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

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934
For the quarterly period ended June 27, 2020

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934
For the transition period from __________ to __________

Commission File Number: 000-02382

MTS SYSTEMS CORPORATION

(Exact name of Registrant as specified in its charter)

Minnesota	**41-0908057**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
14000 Technology Drive **Eden Prairie, Minnesota**	**55344**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (952) 937-4000

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, $0.25 par value	MTSC	The Nasdaq Stock Market LLC

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 ☐	Emerging growth company ☐
Non-accelerated filer ☐	Smaller reporting 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 July 30, 2020, there were 19,276,522 shares of common stock outstanding.

MTS Systems Corporation
Quarterly Report on Form 10-Q
For the Three Months Ended June 27, 2020

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PART I – FINANCIAL INFORMATION
Item 1. Financial Statements

MTS SYSTEMS CORPORATION
Consolidated Balance Sheets
(in thousands, except per share data)

	June 27, 2020 (Unaudited)	September 28, 2019 (Note)
Assets		
Current assets		
Cash and cash equivalents	$ 65,073	$ 57,937
Accounts receivable, net of allowance for doubtful accounts of $4,742 and $5,963, respectively	118,686	121,260
Unbilled accounts receivable, net	91,787	80,331
Inventories, net	177,210	167,199
Prepaid expenses and other current assets	30,363	23,761
Total current assets	483,119	450,488
Property and equipment, net	100,160	101,083
Goodwill	465,978	429,039
Intangible assets, net	342,901	306,585
Other long-term assets	24,902	3,553
Deferred income taxes	6,060	7,229
Total assets	$ 1,423,120	$ 1,297,977
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term borrowings	$ 27,000	$ —
Current maturities of long-term debt, net	2,830	27,969
Accounts payable	51,639	46,849
Accrued payroll and related costs	39,728	46,760
Advance payments from customers	64,980	70,520
Accrued warranty costs	4,869	3,541
Accrued income taxes	4,155	7,077
Accrued dividends	—	5,695
Other accrued liabilities	47,183	43,165
Total current liabilities	242,384	251,576
Long-term debt, less current maturities, net	565,266	484,648
Deferred income taxes	52,607	41,531
Non-current accrued income taxes	4,769	4,414
Defined benefit pension plan obligation	19,002	16,585
Contingent consideration	19,180	—
Non-current accrued payroll and related costs	2,694	—
Other long-term liabilities	28,362	15,164
Total liabilities	934,264	813,918
Shareholders' Equity		
Common stock, $0.25 par value; 64,000 shares authorized: 19,220 and 19,124 shares issued and outstanding as of June 27, 2020 and September 28, 2019, respectively	4,805	4,781
Additional paid-in capital	187,128	182,422
Retained earnings	312,444	315,329
Accumulated other comprehensive income (loss)	(15,521)	(18,473)
Total shareholders' equity	488,856	484,059
Total liabilities and shareholders' equity	$ 1,423,120	$ 1,297,977

Note: The Consolidated Balance Sheet as of September 28, 2019 has been derived from the audited consolidated financial statements at that date.
The accompanying Notes to Consolidated Financial Statements (Unaudited) are an integral part of these consolidated financial statements.

MTS SYSTEMS CORPORATION

Consolidated Statements of Income (Unaudited)

(in thousands, except per share data)

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Revenue				
Product	$ 175,223	$ 205,528	$ 537,304	$ 587,297
Service	21,002	26,681	76,227	81,139
Total revenue	196,225	232,209	613,531	668,436
Cost of Sales				
Product	116,491	130,514	349,336	368,260
Service	14,239	16,592	50,850	49,418
Total cost of sales	130,730	147,106	400,186	417,678
Gross profit	65,495	85,103	213,345	250,758
Operating expenses				
Selling and marketing	26,857	33,321	89,707	98,805
General and administrative	19,692	20,621	67,382	63,804
Research and development	6,303	8,160	20,485	23,008
Total operating expenses	52,852	62,102	177,574	185,617
Income from operations	12,643	23,001	35,771	65,141
Interest income (expense), net	(8,846)	(6,687)	(25,975)	(20,873)
Other income (expense), net	(446)	(124)	(1,059)	195
Income before income taxes	3,351	16,190	8,737	44,463
Income tax provision (benefit)	(1,038)	2,605	113	6,217
Net income	$ 4,389	$ 13,585	$ 8,624	$ 38,246
Earnings per share				
Basic				
Earnings per share	$ 0.23	$ 0.70	$ 0.45	$ 1.99
Weighted average common shares outstanding	19,229	19,297	19,189	19,255
Diluted				
Earnings per share	$ 0.23	$ 0.70	$ 0.45	$ 1.97
Weighted average common shares outstanding	19,315	19,520	19,349	19,436
Dividends declared per share	$ —	$ 0.30	$ 0.60	$ 0.90

The accompanying Notes to Consolidated Financial Statements (Unaudited) are an integral part of these consolidated financial statements.

MTS SYSTEMS CORPORATION

Consolidated Statements of Comprehensive Income (Unaudited)

(in thousands)

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net income	$ 4,389	$ 13,585	$ 8,624	$ 38,246
Other comprehensive income (loss), net of tax				
Foreign currency translation gain (loss) adjustments	3,974	506	4,922	(2,165)
Derivative instruments				
Unrealized net gain (loss)	(725)	(1,074)	97	(2,882)
Net (gain) loss reclassified to earnings	(270)	(655)	(946)	(2,136)
Defined benefit pension plan				
Unrealized net gain (loss)	211	419	(1,429)	(167)
Net (gain) loss reclassified to earnings	211	95	632	286
Currency exchange rate gain (loss)	(197)	(82)	(324)	179
Other comprehensive income (loss)	3,204	(791)	2,952	(6,885)
Comprehensive income	$ 7,593	$ 12,794	$ 11,576	$ 31,361

The accompanying Notes to Consolidated Financial Statements (Unaudited) are an integral part of these consolidated financial statements.

MTS SYSTEMS CORPORATION

Consolidated Statements of Shareholders' Equity (Unaudited)

(in thousands)

	Three Months Ended June 27, 2020					
	Common Stock					
	Shares Issued	Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
Balance, March 28, 2020	19,188	$ 4,797	$ 187,551	$ 308,055	$ (18,725)	$ 481,678
Total comprehensive income	—	—	—	4,389	3,204	7,593
Stock-based compensation	50	12	(123)	—	—	(111)
Issuance for employee stock purchase plan	—	—	(1)	—	—	(1)
Common stock purchased and retired	(18)	(4)	(299)	—	—	(303)
Balance, June 27, 2020	19,220	$ 4,805	$ 187,128	$ 312,444	$ (15,521)	$ 488,856

	Nine Months Ended June 27, 2020					
	Common Stock					
	Shares Issued	Amount	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
Balance, September 28, 2019	19,124	$ 4,781	$ 182,422	$ 315,329	$ (18,473)	$ 484,059
Total comprehensive income	—	—	—	8,624	2,952	11,576
Exercise of stock options	1	—	41	—	—	41
Stock-based compensation	117	29	5,247	—	—	5,276
Issuance for employee stock purchase plan	15	4	585	—	—	589
Common stock purchased and retired	(37)	(9)	(1,167)	—	—	(1,176)
Dividends, $0.60 per share	—	—	—	(11,509)	—	(11,509)
Balance, June 27, 2020	19,220	$ 4,805	$ 187,128	$ 312,444	$ (15,521)	$ 488,856

	Three Months Ended June 29, 2019					
	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
	Shares Issued	Amount				
Balance, March 30, 2019	17,900	$ 4,475	$ 176,918	$ 308,279	$ (4,618)	$ 485,054
Total comprehensive income	—	—	—	13,585	(791)	12,794
Conversion of tangible equity units	781	195	(195)	—	—	—
Exercise of stock options	20	5	991	—	—	996
Stock-based compensation	55	14	2,282	—	—	2,296
Common stock purchased and retired	(20)	(5)	(981)	—	—	(986)
Dividends, $0.30 per share	—	—	—	(5,615)	—	(5,615)
Balance, June 29, 2019	18,736	$ 4,684	$ 179,015	$ 316,249	$ (5,409)	$ 494,539

