed the shutdown of the operations of the New York facility in May 2016 through abandonment as a buyer for the facility and operation was not found. In 2017, we accrued for remaining costs to occupy the facility through its lease expiration in February 2018. The discontinued operation was deemed to be fully disposed of at December 29, 2017. Accordingly, there was no activity associated with the discontinued operation during the nine months ended September 28, 2018.

The following table represents the carrying amounts of the major classes of assets and liabilities of our discontinued operation:

	December 29, 2017
Assets	
Current assets:	
Prepaid expenses and other current assets	\$ 3
Total current assets	3
Total assets	\$ 3
Liabilities	
Current liabilities:	
Accounts payable	\$ 136
Accrued liabilities	255
Other current liabilities	9
Total current liabilities	400
Total liabilities	\$ 400

The following table represents results of our discontinued operation:

	Three Months Ended September 29, 2017	Nine Months Ended September 29, 2017
Operating expenses:		
Selling, general, and administrative	—	721
Total operating expenses	—	721
Operating loss	—	(721)
Loss from discontinued operations before income taxes	—	(721)
Income tax expense	8	9
Loss from discontinued operations	\$ (8)	\$ (730)

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and related notes included elsewhere in this report. The following discussion contains forward-looking statements based upon our current plans, expectations, and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this report, particularly in "Risk Factors."

Overview

We are a leader in the design, engineering and manufacturing of critical fluid delivery subsystems for semiconductor capital equipment. Our primary offerings include gas and chemical delivery subsystems, collectively known as fluid delivery subsystems, which are key elements of the process tools used in the manufacturing of semiconductor devices. Our gas delivery subsystems deliver, monitor, and control precise quantities of the specialized gases used in semiconductor manufacturing processes such as etch and deposition. Our chemical delivery subsystems precisely blend and dispense the reactive liquid chemistries used in semiconductor manufacturing processes such as electroplating and cleaning. We also manufacture certain components such as weldments and precision machined components for use in fluid delivery systems for direct sales to our customers. This vertically integrated portion of our business is primarily focused on metal and plastic parts that are used in gas and chemical systems, respectively.

Fluid delivery subsystems ensure accurate measurement and uniform delivery of specialty gases and chemicals at critical steps in the semiconductor manufacturing process. Any malfunction or material degradation in fluid delivery reduces yields and increases the likelihood of manufacturing defects in these processes. Historically, semiconductor OEMs internally designed and manufactured the fluid delivery subsystems used in their process tools. Currently, most OEMs outsource the design, engineering and manufacturing of their gas delivery subsystems to a few specialized suppliers, including us. Additionally, many OEMs are also increasingly outsourcing the design, engineering, and manufacturing of their chemical delivery subsystems due to the increased fluid expertise required to manufacture these subsystems. Outsourcing these subsystems has allowed OEMs to leverage the suppliers' highly specialized engineering, design, and production skills while focusing their internal resources on their own value-added processes. We believe that this outsourcing trend has enabled OEMs to reduce their fixed costs and development time, as well as provided significant growth opportunities for specialized subsystems suppliers like us.

We have a global footprint with volume production facilities in Malaysia, Singapore, Korea, Oregon, Texas, California, and Minnesota. In the third quarter of 2018 and 2017, our two largest customers by sales were Lam Research and Applied Materials. During the third quarter of 2018 and 2017, respectively, we generated sales of \$175.2 million and \$164.5 million, gross profit of \$28.2 million and \$24.2 million, net income from continuing operations of \$9.6 million and \$14.3 million, and adjusted net income from continuing operations of \$13.6 million and \$16.3 million. Adjusted net income from continuing operations is a financial measure that is not calculated in accordance with generally accepted accounting principles in the U.S. ("GAAP"). See "Non-GAAP Results" for a discussion of adjusted net income from continuing operations, an accompanying presentation of the most directly comparable financial measure calculated in accordance with GAAP, net income from continuing operations, and a reconciliation of the differences between adjusted net income from continuing operations and net income from continuing operations.

Results of Operations

The following table sets forth our unaudited results of operations for the periods presented. The period-to-period comparison of results is not necessarily indicative of results for future periods.