	Nine Months Ended June 29, 2019					
	Common Stock		Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
	Shares Issued	Amount				
Balance, September 29, 2018	17,856	$ 4,464	$ 171,407	$ 300,585	$ 1,476	$ 477,932
Total comprehensive income	—	—	—	38,246	(6,885)	31,361
Cumulative effect of accounting change	—	—	—	(6,227)	—	(6,227)
Conversion of tangible equity units	781	195	(195)	—	—	—
Exercise of stock options	23	6	1,134	—	—	1,140
Stock-based compensation	88	22	7,493	—	—	7,515
Issuance for employee stock purchase plan	16	4	553	—	—	557
Common stock purchased and retired	(28)	(7)	(1,377)	—	—	(1,384)
Dividends, $0.90 per share	—	—	—	(16,355)	—	(16,355)
Balance, June 29, 2019	18,736	$ 4,684	$ 179,015	$ 316,249	$ (5,409)	$ 494,539

The accompanying Notes to Consolidated Financial Statements (Unaudited) are an integral part of these consolidated financial statements.

MTS SYSTEMS CORPORATION
Consolidated Statements of Cash Flows (Unaudited)
(in thousands)

	Nine Months Ended	
	June 27, 2020	June 29, 2019
Cash Flows from Operating Activities		
Net income	$ 8,624	$ 38,246
Adjustments to reconcile net income to net cash provided by (used in) operating activities		
Stock-based compensation	5,214	7,298
Fair value adjustment to acquired inventory	1,140	1,141
Net periodic pension benefit cost	1,386	871
Depreciation	17,287	15,485
Amortization	17,343	12,668
Accretion of contingent consideration	895	—
Contingent consideration fair value adjustment	1,301	—
(Gain) loss on sale or disposal of property and equipment	2,327	552
Amortization of debt issuance costs	2,220	2,807
Deferred income taxes	1,718	(1,430)
Bad debt provision (recovery), net	(1,258)	586
Changes in operating assets and liabilities		
Accounts receivable and unbilled accounts receivable	13,903	(15,444)
Inventories, net	(10,398)	1,013
Prepaid expenses	3,015	(2,310)
Accounts payable	(6,421)	(11,361)
Accrued payroll and related costs	(8,722)	(1,396)
Advance payments from customers	(8,869)	(6,390)
Accrued warranty costs	1,316	(1,571)
Other assets and liabilities	(28,601)	9,205
Net Cash Provided by (Used in) Operating Activities	13,420	49,970
Cash Flows from Investing Activities		
Purchases of property and equipment	(21,144)	(17,377)
Proceeds from sale of property and equipment	—	10
Purchases of business, net of acquired cash	(49,268)	(83,526)
Other	87	(285)
Net Cash Provided by (Used in) Investing Activities	(70,325)	(101,178)
Cash Flows from Financing Activities		
Proceeds from issuance of long-term debt	58,576	80,391
Payment of long-term debt	(4,180)	(3,861)
Payment of debt issuance costs for long-term debt	(88)	—
Payment of debt component of tangible equity units	—	(4,818)
Payment of debt issuance costs for revolving credit facility	(564)	(542)
Receipts under short-term borrowings	115,000	35,000
Payments under short-term borrowings	(88,000)	(35,000)
Cash dividends	(17,205)	(16,099)
Proceeds from exercise of stock options and employee stock purchase plan	630	1,697
Payments to purchase and retire common stock	(1,176)	(1,384)
Net Cash Provided by (Used in) Financing Activities	62,993	55,384
Effect of Exchange Rate Changes on Cash and Cash Equivalents	1,048	(245)
Cash and Cash Equivalents		
Increase (decrease) in cash and cash equivalents during the period	7,136	3,931
Cash and cash equivalents balance, beginning of period	57,937	71,804
Cash and cash equivalents balance, end of period	$ 65,073	$ 75,735
Supplemental Disclosures		
Cash paid during the period for		
Interest	$ 19,645	$ 18,244
Income taxes	10,317	9,295
Non-cash investing and financing activities		
Contingent consideration assumed in acquisition	19,180	—
Dividends declared not yet paid	—	5,568

The accompanying Notes to Consolidated Financial Statements (Unaudited) are an integral part of these consolidated financial statements.

MTS SYSTEMS CORPORATION
Notes to Consolidated Financial Statements (Unaudited)
(Dollars and shares in thousands, unless otherwise noted)

NOTE 1 BASIS OF PRESENTATION

The consolidated financial statements include the accounts of MTS Systems Corporation and its wholly owned subsidiaries. Significant intercompany account balances and transactions have been eliminated.

The terms "MTS," "we," "us," "the Company" or "our" in this Quarterly Report on Form 10-Q, unless the context otherwise requires, refer to MTS Systems Corporation and its wholly owned subsidiaries.

We have prepared the interim unaudited consolidated financial statements included herein pursuant to the rules and regulations of the United States (U.S.) Securities and Exchange Commission (SEC). The information furnished in these consolidated financial statements includes normal recurring adjustments and reflects all adjustments that are, in our opinion, necessary for a fair presentation of such financial statements. The consolidated financial statements are prepared in accordance with U.S. Generally Accepted Accounting Principles (GAAP). GAAP requires us to make estimates and assumptions that affect amounts reported. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to SEC rules and regulations. The accompanying consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the fiscal year ended September 28, 2019 filed with the SEC. Interim results of operations for the third fiscal quarter ended June 27, 2020 are not necessarily indicative of the results to be expected for the full fiscal year.

We have a 5-4-4 week, quarterly accounting cycle with our fiscal year ending on the Saturday closest to September 30. Fiscal year 2020 ending on October 3, 2020 will consist of 53 weeks. Fiscal year 2019 ended on September 28, 2019 consisted of 52 weeks.

Changes to Significant Accounting Policies

The following accounting policies have been updated since our fiscal year 2019 Annual Report on Form 10-K.

Leases
As described in Note 2, we adopted Accounting Standards Update (ASU) No. 2016-02, *Leases (Topic 842)*, followed by related amendments, on September 29, 2019 under the modified retrospective transition method. Our new lease accounting policy and disclosures related to this guidance are included in Note 5.

Business Acquisitions
We expanded our business acquisitions critical accounting policy to include contingent consideration liabilities measured at fair value on a recurring basis. See Item II of Part I of this Quarterly Report on Form 10-Q for additional information on our critical accounting policy updates related to business acquisitions.

COVID-19
The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption. See Note 17 for further information on our risks and uncertainties related to COVID-19.

NOTE 2 RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

In June 2016, the Financial Accounting Standards Board (FASB) issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, followed by related amendments, which changes the accounting for credit losses on instruments measured at amortized cost by adding an impairment model that is based on expected losses rather than incurred losses. An entity will recognize as an allowance its estimate of expected credit losses, which is believed to result in more timely recognition of such losses as the standard eliminates the probable initial recognition threshold. Adoption of the standard is required for annual periods beginning after December 15, 2019, including interim periods within that annual period, which is our fiscal year 2021. The new guidance is required to be adopted using a modified retrospective approach with a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period of adoption. We do not expect the adoption of this standard to have a material impact on our financial condition, results of operations or disclosures.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurements (Topic 820): Disclosure Framework–Changes to the Disclosure Requirements for Fair Value Measurement*, which eliminates, amends and adds disclosure requirements for fair value measurements. The standard is required to be adopted for annual periods beginning after December 15, 2019, including interim periods within that annual period, which is our fiscal year 2021. Certain disclosures in the new guidance are to be applied using a retrospective approach while other disclosures are to be applied using a prospective approach. Early adoption is permitted. We do not expect the adoption of this standard to have a material impact on our financial condition, results of operations or disclosures.

In August 2018, the FASB issued ASU No. 2018-14, *Compensation–Retirement Benefits–Defined Benefit Plans–General (Subtopic 715-20): Disclosure Framework–Changes to the Disclosure Requirements for Defined Benefit Plans*, which eliminates, amends and adds disclosure requirements for defined benefit pension and other postretirement plans. The standard is required to be adopted for annual periods ending after December 15, 2020, which is our fiscal year 2021. The new guidance is to be applied using a retrospective approach with early adoption permitted. We do not expect the adoption of this standard to have a material impact on our financial condition, results of operations or disclosures.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which eliminates certain exceptions to Topic 740's general principles, improves consistent application and simplifies its application. The standard is required to be adopted for annual periods ending after December 15, 2020, which is our fiscal year 2021. We do not expect the adoption of this standard to have a material impact on our financial condition, results of operations or disclosures.

In April 2020, the FASB issued ASU No. 2020-04, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides relief for companies preparing for discontinuation of interest rates such as LIBOR. The standard can be applied immediately through December 31, 2022, which is our fiscal year 2023. We have not yet evaluated the impact the adoption of this guidance may have on our financial condition, results of operations or disclosures.

Adopted
In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842),* followed by related amendments (collectively, "the new lease standard"), which requires lessees to recognize most leases on the balance sheet for the rights and obligations created by those leases. We adopted the new lease standard on September 29, 2019 under the modified retrospective transition method and the optional transition method. As a result, we did not adjust our comparative period financial information or make the new required lease disclosures for periods before the effective date. We elected the package of practical expedients to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs. In addition, we did not elect to apply the hindsight practical expedient. See Note 5 for our new lease accounting policy and disclosures related to the new lease standard.

NOTE 3 REVENUE

Revenue Recognition
Revenue is recognized when control of the 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 transferring those goods or providing those services. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are known, the contract has commercial substance and collectability of consideration is probable.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account under the revenue recognition standard. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Many of our contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, not distinct. In situations when our contract includes distinct goods or services that are substantially the same and have the same pattern of transfer to the customer over time, they are recognized as a series of distinct goods or services. For contracts with multiple performance obligations, we allocate the contract's transaction price to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract.

We do not adjust the promised amount of consideration for the effects of a significant financing component if we expect, at contract inception, that the period between when we transfer a promised good or service to a customer and when the customer pays for that good or service will be one year or less.

Revenue is recorded net of taxes collected from customers, and taxes collected are recorded as current liabilities until remitted to the relevant government authority. Shipping and handling costs associated with outbound freight after control of a product has transferred are accounted for as a fulfillment cost and are included in cost of sales in the Consolidated Statements of Income.

The following is a description of the product offerings, end markets, typical revenue transactions and payment terms for each of our two reportable segments. See Note 14 for further information on reportable segments.

Test & Simulation
Our Test & Simulation segment (Test & Simulation) manufactures and sells equipment and related software and services which are used by customers to characterize a product's mechanical properties or performance or to create a desired human experience. Our solutions simulate forces and motions that customers expect their products to encounter in use or are necessary to properly characterize the product's performance. Primary Test & Simulation markets include transportation, infrastructure, energy, aerospace, materials science, medical, flight training and amusement parks. A typical system is a comprehensive solution which includes a platform on which a human or prototype specimen resides or a reaction frame to hold the prototype specimen; a hydraulic or electromechanical power source; actuators to create the force or motion; and a computer controller with specialized software to coordinate the actuator movement and to measure, record, analyze and manipulate results. Our portfolio of Test & Simulation solutions includes standard, configurable products; engineered products which combine standard product configurations with a moderate degree of customization per customer specifications; and highly customized, highly engineered solutions built to address the customer's unique business need, which can include development of first-of-a-kind technology. To complement our Test & Simulation products, we provide our customers with a spectrum of services to maximize product performance including installation, product life cycle management, professional training, calibration and metrology, technical consulting and onsite and factory repair and maintenance. In addition, we sell a variety of accessories and spare parts. The manufacturing cycle for a typical system ranges from weeks to 12 months, depending on the complexity of the system and the availability of components, and can be several years for larger, more complex systems. For certain contracts, the order to revenue cycle may extend beyond the manufacturing cycle, such as when the manufacturing start date is driven by the customer's project timeline or when the contract terms require equipment installation and commissioning and customer acceptance prior to point-in-time revenue recognition.

Test & Simulation contracts often have multiple performance obligations, most commonly due to the contract covering multiple phases of the product life cycle (i.e., equipment design and production, installation and commissioning, extended warranty and software maintenance). The primary method used to estimate standalone selling price is the expected cost plus a margin approach under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct good or service.

Test & Simulation revenue is recognized either over time as work progresses or point-in-time, depending on contract-specific terms and the pattern of transfer of control of the product or service to the customer. Revenue from services is recognized in the period the service is performed or ratably over the period of the related service contract. Equipment revenue is recognized over time when: (i) control is transferred to the customer over time as work progresses; or (ii) contract terms evidence customer control of the work in process or an enforceable right to payment with no alternative use. Equipment revenue is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying the performance obligation. Incurred cost represents work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer. Equipment contract costs include materials, component parts, labor and overhead costs.

Equipment revenue is recognized point-in-time when either: (i) control is transferred to the customer at a point-in-time when obligations under the terms of the contract are satisfied; or (ii) contract terms do not evidence customer control of the work in process or an enforceable right to payment with no alternative use, and consequently revenue is deferred as work progresses. Satisfaction of performance obligations under the terms of the contract occurs either upon product shipment (as evidenced by delivery or shipment terms), completion of equipment installation and commissioning, or customer acceptance.

For our Test & Simulation contracts with customers, payment terms vary and are subject to negotiation. Typical payment terms include progress payments based on specified events or milestones. For some contracts, we are entitled to receive an advance payment.

Sensors
Our Sensors segment (Sensors) manufactures and sells high-performance sensors which provide measurements of vibration, pressure, position, force and sound in a variety of applications. Our Sensors products are used to enable automation, enhance precision and safety, and lower our customers' production costs by improving performance and reducing downtime. Primary Sensors markets include transportation, aerospace and defense, industrial, and research and development. Our Sensors products are sold as configurable, standard units; utilize piezoelectric or magnetostriction technology; and are ideal for use in harsh operating environments to provide accurate and reliable sensor information. To complement our Sensors products, we also provide spare parts and services. The cycle from contract inception to shipment of equipment is typically one to three months, with the exception of certain high-volume contracts which are fulfilled in a series of shipments over an extended period.

Our Sensors contracts generally have a single performance obligation which is satisfied at a point in time. The performance obligation is a stand-alone sensor product, accessory, service or software license. Sensors contracts are generally fixed-price purchase order fulfillment contracts, and the transaction price is equal to the observable consideration in the contract. Revenue is recognized when obligations under the terms of the contract with our customer are satisfied; generally, this occurs with the transfer of control upon product shipment (as evidenced by shipment or delivery terms) or with the performance of the service. Certain contracts are measured using the as invoiced practical expedient as we have a right to consideration from a customer in an amount that corresponds directly with the value to the customer of our performance completed to date.

For our Sensors contracts with customers, payment terms are generally within 90 days. The timing of satisfying our Sensors performance obligations does not vary significantly from the typical timing of payment. For certain high-volume contracts, we are entitled to receive an advance payment.

Disaggregation of Revenue

We disaggregate our revenue by reportable segment, sales type (product or service), timing of recognition of revenue for transfer of goods or services to customers (point-in-time or over time), and geographic market based on the billing location of the customer. See Note 14 for further information on our reportable segments and intersegment revenue.