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
<i>(in thousands)</i>				
Consolidated Statements of Operations Data:				
Sales	\$ 175,207	\$ 164,519	\$ 682,209	\$ 472,956
Cost of sales	146,993	140,323	567,521	401,239
Gross profit	28,214	24,196	114,688	71,717
Operating expenses:				
Research and development	2,123	1,992	7,152	5,686
Selling, general, and administrative	10,658	11,430	38,016	26,272
Amortization of intangible assets	3,885	2,220	11,536	5,818
Total operating expenses	16,666	15,642	56,704	37,776
Operating income	11,548	8,554	57,984	33,941
Interest expense	2,553	739	7,360	2,104
Other expense (income), net	(84)	73	(60)	(325)
Income from continuing operations before income taxes	9,079	7,742	50,684	32,162
Income tax benefit from continuing operations	(558)	(6,556)	(3,714)	(5,558)
Net income from continuing operations	9,637	14,298	54,398	37,720
Discontinued operations:				
Loss from discontinued operations before taxes	—	—	—	(721)
Income tax expense from discontinued operations	—	8	—	9
Net loss from discontinued operations	—	(8)	—	(730)
Net income	\$ 9,637	\$ 14,290	\$ 54,398	\$ 36,990

The following table sets forth our unaudited results of operations as a percentage of our total sales for the periods presented.

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
Consolidated Statements of Operations Data:				
Sales	100.0	100.0	100.0	100.0
Cost of sales	83.9	85.3	83.2	84.8
Gross profit	16.1	14.7	16.8	15.2
Operating expenses:				
Research and development	1.2	1.2	1.0	1.2
Selling, general, and administrative	6.1	6.9	5.6	5.6
Amortization of intangible assets	2.2	1.3	1.7	1.2
Total operating expenses	9.5	9.5	8.3	8.0
Operating income	6.6	5.2	8.5	7.2
Interest expense	1.5	0.4	1.1	0.4
Other expense (income), net	0.0	0.0	0.0	(0.1)
Income from continuing operations before income taxes	5.2	4.7	7.4	6.8
Income tax benefit from continuing operations	(0.3)	(4.0)	(0.5)	(1.2)
Net income from continuing operations	5.5	8.7	8.0	8.0
Discontinued operations:				
Loss from discontinued operations before taxes	0.0	0.0	0.0	(0.2)
Income tax expense from discontinued operations	0.0	0.0	0.0	0.0
Net loss from discontinued operations	0.0	0.0	0.0	(0.2)
Net income	5.5	8.7	8.0	7.8

Comparison of the Three and Nine Months Ended September 28, 2018 and September 29, 2017

Sales

	Three Months Ended		Change		Nine Months Ended		Change	
	September 28, 2018	September 29, 2017	Amount	%	September 28, 2018	September 29, 2017	Amount	%
<i>(dollars in thousands)</i>								
Net sales	\$175,207	\$164,519	\$10,688	6.5%	\$682,209	\$472,956	\$209,253	44.2%

The increase in net sales from the third quarter of 2017 to the third quarter of 2018 was primarily due to an increase in volume from our acquisitions of Cal-Weld, Talon, and IAN in July 2017, December 2017, and April 2018, respectively, partially offset by industry contraction. On a geographic basis, sales in the U.S. increased by \$1.6 million in the third quarter of 2018 to \$103.6 million; foreign sales increased by \$9.1 million to \$71.6 million.

The increase in net sales from the nine months ended September 29, 2017 to the nine months ended September 28, 2018 was primarily related to an increase in volume resulting from industry growth, our acquisitions of Cal-Weld, Talon, and IAN, and market share gains. On a geographic basis, sales in the U.S. increased by \$148.6 million in the nine months ended September 28, 2018 to \$417.2 million; foreign sales increased by \$60.7 million to \$265.0 million.

Cost of Sales and Gross Profit

	Three Months Ended		Change		Nine Months Ended		Change	
	September 28, 2018	September 29, 2017	Amount	%	September 28, 2018	September 29, 2017	Amount	%
<i>(dollars in thousands)</i>								
Cost of sales	\$146,993	\$140,323	\$6,670	4.8%	\$567,521	\$401,239	\$166,282	41.4%
Gross profit	\$28,214	\$24,196	\$4,018	16.6%	\$114,688	\$71,717	\$42,971	59.9%
Gross margin	16.1%	14.7%		+140 bps	16.8%	15.2%		+160 bps

The increase in cost of sales and gross profit from the three and nine months ended September 29, 2017 to the three and nine months ended September 28, 2018 was primarily due to increased sales volume.

The 140 basis point increase in our gross margin during the third quarter of 2018 compared to the third quarter of 2017 was primarily due to a \$3.0 million charge to cost of sales that occurred in the third quarter of 2017 as a result of recording acquired inventory from our acquisition of Cal-Weld in July 2017 at fair value that did not repeat in the third quarter of 2018. The impact of this charge accounted for a 180 basis point decrease in reported gross margin for the third quarter of 2017. Adjusting for this discrete charge, gross margin decreased by 40 basis points in the third quarter of 2018 compared to the third quarter of 2017.

The 160 basis point increase in our gross margin during the nine months ended September 28, 2018 compared to the nine months ended September 29, 2017 was primarily due to the accretive impact of our acquisitions of Cal-Weld and Talon in the second half of 2017. The increase was additionally impacted by (1) a charge to cost of sales of \$4.8 million and \$3.0 million in the nine months ended September 28, 2018 and September 29, 2017, respectively, due to recording acquired inventory at fair value, resulting in a decrease to reported gross margins of 70 basis points and 60 basis points for the nine months then ended, respectively; and (2) a \$1.75 million charge to cost of sales in the second quarter of 2017 from an error correction relating to translated inventory balances at our Malaysia and Singapore subsidiaries using an incorrect foreign currency rate, resulting in a decrease to reported gross margin of 30 basis points in the nine months ended September 29, 2017. Adjusting for these discrete charges, gross margin increased by 130 basis points in the nine months ended September 28, 2018 compared to the nine months ended September 29, 2017.

Research and Development

Three Months Ended		Change		Nine Months Ended		Change	
September 28, 2018	September 29, 2017	Amount	%	September 28, 2018	September 29, 2017	Amount	%

(dollars in thousands)

Research and development	\$ 2,123	\$ 1,992	\$ 131	6.6%	\$ 7,152	\$ 5,686	\$ 1,466	25.8%
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The relatively flat research and development expenses from the third quarter of 2017 to the third quarter of 2018 was primarily due to incremental employee-related expenses from our acquisition of Talon, offset by a decrease in research and development materials costs.

The increase in research and development expenses from the nine months ended September 29, 2017 to the nine months ended September 28, 2018 was primarily due to incremental expenses from our acquisition of Talon, increased share-based compensation expense, and an increase in headcount and consulting expense to support additional projects.

Selling, General, and Administrative

Three Months Ended		Change		Nine Months Ended		Change	
September 28, 2018	September 29, 2017	Amount	%	September 28, 2018	September 29, 2017	Amount	%

(dollars in thousands)

Selling, general, and administrative	\$ 10,658	\$ 11,430	\$ (772)	-6.8%	\$ 38,016	\$ 26,272	\$ 11,744	44.7%
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The decrease in selling, general, and administrative expense from the third quarter of 2017 to the third quarter of 2018 was primarily due to a \$1.1 million decrease in acquisition-related expenses, a \$1.0 million charge in the third quarter of 2017 from a final arbitration ruling on our working capital claim with the sellers of Ajax, a \$0.5 million decrease in employee-related expenses, and \$0.5 million in expense incurred in the third quarter of 2017 associated with the secondary offering of our shares by affiliates of Francisco Partners ("FP"), partially offset by \$1.9 million in incremental operating expenses from our acquisitions of Cal-Weld, Talon, and IAN and a \$0.4 million increase in share-based compensation expense.

The increase in selling, general, and administrative expense from the nine months ended September 29, 2017 to the nine months ended September 28, 2018 was primarily due to \$8.6 million in incremental operating expenses from our acquisitions of Cal-Weld, Talon, and IAN, a \$4.0 million increase in share-based compensation expense (inclusive of \$2.9 million associated with modifying our former CFO's equity awards in the first quarter of 2018), and an additional \$1.1 million incurred in the first quarter of 2018 due to the separation of our former CFO, partially offset by a \$1.0 million charge in the third quarter of 2017 from a final arbitration ruling on our working capital claim with the sellers of Ajax, \$1.0 million in expense incurred in 2017 associated with the secondary offerings of our shares by affiliates of FP, and a \$0.8 million decrease in acquisition-related expenses.