	Three Months Ended							
	June 27, 2020				June 29, 2019			
	Test & Simulation	Sensors	Intersegment	Total	Test & Simulation	Sensors	Intersegment	Total
Sales type								
Product	$ 96,870	$ 78,739	$ (386)	$ 175,223	$ 123,573	$ 82,305	$ (350)	$ 205,528
Service	19,534	1,483	(15)	21,002	24,755	1,926	—	26,681
Total revenue	$ 116,404	$ 80,222	$ (401)	$ 196,225	$ 148,328	$ 84,231	$ (350)	$ 232,209
Timing of recognition								
Point-in-time	$ 60,792	$ 72,031	$ (401)	$ 132,422	$ 95,247	$ 77,978	$ (350)	$ 172,875
Over time	55,612	8,191	—	63,803	53,081	6,253	—	59,334
Total revenue	$ 116,404	$ 80,222	$ (401)	$ 196,225	$ 148,328	$ 84,231	$ (350)	$ 232,209
Geographic market								
Americas	$ 32,821	$ 42,000	$ (401)	$ 74,420	$ 47,892	$ 42,365	$ (350)	$ 89,907
Europe	36,951	19,851	—	56,802	34,137	26,994	—	61,131
Asia	46,632	18,371	—	65,003	66,299	14,872	—	81,171
Total revenue	$ 116,404	$ 80,222	$ (401)	$ 196,225	$ 148,328	$ 84,231	$ (350)	$ 232,209

	Nine Months Ended							
	June 27, 2020				June 29, 2019			
	Test & Simulation	Sensors	Intersegment	Total	Test & Simulation	Sensors	Intersegment	Total
Sales type								
Product	$ 294,654	$ 243,674	$ (1,024)	$ 537,304	$ 348,992	$ 239,345	$ (1,040)	$ 587,297
Service	67,977	8,281	(31)	76,227	75,928	5,211	—	81,139
Total revenue	$ 362,631	$ 251,955	$ (1,055)	$ 613,531	$ 424,920	$ 244,556	$ (1,040)	$ 668,436
Timing of recognition								
Point-in-time	$ 178,512	$ 226,730	$ (1,055)	$ 404,187	$ 273,226	$ 231,507	$ (1,040)	$ 503,693
Over time	184,119	25,225	—	209,344	151,694	13,049	—	164,743
Total revenue	$ 362,631	$ 251,955	$ (1,055)	$ 613,531	$ 424,920	$ 244,556	$ (1,040)	$ 668,436
Geographic market								
Americas	$ 110,044	$ 133,393	$ (1,055)	$ 242,382	$ 138,780	$ 119,069	$ (1,040)	$ 256,809
Europe	104,601	68,560	—	173,161	92,300	79,995	—	172,295
Asia	147,986	50,002	—	197,988	193,840	45,492	—	239,332
Total revenue	$ 362,631	$ 251,955	$ (1,055)	$ 613,531	$ 424,920	$ 244,556	$ (1,040)	$ 668,436

Contract Assets and Liabilities
Contract assets and contract liabilities are as follows:

	June 27, 2020	September 28, 2019
Contract assets	$ 91,787	$ 80,331
Contract liabilities	75,651	81,045

The timing of revenue recognition, billings and cash collections results in billed accounts receivable, unbilled accounts receivable (contract assets) and advance payments from customers (contract liabilities). Contract balances are classified as assets or liabilities on a contract-by-contract basis at the end of each reporting period. Contract liabilities represent payments received from customers at contract inception and at milestones per contract provisions. These payments are recorded in advance payments from customers and other long-term liabilities in our Consolidated Balance Sheets (current and non-current portions, respectively) and are liquidated as revenue is recognized. Conversely, when billing occurs subsequent to revenue recognition for contracts recognized over time, balances are recorded in unbilled accounts receivable, net in our Consolidated Balance Sheets. As customers are billed, unbilled accounts receivable balances are transferred to accounts receivable, net in the Consolidated Balance Sheets.

Significant changes in contract assets and contract liabilities are as follows:

	Contract Assets
Balance, September 28, 2019	$ 80,331
Changes in estimated stage of completion	94,646
Transfers to accounts receivable, net	(88,566)
Acquisitions[1]	6,107
Other	(731)
Balance, June 27, 2020	$ 91,787

	Contract Liabilities
Balance, September 28, 2019	$ 81,045
Revenue recognized included in balance at beginning of period	(52,176)
Increases due to payments received, excluding amounts recognized as revenue during period	44,871
Acquisitions[1]	3,182
Other	(1,271)
Balance, June 27, 2020	$ 75,651

[1] See Note 16 for additional information regarding acquisitions.

Remaining Performance Obligations
As of June 27, 2020, we had approximately $281,700 of remaining performance obligations on contracts with an original expected duration of one year or more which are primarily related to Test & Simulation. As of June 27, 2020, we expect to recognize approximately 54% of these remaining performance obligations as revenue within one year, an additional 29% within two years and the balance thereafter. We do not disclose the value of remaining performance obligations for contracts with an original expected duration of one year or less.

Contract Estimates
For contracts recognized over time, we estimate the profit on a contract as the difference between the total estimated revenue and expected costs to complete a contract and recognize that profit over the life of the contract. Contract estimates are based on various assumptions to project the outcome of future events that may span several years. These assumptions include labor productivity and availability, the complexity of the work to be performed, the cost and availability of materials, and internal and subcontractor performance.

Pricing is established at or prior to the time of sale with our customers, and we record sales at the agreed-upon selling price. The terms of a contract or the historical business practice can give rise to variable consideration due to but not limited to volume discounts, penalties and early payment discounts. We estimate variable consideration at the most likely amount we will receive from customers. We include estimated amounts in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized for such transaction will not occur, or when the uncertainty associated with the variable consideration is resolved. In general, variable consideration in our contracts relates to the entire contract. As a result, the variable consideration is allocated proportionately to all performance obligations. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current and forecasted) that is reasonably available to us at contract inception. There are no significant instances where variable consideration is constrained and not recorded at the initial time of sale.

As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our contract-related estimates regularly. We recognize adjustments in estimated profit on contracts under the cumulative catch-up method. Under this method, the impact of the adjustment on profit recorded to date is recognized in the period the adjustment is identified. Revenue and profit in future periods of contract performance is recognized using the adjusted estimate. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize the total loss in the period it is identified. Our review of contract-related estimates has not resulted in adjustments that are significant to our results of operations.

Contract Modifications
When contracts are modified to account for changes in contract specifications and requirements, we consider whether the modification either creates new, or changes existing, enforceable rights and obligations. Contract modifications that are for goods or services that are not distinct from the existing contract, due to the significant integration with the original product or service provided, are accounted for as if they were part of that existing contract. The effect of a contract modification on the transaction price, and our measure of progress for the performance obligation to which it relates, is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) under the cumulative catch-up method. When the modifications include additional performance obligations that are distinct and at a relative stand-alone selling price, they are accounted for as a new contract and performance obligation and recognized prospectively.

Warranties and Returns
For both Test & Simulation and Sensors, we provide a manufacturer's warranty on our products and systems which is included in customer contracts. For sales that include installation services, warranty obligations generally extend for a period of 12 to 24 months from the date of either shipment or acceptance based on contract terms. Product obligations generally extend 12 to 24 months from the date of purchase. Certain products offered in our Sensors segment include a lifetime warranty.

Under the terms of these warranties, we are obligated to repair or replace any components or assemblies deemed defective due to workmanship or materials. We reserve the right to reject warranty claims where it is determined that failure is due to normal wear, customer modifications, improper maintenance or misuse. At the time a sale is recognized, we record estimated future warranty costs. The percentage applied reflects our historical warranty claims experience over the preceding 12-month period. Both the experience percentage and the warranty liability are evaluated on an ongoing basis for adequacy. Warranty provisions are also recognized for certain unanticipated product claims that are individually significant. We also offer separately-priced extended warranties or service-type contracts on certain products for which revenue is recognized over the contractual period or as services are rendered.

Our sales terms generally do not allow for a right of return except for situations where the product fails. When the right of return exists, we recognize revenue for the transferred products at the expected amount of consideration for which we will be entitled.

Shipping and Handling
Freight revenue billed to customers is reported within revenue in the Consolidated Statements of Income. Expenses incurred for shipping products to customers are reported within cost of sales in the Consolidated Statements of Income.

Pre-contract Costs
We recognize an asset for the incremental costs of obtaining a contract with a customer (i.e., pre-contract costs) when costs are considered recoverable. Capitalized pre-contract costs, consisting primarily of Test & Simulation sales commissions, are amortized as the related revenue is recognized. We recognized total capitalized pre-contract costs of $3,965 and $4,297 in prepaid expenses and other current assets and other long-term assets in the Consolidated Balance Sheets as of June 27, 2020 and September 28, 2019, respectively. We incurred the related pre-contract expense of $1,017 and $1,747 in the Consolidated Statements of Income during the three months ended June 27, 2020 and June 29, 2019, respectively, and $3,857 and $5,616 in the Consolidated Statements of Income during the nine months ended June 27, 2020 and June 29, 2019, respectively.

NOTE 4 INVENTORIES

Inventories consist of material, labor and overhead costs and are stated at the lower of cost or net realizable value determined under the first-in, first-out accounting method. Certain inventories are measured using the weighted average cost method. Inventories, net are as follows:

	June 27, 2020	September 28, 2019
Components, assemblies and parts	$ 120,019	$ 112,886
Customer projects in various stages of completion	41,121	39,534
Finished goods	16,070	14,779
Total inventories, net	$ 177,210	$ 167,199

NOTE 5 LEASES

We determine if an arrangement contains a lease at inception based on whether or not we have the right to control the asset during the contract period and other facts and circumstances. We are the lessee in a lease contract when we obtain the right to control the asset. Operating leases are included in other long-term assets, other accrued liabilities and other long-term liabilities in our Consolidated Balance Sheet. Right-of-use assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the lease, both of which are recognized based on the present value of the future minimum lease payments over the lease term at the commencement date. Leases with a lease term of 12 months or less at inception are not recorded on our Consolidated Balance Sheet and are expensed on a straight-line basis over the lease term in our Consolidated Statement of Income. We determine the lease term by assuming the exercise of renewal options that are reasonably certain. Most leases have remaining lease terms of one to ten years, some of which include options to extend the lease terms one to five years or more.

As most of our leases do not provide an implicit interest rate, we use our incremental borrowing rate based on the information available at the commencement date in determining the present value of future payments. The incremental borrowing rate is used in determining the present value of lease payments, unless an implicit rate is specified. When our contracts contain lease and non-lease components, we account for both components as a single lease component.

We have operating leases for facilities, vehicles and equipment. We also have financing leases for certain vehicles. Our lease agreements do not contain any material residual value guarantees, material bargain purchase options or material restrictive covenants. We have no material sublease arrangements with third parties or lease transactions with related parties.

During the three and nine months ended June 27, 2020, rent expense was $2,731 and $7,724, respectively, primarily related to operating lease costs. Costs associated with short-term leases, variable rent and subleases were immaterial.

Supplemental balance sheet information related to leases is as follows:

	Classification	June 27, 2020	September 29, 2019
Assets			
Operating leases	Other long-term assets	$ 20,043	$ 20,356
Finance leases	Other long-term assets [1]	1,013	1,436
Total leased assets		$ 21,056	$ 21,792
Liabilities			
Current			
Operating leases	Other accrued liabilities	$ 7,684	$ 7,447
Finance leases	Other accrued liabilities [2]	506	570
Non-current			
Operating leases	Other long-term liabilities	12,359	12,909
Finance leases	Other long-term liabilities [2]	507	866
Total lease liabilities		$ 21,056	$ 21,792

[1] Assets held under capital leases were reclassified from property and equipment, net to other long-term assets as part of the adoption of the new lease standard.

[2] Finance lease obligations were reclassified from long-term debt, less current maturities, net to other accrued liabilities and other long-term liabilities as part of the adoption of the new lease standard.

Supplemental cash flow information related to leases is as follows:

	Nine Months Ended June 27, 2020
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 7,105
Operating cash flows from finance leases	46
Financing cash flows from finance leases	451
Operating leased assets obtained in exchange for new lease liabilities	$ 2,705

The weighted average remaining lease terms and weighted average discount rates are as follows:

	June 27, 2020
Weighted average remaining lease term	
Operating leases	4.7 years
Finance leases	2.3 years
Weighted average discount rate	
Operating leases	3.2%
Finance leases	3.9%

Future lease payments under non-cancelable leases for the next five years and thereafter are as follows:

	June 27, 2020	
	Operating Leases	Finance Leases
Remainder of 2020	$ 3,442	$ 141
2021	7,083	525
2022	4,097	291
2023	2,944	59
2024	2,129	29
2025	865	—
Thereafter	1,913	—
Total lease payments	22,473	1,045
Less imputed interest	(2,430)	(32)
Total reported lease liability	$ 20,043	$ 1,013

As of June 27, 2020, we have no material additional operating or finance leases that have not yet commenced.

Future minimum lease commitments under non-cancelable leases for the next five years and thereafter were as follows:

	September 28, 2019	
	Operating Leases	Capital Leases
2020	$ 7,149	$ 570
2021	5,291	588
2022	3,124	278
2023	1,602	—
2024	1,085	—
Thereafter	1,789	—
Total	$ 20,040	$ 1,436

NOTE 6 CAPITAL ASSETS

Property and Equipment

Property and equipment, net are as follows:

	June 27, 2020	September 28, 2019
Land and improvements	$ 3,957	$ 3,949
Buildings and improvements	72,927	64,140
Machinery and equipment	231,261	224,684
Assets held under capital leases [1]	—	2,796
Total property and equipment	308,145	295,569
Less: Accumulated depreciation	(207,985)	(194,486)
Total property and equipment, net	$ 100,160	$ 101,083

[1] Assets held under capital leases were reclassified from property and equipment, net to other long-term assets as part of the adoption of the new lease standard. See Note 5 for additional information regarding leases.

Goodwill

Changes to the carrying amount of goodwill are as follows:

	Test & Simulation	Sensors	Total
Balance, September 28, 2019	$ 61,153	$ 367,886	$ 429,039
Acquisitions [2]	35,794	32	35,826
Currency translation	1,093	20	1,113
Balance, June 27, 2020	$ 98,040	$ 367,938	$ 465,978

[2] See Note 16 for additional information regarding acquisitions.

Intangible Assets

Intangible assets are as follows:

	June 27, 2020			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted Average Useful Life (in Years)
Software development costs [3]	$ 49,666	$ (16,233)	$ 33,433	5.7
Technology and patents	68,457	(19,121)	49,336	14.9
Trademarks and trade names	28,923	(4,928)	23,995	17.4
Customer lists	217,233	(44,527)	172,706	15.6
Land-use rights	2,305	(1,152)	1,153	25.7
Other	7,975	(3,197)	4,778	1.9
Trade names	57,500	—	57,500	Indefinite
Total intangible assets	$ 432,059	$ (89,158)	$ 342,901	14.1

	September 28, 2019			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted Average Useful Life (in Years)
Software development costs [3]	$ 39,546	$ (16,035)	$ 23,511	6.2
Technology and patents	63,015	(15,739)	47,276	14.9
Trademarks and trade names	20,186	(3,808)	16,378	18.4
Customer lists	192,488	(34,735)	157,753	15.6
Land-use rights	2,303	(968)	1,335	25.7
Other	3,606	(774)	2,832	4.0
Trade names	57,500	—	57,500	Indefinite
Total intangible assets	$ 378,644	$ (72,059)	$ 306,585	14.4

[3] The gross carrying amount of software development costs as of June 27, 2020 and September 28, 2019 includes $31,971 and $21,840, respectively, of software not yet available for general release to the public.