Amortization of Intangible Assets

Three Months Ended		Change		Nine Months Ended		Change	
September 28, 2018	September 29, 2017	Amount	%	September 28, 2018	September 29, 2017	Amount	%

(dollars in thousands)

Amortization of intangibles assets	\$ 3,885	\$ 2,220	\$ 1,665	75.0%	\$ 11,536	\$ 5,818	\$ 5,718	98.3%
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The increase in amortization expense from the three and nine months ended September 29, 2017 to the three and nine months ended September 28, 2018 was due to incremental amortization expense from intangible assets acquired in connection with our acquisitions of Cal-Weld and Talon in the second half of 2017 and IAN in the second quarter of 2018.

The fair value assigned to intangible assets acquired in connection with our acquisitions of Talon and IAN is still preliminary. Amortization of intangible assets may change in future periods depending on the final fair value assigned to the acquired intangible assets.

Interest Expense

	Three Months Ended		Change		Nine Months Ended		Change	
	September	September	Amount	%	September	September	Amount	%
	28, 2018	29, 2017			28, 2018	29, 2017		
(dollars in thousands)								
Interest expense	\$ 2,553	\$ 739	\$ 1,814	245.5%	\$ 7,360	\$ 2,104	\$ 5,256	249.8%

The increase in interest expense from the three and nine months ended September 29, 2017 to the three and nine months ended September 28, 2018 was primarily due to an increase in the average amount borrowed. Our weighted average interest rate increased by 90 basis points during the third quarter of 2018 compared to the third quarter of 2017 and decreased by 10 basis points during the nine months ended September 28, 2018 compared to the nine months ended September 29, 2017.

Total borrowings outstanding at September 28, 2018, net of debt issuance costs, were \$190.8 million, compared to \$67.7 million at September 29, 2017.

Other Expense (Income), Net

	Three Months Ended		Change		Nine Months Ended		Change	
	September	September	Amount	%	September	September	Amount	%
	28, 2018	29, 2017			28, 2018	29, 2017		
(dollars in thousands)								
Other expense (income), net	\$ (84)	\$ 73	\$ (157)	n/m	\$ (60)	\$ (325)	\$ 265	n/m

The change in other expense (income), net for the third quarter of 2018 was primarily due to exchange rate fluctuations on transactions denominated in the local currencies of our foreign operations, principally the Singapore Dollar, Malaysian Ringgit, and British Pound.

The change in other expense (income), net for nine months ended September 28, 2018 was primarily due to exchange rate fluctuations on transactions denominated in the local currencies of our foreign operations, principally the Singapore Dollar, Malaysian Ringgit, and British Pound, and a gain of \$0.2 million on the sale of our cost method investment, CHawk Technology International, Inc. ("CHawk") in the first quarter of 2017 that did not repeat in the first quarter of 2018.

Income Tax Benefit from Continuing Operations

	Three Months Ended		Change		Nine Months Ended		Change	
	September	September	Amount	%	September	September	Amount	%
	28, 2018	29, 2017			28, 2018	29, 2017		
(dollars in thousands)								
Income tax expense (benefit) from continuing operations	\$ (558)	\$ (6,556)	\$ 5,998	n/m	\$ (3,714)	\$ (5,558)	\$ 1,844	n/m

The decrease in income tax benefit from the third quarter of 2017 to the third quarter of 2018 was primarily due to discrete tax benefits recognized in the third quarter of 2017 relating to the reversal of previously accrued withholding taxes from our re-characterization of intercompany debt to equity and our acquisition of Cal-Weld and a valuation allowance against our U.S. deferred tax assets that was present in 2017 but not in 2018, partially offset by excess tax benefits from share-based compensation.

The decrease in income tax benefit from the nine months ended September 29, 2017 to the nine months ended September 28, 2018 was primarily due to discrete tax benefits recognized in the third quarter of 2017 relating to the reversal of previously accrued withholding taxes from our re-characterization of intercompany debt to equity and our acquisition of Cal-Weld and a valuation allowance against our U.S. deferred tax assets that was present in 2017 but not in 2018, partially offset by excess tax benefits from share-based compensation and the release of a valuation allowance against foreign tax credit carryforwards in the second quarter of 2018.

Non-GAAP Results

Management uses non-GAAP adjusted net income from continuing operations to evaluate our operating and financial results. We believe the presentation of non-GAAP results is useful to investors for analyzing business trends and comparing performance to prior periods, along with enhancing investors' ability to view our results from management's perspective. Non-GAAP adjusted net income from continuing operations is defined as: (1) net income from continuing operations; (2) excluding amortization of intangible assets, share-based compensation expense, non-recurring expenses including adjustments to the cost of goods sold, and the tax adjustments related to those non-GAAP adjustments; and (3) non-recurring discrete tax items including tax impacts from releasing a valuation allowance related to foreign tax credits. Non-GAAP adjusted diluted EPS is defined as non-GAAP adjusted net income from continuing operations divided by weighted average diluted ordinary shares outstanding during the period.