Amortization expense recognized related to finite-lived intangible assets is as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Amortization expense	$ 6,288	$ 4,449	$ 17,343	$ 12,668

Assessing goodwill, indefinite-lived intangible and long-lived assets for impairment requires management to make assumptions and apply judgment, including forecasting future sales and expenses, and selecting appropriate discount rates, which can be affected by economic conditions and other factors that can be difficult to predict. Due to the uncertainty stemming from the COVID-19 pandemic, as described in Note 17, we performed a qualitative assessment over our goodwill and indefinite-lived intangible asset to determine whether it is more likely than not (a likelihood of more than 50%) that the fair value of a reporting unit and indefinite-lived intangible asset were less than their carrying value. We determined that it was more likely than not that the fair value exceeds the carrying amount for all of our reporting units and indefinite-lived intangible asset as of the end of the third quarter of fiscal year 2020. Therefore, a quantitative analysis was not necessary. In performing this assessment, we believe we have made reasonable accounting estimates based on the facts and circumstances that were available as of the reporting date considering the developing situation resulting from the COVID-19 pandemic. However, if actual results are not consistent with the estimates and assumptions used in the calculations, we may be exposed to future impairment losses that could be material.

Estimated future amortization expense related to finite-lived intangible assets is as follows:

	Amortization Expense
Remainder of 2020	$ 6,366
2021	24,970
2022	24,557
2023	23,660
2024	23,291
2025	23,134
Thereafter	159,423

Future amortization amounts presented above are estimates. Actual future amortization expense may be different due to fluctuations in foreign currency exchange rates, future acquisitions, impairments, changes in amortization periods or other factors.

NOTE 7 FAIR VALUE MEASUREMENTS

In determining the fair value of financial assets and liabilities, we currently utilize market data or other assumptions that we believe market participants would use in pricing the asset or liability in the principal or most advantageous market and adjust for non-performance and/or other risk associated with the company as well as counterparties, as appropriate. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- **Level 1:** Unadjusted quoted prices which are available in active markets for identical assets or liabilities accessible to us at the measurement date.
- **Level 2:** Inputs other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability.
- **Level 3:** Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.

The hierarchy gives the highest priority to Level 1, as this level provides the most reliable measure of fair value, while giving the lowest priority to Level 3.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Financial assets and liabilities subject to fair value measurements on a recurring basis are as follows:

	June 27, 2020			
	Level 1	Level 2	Level 3	Total
Assets				
Currency contracts [1]	$ —	$ 170	$ —	$ 170
Cross currency swap [1]	—	284	—	284
Total assets	—	454	—	454
Liabilities				
Currency contracts [1]	—	271	—	271
Contingent consideration [2]	—	—	19,180	19,180
Total liabilities	$ —	$ 271	$ 19,180	$ 19,451

	September 28, 2019			
	Level 1	Level 2	Level 3	Total
Assets				
Currency contracts [1]	$ —	$ 907	$ —	$ 907
Total assets	—	907	—	907
Liabilities				
Currency contracts [1]	—	251	—	251
Total liabilities	$ —	$ 251	$ —	$ 251

[1] Based on observable market transactions of spot currency rates, forward currency rates on equivalently-termed instruments and interest rate curves, as applicable. Carrying amounts of the financial assets and liabilities are equal to the fair value. See Note 8 for additional information on derivative financial instruments.

[2] Based on a discounted cash flow analysis that included revenue estimates, probability of financial performance achievement and a discount rate. Carrying amounts of the financial assets and liabilities are equal to the fair value. See Note 16 for additional information on business acquisitions.

Included in Level 3 fair value measurements as of June 27, 2020 was a noncurrent contingent consideration liability related to achievement of revenue and value-creating milestones associated with the acquisition of R&D entities described in Note 16. Changes to the contingent consideration are as follows:

Balance, September 28, 2019	$ —
Additions	16,903
Fair value adjustments [3]	1,301
Interest accretion	895
Foreign currency translation	81
Balance, June 27, 2020	$ 19,180

[3] Changes in the fair value of the contingent consideration liability are recognized in general and administrative expense in the Consolidated Statements of Income in the period in which the fair value adjustment was determined.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

We measure certain financial instruments at fair value on a nonrecurring basis. These assets primarily include goodwill, intangible assets and other long-lived assets acquired either as part of a business acquisition, individually or with a group of other assets, as well as property and equipment and right-of-use lease assets. These assets were initially measured and recognized at amounts equal to the fair value determined as of the date of acquisition or purchase subject to changes in value only for foreign currency translation. Periodically, these assets are tested for impairment by comparing their respective carrying values to the estimated fair value of the reporting unit or asset group in which they reside. In the event any of these assets were to become impaired, we would recognize an impairment loss equal to the amount by which the carrying value of the reporting unit, impaired asset or asset group exceeds its estimated fair value. Fair value measurements of reporting units are estimated using an income approach involving discounted or undiscounted cash flow models that contain certain Level 3 inputs requiring management judgment, including projections of economic conditions and customer demand, revenue and margins, changes in competition, operating costs, working capital requirements and new product introductions. Fair value measurements of the reporting units associated with our goodwill balances and our indefinite-lived intangible assets are estimated at least annually in the fourth quarter of each fiscal year for purposes of impairment testing if a quantitative analysis is performed. Fair value measurements associated with our intangible assets, other long-lived assets, property and equipment and right-of-use lease assets are estimated when events or changes in circumstances such as market value, asset utilization, physical change, legal factors or other matters indicate that the carrying value may not be recoverable. See Note 6 for additional information on goodwill, indefinite-lived intangible assets, other long-lived assets and property and equipment. See Note 5 for additional information on right-of-use lease assets.

Assets and Liabilities Not Measured at Fair Value

Certain financial instruments are not measured at fair value but are recorded at carrying amounts approximating fair value based on their short-term nature or variable interest rate. These financial instruments include cash and cash equivalents, accounts receivable, unbilled accounts receivable, accounts payable and short-term borrowings.

Other Financial Instruments

Other financial instruments subject to fair value measurements include debt, which is recorded at carrying value in the Consolidated Balance Sheets. The carrying amount and estimated fair values of our debt are as follows:

	June 27, 2020				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Tranche B term loan [4]	$ 170,245	$ 166,840	$ —	$ 166,840	$ —
Senior unsecured notes [4]	350,000	325,500	—	325,500	—
Total debt	$ 520,245	$ 492,340	$ —	$ 492,340	$ —

	September 28, 2019				
	Carrying Value	Fair Value	Level 1	Level 2	Level 3
Tranche B term loan [4]	$ 173,695	$ 174,563	$ —	$ 174,563	$ —
Senior unsecured notes [4]	350,000	366,625	—	366,625	—
Total debt	$ 523,695	$ 541,188	$ —	$ 541,188	$ —

[4] The fair value of the tranche B term loan and senior unsecured notes is based on the most recently quoted market price for the outstanding debt instrument, adjusted for any known significant deviations in value. The estimated fair value of the debt obligation is not necessarily indicative of the amount that would be realized in a current market exchange. See Note 9 for additional information on financing arrangements.

NOTE 8 DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Our currency exchange contracts are designated as cash flow hedges and qualify as hedging instruments. We also have derivatives that are not designated as cash flow hedges and, therefore, are accounted for and reported under foreign currency guidance. Regardless of designation for accounting purposes, we believe all of our derivative instruments are hedges of transactional risk exposures. The fair value of our outstanding designated and undesignated derivative assets and liabilities are reported in the Consolidated Balance Sheets as follows:

	June 27, 2020	
	Prepaid Expenses and Other Current Assets	Other Accrued Liabilities
Designated hedge derivatives		
Cash flow derivatives	$ 170	$ 162
Cross currency swap	284	—
Total designated hedge derivatives	454	162
Undesignated hedge derivatives		
Balance sheet derivatives	—	109
Total hedge derivatives	$ 454	$ 271

	September 28, 2019	
	Prepaid Expenses and Other Current Assets	Other Accrued Liabilities
Designated hedge derivatives		
Cash flow derivatives	$ 907	$ 133
Total designated hedge derivatives	907	133
Undesignated hedge derivatives		
Balance sheet derivatives	—	118
Total hedge derivatives	$ 907	$ 251

A reconciliation of the net fair value of designated hedge derivatives subject to master netting arrangements that are recorded in the Consolidated Balance Sheets to the net fair value that could have been reported in the Consolidated Balance Sheets is as follows:

	Gross Recognized Amount	Gross Offset Amount	Net Amount Presented	Derivatives Subject to Offset	Cash Collateral Received	Net Amount
June 27, 2020						
Assets	$ 454	$ —	$ 454	$ (156)	$ —	$ 298
Liabilities	162	—	162	(156)	—	6
September 28, 2019						
Assets	$ 907	$ —	$ 907	$ (133)	$ —	$ 774
Liabilities	133	—	133	(133)	—	—

Cash Flow Hedging – Currency Risks

Currency exchange contracts utilized to maintain the functional currency value of expected financial transactions denominated in foreign currencies are designated as cash flow hedges. Gains and losses related to changes in the market value of these contracts are reported as a component of accumulated other comprehensive income (AOCI) within shareholders' equity in the Consolidated Balance Sheets and reclassified to earnings in the same line item in the Consolidated Statements of Income and in the same period as the recognition of the underlying hedged transaction. We periodically assess whether our currency exchange contracts are effective and, when a contract is determined to be no longer effective as a hedge, we discontinue hedge accounting prospectively.

As of June 27, 2020 and September 28, 2019, we had outstanding cash flow hedge currency exchange contracts with gross notional U.S. dollar equivalent amounts of $28,652 and $43,033, respectively. Upon netting offsetting contracts to sell foreign currencies against contracts to purchase foreign currencies, irrespective of contract maturity dates, the net notional U.S. dollar equivalent amount of contracts outstanding was $26,729 and $38,177 as of June 27, 2020 and September 28, 2019, respectively. As of June 27, 2020, the net market value of the foreign currency exchange contracts was a net asset of $8, consisting of $170 in assets and $162 in liabilities. As of September 28, 2019, the net market value of the foreign currency exchange contracts was a net asset of $774, consisting of $907 in assets and $133 in liabilities.

The pretax amounts recognized in AOCI on currency exchange contracts, including (gains) losses reclassified into earnings in the Consolidated Statements of Income and gains (losses) recognized in other comprehensive income (loss) (OCI), are as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Beginning unrealized net gain (loss) in AOCI	$ 348	$ 192	$ 566	$ 672
Net (gain) loss reclassified into revenue	(151)	(142)	(486)	(743)
Net gain (loss) recognized in OCI	(271)	(46)	(154)	75
Ending unrealized net gain (loss) in AOCI	$ (74)	$ 4	$ (74)	$ 4

As of June 27, 2020, the amount projected to be reclassified from AOCI into earnings in the next 12 months was a net loss of $53. The maximum remaining maturity of any forward or optional contract as of June 27, 2020 was 1.2 years.

Interest Rate Swap
On October 20, 2016, we entered into a floating to fixed interest rate swap agreement to mitigate our exposure to interest rate increases related to a portion of our tranche B term loan facility. In connection with the repayment of a portion of the tranche B term loan facility during the fourth quarter of fiscal year 2019, we terminated the interest rate swap agreement. Prior to termination, every month we paid fixed interest at 1.256% in exchange for interest received at one month U.S. LIBOR. The interest rate swap was designated as a cash flow hedge. As a result, changes in the fair value of the interest rate swap were recorded in AOCI within shareholders' equity in the Consolidated Balance Sheets. The unrealized gains on the interest rate swap associated with the interest payments on our tranche B term loan facility that are still forecasted to occur are included in AOCI. These gains will be reclassified into interest expense over the life of the original swap agreement as the hedged interest payments occur.

The pretax amounts recognized in AOCI on the interest rate swap, including (gains) losses reclassified into earnings in the Consolidated Statements of Income and gains (losses) recognized in OCI, are as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Beginning unrealized net gain (loss) in AOCI	$ 542	$ 3,684	$ 1,079	$ 7,411
Net (gain) loss reclassified into interest expense	(192)	(695)	(729)	(1,988)
Net gain (loss) recognized in OCI	—	(1,325)	—	(3,759)
Ending unrealized net gain (loss) in AOCI	$ 350	$ 1,664	$ 350	$ 1,664

As of June 27, 2020, the amount projected to be reclassified from AOCI into earnings in the next 12 months was a net gain of $350.

Foreign Currency Balance Sheet Derivatives
We also use foreign currency derivative contracts to maintain the functional currency value of monetary assets and liabilities denominated in non-functional foreign currencies. The gains and losses related to the changes in the market value of these derivative contracts are included in other income (expense), net in the Consolidated Statements of Income.

As of June 27, 2020 and September 28, 2019, we had outstanding foreign currency balance sheet derivative contracts with gross notional U.S. dollar equivalent amounts of $67,066 and $60,827, respectively. Upon netting offsetting contracts by counterparty banks to sell foreign currencies against contracts to purchase foreign currencies, irrespective of contract maturity dates, the net notional U.S. dollar equivalent amount of contracts outstanding as of June 27, 2020 and September 28, 2019 was $3,792 and $118, respectively. As of June 27, 2020 and September 28, 2019, the net market value of the foreign exchange balance sheet derivative contracts was a net liability of $109 and $118, respectively.

The net gain (loss) recognized in the Consolidated Statements of Income on foreign exchange balance sheet derivative contracts is as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net gain (loss) recognized in other income (expense), net	$ (58)	$ 218	$ (464)	$ (170)

Net Investment Hedge

We have net investments in foreign subsidiaries that are subject to changes in foreign currency exchange rates. In the second quarter of fiscal year 2020, we entered into a cross-currency swap with a gross notional U.S. dollar equivalent amount of $100,485 as a net investment hedge for a portion of our net investments in our Euro denominated subsidiaries. Gains and losses resulting from a change in fair value of the net investment hedge are offset by gains and losses on the underlying foreign currency exposure and included in AOCI in our Consolidated Balance Sheets. As of June 27, 2020, the deferred foreign currency activity associated with the net investment hedge was not considered material.

NOTE 9 FINANCING

Long-term debt consists of the following:

	June 27, 2020	September 28, 2019
Long-term debt		
Tranche B term loan, 1.00% amortizing per year, maturing July 5, 2023	$ 170,245	$ 173,695
Revolving credit facility, non-current portion, expiring July 5, 2023	58,576	—
Senior unsecured notes, 5.75% coupon, maturing August 15, 2027	350,000	350,000
Capital lease obligations [1]	—	1,436
Total long-term debt	578,821	525,131
Less: Unamortized underwriting discounts, commissions and other expenses	(8,955)	(10,313)
Less: Current maturities of tranche B term loan debt [2, 3]	(4,600)	(29,600)
Less: Current maturities of capital lease obligations [1, 2]	—	(570)
Total long-term debt, less current maturities, net	$ 565,266	$ 484,648

[1] Capital lease obligations were reclassified from long-term debt, less current maturities, net and current maturities of long-term debt, net to other accrued liabilities and other long-term liabilities in the Consolidated Balance Sheets as part of the adoption of the new lease standard in the first quarter of fiscal year 2020. See Note 5 for additional information on leases.

[2] In addition to the current maturities above, current maturities of long-term debt, net in the Consolidated Balance Sheets includes the current portion of unamortized underwriting discounts, commissions and other expenses of $1,770 and $2,201 as of June 27, 2020 and September 28, 2019, respectively.

[3] As of June 27, 2020 and September 28, 2019, current maturities of tranche B term loan consist of the 1% annual payment and the calculated or estimated required annual Excess Cash Flow payment as defined below, as well as planned prepayments.