The following table presents our unaudited non-GAAP adjusted net income from continuing operations and a reconciliation from net income from continuing operations, the most comparable GAAP measure, for the periods indicated:

	Three Months Ended		Nine Months Ended	
	September 28, 2018	September 29, 2017	September 28, 2018	September 29, 2017
	<i>(dollars in thousands, except per share amounts)</i>			
Non-GAAP Data:				
Net income from continuing operations	\$ 9,637	\$ 14,298	\$ 54,398	\$ 37,720
Non-GAAP adjustments:				
Amortization of intangible assets	3,885	2,220	11,536	5,818
Share-based compensation (1)	1,271	623	6,277	1,536
Other non-recurring expense, net (2)	397	2,076	2,283	2,528
Tax adjustments related to non-GAAP adjustments	(1,589)	(20)	(7,421)	(62)
Tax benefit from acquisitions (3)	—	(5,281)	—	(5,281)
Tax benefit from re-characterizing intercompany debt to equity (4)	—	(1,627)	—	(1,627)
Tax benefit from release of valuation allowance (5)	—	—	(4,140)	—
Adjustments to cost of goods sold (6)	—	—	—	1,752
Fair value adjustment to inventory from acquisitions (7)	—	3,004	4,839	3,004
Loss on Ajax acquisition arbitration settlement (8)	—	1,032	—	1,032
Non-GAAP adjusted net income from continuing operations	\$ 13,601	\$ 16,325	\$ 67,772	\$ 46,420
Non-GAAP adjusted diluted EPS	\$ 0.55	\$ 0.62	\$ 2.62	\$ 1.78
Shares used to compute diluted EPS	24,674,912	26,278,147	25,840,494	26,008,346

- (1) Included in share-based compensation for the nine months ended September 28, 2018 is \$2.9 million from accelerating the vesting of our former CFO's equity awards pursuant to separation benefits that became effective in January 2018.
- (2) Included in this amount for the third quarter of 2018 are acquisition-related expenses, comprised primarily of expense associated with a two year retention agreement between key management personnel of IAN.
Included in this amount for the nine months ended September 28, 2018 are (i) separation benefits for our former CFO that became effective in January 2018 and (ii) acquisition-related expenses.
Included in this amount for the third quarter of 2017 are (i) expenses incurred in connection with the secondary offering of our ordinary shares by FP and (ii) acquisition-related expenses.
Included in this amount for the nine months ended September 29, 2017 are (i) expenses incurred in connection with the secondary offerings of our ordinary shares by affiliates of FP, (ii) acquisition-related expenses, (iii) a refund from FP Consulting, and (iv) a gain on sale of our investment in CHawk.
- (3) We recorded a \$5.3 million in tax benefit in the third quarter of 2017 in connection with our acquisition of Cal-Weld.
- (4) In the third quarter of 2017 we re-characterized intercompany debt to equity between our U.S. and Singapore entities resulting in a tax benefit of \$1.6 million related to the reversal of previously accrued withholding taxes.
- (5) Represents the release of a valuation allowance against our foreign tax credit carryforwards we now expect to realize as a result of additional analysis of the Tax Cuts and Jobs Act.

- (6) During the second quarter of 2017, we corrected an error relating to translated inventory balances at our Malaysia and Singapore subsidiaries using an incorrect foreign currency rate. The error arose in prior period financial statements beginning in periods prior to 2014 and through 2016. The correction resulted in a \$1.75 million increase in cost of sales and a corresponding decrease in gross profit in our consolidated statement of operations and a decrease to inventories in our consolidated balance sheet during the second quarter of 2017.
- (7) As part of our purchase price allocation for our acquisition of Cal-Weld in July 2017 and our preliminary purchase price allocations for our acquisitions Talon in December 2017 and IAN in April 2018, we recorded acquired-inventory at fair value, resulting in a fair value step-up of \$3.6 million, \$6.2 million, and \$0.3 million, respectively. These amounts were subsequently released to cost of sales as acquired-inventory was sold.
- (8) During the third quarter of 2017, we received a final arbitration ruling on our working capital claim with the sellers of Ajax. The ruling was outside the one year measurement period and therefore could not be considered an adjustment to goodwill, resulting in a charge to selling, general, and administrative expense.

Non-GAAP adjusted net income from continuing operations has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for net income or any of our other operating results reported under GAAP. Other companies may calculate adjusted net income differently or may use other measures to evaluate their performance, both of which could reduce the usefulness of our adjusted net income as a tool for comparison.

Because of these limitations, you should consider non-GAAP adjusted net income from continuing operations alongside other financial performance measures, including net income from continuing operations and other financial results presented in accordance with GAAP. In addition, in evaluating non-GAAP adjusted net income, you should be aware that in the future we will incur expenses such as those that are the subject of adjustments in deriving adjusted net income and you should not infer from our presentation of adjusted net income that our future results will not be affected by these expenses or any unusual or non-recurring items.

Liquidity and Capital Resources

We had cash of \$33.0 million as of September 28, 2018. Our principal uses of liquidity are to fund our working capital needs, purchase new capital equipment, and our share repurchase program. The net decrease in cash of \$36.3 million during the nine months ended September 28, 2018 from December 29, 2017 was primarily due to cash flow from operations of \$27.4 million, proceeds from the issuance of ordinary shares under our share-based compensation plans of \$6.1 million, and net borrowings on long-term debt of \$5.4 million, offset by share repurchases of \$60.3 million, capital expenditures of \$11.4 million, debt modification costs from the refinancing of our credit facilities in February 2018 of \$2.1 million, and net cash paid in connection with acquisitions of \$1.4 million.

We believe that our cash, the amounts available under our revolving credit facility, and our cash flows from operations will be sufficient to meet our anticipated cash needs for at least the next 12 months.

Cash Flow Analysis

	Nine Months Ended	
	September 28, 2018	September 29, 2017
	<i>(in thousands)</i>	
Cash provided by operating activities	\$ 27,370	\$ 926
Cash used in investing activities	(12,828)	(53,721)
Cash provided by (used in) financing activities	(50,825)	42,995
Net decrease in cash	<u>\$ (36,283)</u>	<u>\$ (9,800)</u>

Operating Activities

We generated \$27.4 million from operating activities during the nine months ended September 28, 2018 due to net income of \$54.4 million and net non-cash charges of \$18.2 million, partially offset by an increase in our net operating assets and liabilities of \$45.2 million, net of acquired assets and liabilities. Non-cash charges primarily consist of depreciation and amortization of \$17.4 million and share-based compensation of \$6.3 million, partially offset by deferred income taxes of \$6.2 million. The increase in our net operating assets and liabilities, net of acquired assets and liabilities, was primarily due to a decrease in accounts payable of \$48.1 million and an increase in accounts receivable of \$14.6 million, partially offset by a decrease in inventories of \$22.6 million.

Investing Activities

We used \$12.8 million in investing activities during the nine months ended September 28, 2018 due to capital expenditures of \$11.4 million and net cash paid in connection with acquisitions of \$1.4 million.

Financing Activities

We used \$50.8 million in financing activities during the nine months ended September 28, 2018 due to share repurchases of \$60.3 million and debt modification costs in connection with the refinancing of our credit facilities in February 2018 of \$2.1 million, partially offset by proceeds related to issuances of ordinary shares under our share-based compensation plans of \$6.1 million and net borrowing on long-term debt of \$5.4 million.

Critical Accounting Policies

Our discussion and analysis of our financial condition and results of operations are based upon our financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, and expenses. On an ongoing basis, we evaluate our judgments and estimates including those related to revenue recognition, impairment of goodwill and intangible assets, income taxes, advertising expense, and share-based compensation. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

The accounting policies we believe to be most critical to understanding our financial results and condition and that require complex and subjective management judgments and estimates are identified and described in our annual consolidated financial statements and the notes included in our Annual Report on Form 10-K for the year ended December 29, 2017 (our "Annual Report").

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Exchange Risk

Currently, substantially all of our sales and arrangements with third-party suppliers provide for pricing and payment in U.S. dollars and, therefore, are not subject to material exchange rate fluctuations. As a result, we do not expect foreign currency exchange rate fluctuations to have a material effect on our results of operations. However, increases in the value of the U.S. dollar relative to other currencies would make our products more expensive relative to competing products priced in such other currencies, which could negatively impact our ability to compete. Conversely, decreases in the value of the U.S. dollar relative to other currencies could result in our foreign suppliers raising their prices in order to continue doing business with us.

While not currently significant, we do have certain operating expenses that are denominated in currencies of the countries in which our operations are located, and may be subject to fluctuations due to foreign currency exchange rates, particularly the Singapore dollar, Malaysian Ringgit, British Pound, and Euro. Fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations. To date, foreign currency transaction gains and losses have not been material to our financial statements, and we have not engaged in any foreign currency hedging transactions.

Interest Rate Risk

We had total outstanding debt of \$195.0 million as of September 28, 2018, exclusive of \$4.2 million in debt issuance costs, of which \$8.8 million was due within 12 months. The outstanding amount of debt included elsewhere in this report is net of debt issuance costs.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. The interest rate on our outstanding debt is variable based on LIBOR, the Prime Rate, or the Federal Funds Rate. A hypothetical 1% change in the interest rate on our outstanding debt would have resulted in a \$0.5 million change to interest expense during the third quarter of 2018, or \$1.9 million on an annualized basis.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Exchange Act, we carried out an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. We evaluated the effectiveness of our disclosure controls and procedures as of September 28, 2018, with the participation of our CEO and CFO. Based on this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of September 28, 2018.

Changes in Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed by, or under the supervision of, a company's principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate. If we cannot provide reliable financial information, our business, operating results and share price could be negatively impacted.

In connection with the adoption of new revenue recognition accounting standards, as codified in ASC Topic 606, we implemented certain internal controls to ensure we adequately evaluated our contracts with our customers and properly assessed the impact of the new revenue recognition accounting standards on our financial statements to facilitate its adoption at the beginning of our first fiscal 2018 quarter. There were no significant changes to our internal control over financial reporting due to the adoption of the new accounting standards.

PART II—OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a discussion of legal proceedings, see "*Note 6 – Commitments and Contingencies*" in the Notes to Financial Statements (Unaudited) included in this report.

ITEM 1A. RISK FACTORS

There have been no material changes in our risk factors from those disclosed in our 2017 Annual Report. These risk factors could materially and adversely affect our business, financial condition and results of operations, and the trading price of our ordinary shares could decline. These risk factors do not identify all risks that we face – our operations could also be affected by factors that are not presently known to us or that we currently consider to be immaterial to our operations. Due to risks and uncertainties, known and unknown, our past financial results may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods.

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

Share Repurchase Program

Information related to repurchases of our ordinary shares during the nine months ended September 28, 2018 is as follows:

	Total Number of Shares Repurchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Amount Available Under Repurchase Program (1)
<i>(dollars in thousands, except share and per share amounts)</i>				
Amount available at February 15, 2018				\$ 50,000
Quarter ended March 30, 2018	195,750	\$ 25.51	195,750	\$ 45,000
Quarter ended June 29, 2018	1,061,855	\$ 23.52	1,061,855	\$ 20,030
July 1, 2018 through July 31, 2018	936,092	\$ 21.37	936,092	\$ 29
Board authorization, \$50 million increase, August 18, 2018				\$ 50,029
September 1, 2018 through September 28, 2018	488,267	\$ 21.19	488,267	\$ 39,683
Quarter ended September 28, 2018	<u>1,424,359</u>	\$ 21.31	<u>1,424,359</u>	\$ 39,683

- (1) The amounts presented in this column are the remaining total authorized value to be spent after each month's repurchases. On February 15, 2018, we announced that our Board of Directors authorized a \$50.0 million share repurchase program under which we may repurchase our ordinary shares in the open market or through privately negotiated transactions, depending on market conditions and other factors. Repurchases were funded with cash on-hand and cash flows from operations. On August 18, 2018, our Board of Directors increased the amount authorized under the share repurchase program by \$50.0 million.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

<u>Exhibit Number</u>	<u>Description</u>
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Principal 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 Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith.

** Furnished herewith and not filed.

CEO CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Thomas M. Rohrs, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ichor Holdings, Ltd.;
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 the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2018

By: _____
/s/ Thomas M. Rohrs
Thomas M. Rohrs
Chief Executive Officer

CFO CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey S. Andreson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ichor Holdings, Ltd.;
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 the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2018

By: _____
/s/ Jeffrey S. Andreson
Jeffrey S. Andreson
Chief Financial Officer