Tranche B Term Loan and Revolving Credit Facility

We have a credit agreement with U.S. Bank National Association and HSBC Bank USA, National Association as Co-Documentation Agents, Wells Fargo Bank, National Association as Syndication Agent, JPMorgan Chase Bank, N.A. as Administrative Agent and JP Morgan Chase Bank, N.A. and Wells Fargo Securities, LLC as Joint Bookrunners and Joint Lead Arrangers (the Credit Agreement). The Credit Agreement, as amended, provides for senior secured credit facilities consisting of a $200,000 revolving credit facility (the Revolving Credit Facility) and a $460,000 tranche B term loan facility (the Term Facility) which expire on July 5, 2023. The proceeds of the Revolving Credit Facility can be drawn upon to refinance existing indebtedness, for working capital and for other general corporate purposes, up to a maximum of $200,000. The Term Facility amortizes in equal quarterly installments equal to 1% annually of the original principal amount.

In the first quarter of fiscal year 2020, we entered into a fourth amendment to the Credit Agreement to increase the borrowing capacity on the Revolving Credit Facility from $150,000 to $200,000 and extend the expiration date of the Revolving Credit Facility from July 5, 2022 to July 5, 2023. The amendment also reduced letter of credit commitments from $60,000 to $50,000. Additionally, the required performance levels under certain financial covenants were modified. During the nine months ended

June 27, 2020, we incurred debt financing costs of $577 as a result of this amendment which were capitalized in prepaid and other current assets and other long-term assets in the Consolidated Balance Sheets.

The primary categories of borrowing include Alternate Base Rate (ABR) Borrowings (ABR Term Loans and ABR Revolving Loans), Swingline Loans and Eurocurrency Borrowings (Eurocurrency Term Loans and Eurocurrency Revolving Loans), each as defined in the Credit Agreement. ABR Borrowings and Swingline Loans made in U.S. dollars under the Credit Agreement bear interest at a rate per annum equal to the ABR plus the Applicable Rate (as defined in the Credit Agreement). The ABR is defined as the greater of (a) the Prime Rate (as defined in the Credit Agreement) in effect on such day, (b) the New York Federal Reserve Bank (NYFRB) rate (as defined in the Credit Agreement) in effect on such day plus ½ of 1.00%, or (c) the Adjusted LIBOR (as defined in the Credit Agreement) for a one-month interest period in dollars on such day plus 1.00%. The ABR for ABR Term Loans is not less than 1.75% per annum. The Applicable Rate for any ABR Revolving Loans will be based upon the leverage ratio applicable on such date. As of June 27, 2020, the Applicable Rate for ABR Term Loans was 2.25% per annum.

Eurocurrency Borrowings made under the Credit Agreement bear interest at a rate per annum equal to the Adjusted LIBOR Rate plus the Applicable Rate. The Adjusted LIBOR Rate is defined as an interest rate per annum equal to (a) the LIBOR Rate for such interest period multiplied by (b) the Statutory Reserve Rate (as defined in the Credit Agreement). The Applicable Rate for any Eurocurrency Revolving Loan is based upon the leverage ratio applicable on such date. The Adjusted LIBOR Rate for Eurocurrency Term Loans is not less than 0.75% per annum. Based on our leverage ratio as of June 27, 2020, the Applicable Rate for Eurocurrency Revolving Loans was 2.75%. As of June 27, 2020, the Applicable Rate for Eurocurrency Term Loans was 3.25% per annum, plus the applicable Adjusted LIBOR Rate of 0.75%. The weighted average interest rate on Term Facility debt during the nine months ended June 27, 2020 was 4.72%.

As of June 27, 2020, there was $85,576 of outstanding borrowings under the Revolving Credit Facility which is included in short-term borrowings and long-term debt, less current maturities, net in the Consolidated Balance Sheets. As of September 28, 2019, there were no outstanding borrowings under the Revolving Credit Facility. We had outstanding letters of credit drawn from the Revolving Credit Facility totaling $24,961 and $21,173 as of June 27, 2020 and September 28, 2019, respectively, leaving approximately $89,463 and $128,827, respectively, of unused borrowing capacity. Commitment fees are payable on the unused portion of the Revolving Credit Facility at rates between 0.20% and 0.35% based on our leverage ratio. During the three months ended June 27, 2020 and June 29, 2019, commitment fees incurred totaled $66 and $52, respectively. During the nine months ended June 27, 2020 and June 29, 2019, commitment fees incurred totaled $257 and $176, respectively. The weighted average interest rate on the Revolving Credit Facility outstanding balance during the nine months ended June 27, 2020 was 4.25%.

The Credit Agreement governing the Term Facility requires us to prepay outstanding term loans, subject to certain exceptions, depending on the leverage ratio with (a) up to 50% of the our annual Excess Cash Flow (as defined in the Credit Agreement) and (b) 100% of the net cash proceeds of (i) certain asset sales and casualty and condemnation events, subject to reinvestment rights and certain other exceptions; and (ii) any incurrence or issuance of certain debt, other than debt permitted under the Credit Agreement. We may voluntarily prepay outstanding loans under the Term Facility at any time without premium or penalty. All obligations under the Credit Agreement are unconditionally guaranteed by certain of our existing wholly-owned domestic subsidiaries, and are secured, subject to certain exceptions, by substantially all of our assets and the assets of our subsidiary guarantors.

Under the Credit Agreement, we are subject to customary affirmative and negative covenants, including, among others, restrictions on our ability to incur debt, create liens, dispose of assets, make investments, loans, advances, guarantees, and acquisitions, enter into transactions with affiliates, and enter into any restrictive agreements and customary events of default (including payment defaults, covenant defaults, change of control defaults and bankruptcy defaults). The Credit Agreement also contains financial covenants, including the ratio of consolidated total indebtedness to adjusted consolidated earnings before income, taxes, depreciation and amortization (Adjusted EBITDA), as defined in the Credit Agreement, as well as the ratio of Adjusted EBITDA to consolidated interest expense. These covenants restrict our ability to purchase outstanding shares of our common stock. As of June 27, 2020 and September 28, 2019, we were in compliance with these financial covenants.

On July 30, 2020, we entered into a fifth amendment to the Credit Agreement, which governs the Term Facility and Revolving Credit Facility, to increase the maximum leverage ratio to 6.0x through March 31, 2021 with step downs thereafter. In addition, we amended the interest coverage ratio to maintain 3.0x through March 31, 2021 with subsequent revisions thereafter. This amendment was completed to maximize flexibility and available liquidity under our current capital structure in the event we would need to access additional funds.

Senior Unsecured Notes
In the fourth quarter of fiscal year 2019, we issued $350,000 in aggregate principal amount of 5.750% senior unsecured notes due in 2027 (the Notes). The Notes were issued pursuant to an Indenture dated as of July 16, 2019 among us, the Guarantors (as defined therein) and Wells Fargo Bank, National Association, as trustee (the Indenture). The Notes will mature on August 15, 2027. Interest accrues at the rate of 5.750% per annum and is payable semi-annually on each February 15 and August 15. We used the net proceeds after discounts and expenses of $343,352 from the offering to repay all then outstanding debt under the Revolving Credit Facility, to repay a portion of the Term Facility and for general corporate purposes.

The Notes and the guarantees constitute senior unsecured obligations of us and the Guarantors, respectively. The Notes are: (a) equal in right of payment with all existing or future unsecured indebtedness that is not subordinated to the Notes; (b) senior in right of payment to any existing or future indebtedness that is subordinated to the Notes; (c) unconditionally guaranteed by the Guarantors; (d) effectively subordinated to all existing or future indebtedness this is secured, including borrowings under the Credit Agreement, to the extent of the value of assets securing such indebtedness; and (e) structurally subordinated to all indebtedness, other liabilities and preferred stock, of any of our subsidiaries that are not Guarantors.

The Indenture governing the Notes contains covenants that limit, among other things, our ability and the ability of our restricted subsidiaries to incur additional indebtedness or issue certain preferred shares, create liens; pay dividends, redeem stock or make other distributions; make investments; for our restricted subsidiaries to pay dividends to us or make other intercompany transfers; transfer or sell assets; merge or consolidate; enter into certain transactions with our affiliates; and designate subsidiaries as unrestricted subsidiaries. If we experience a change of control, we must offer to repurchase all of the Notes (unless otherwise redeemed) at a price equal to 101% of the aggregate principal amount of the Notes, plus accrued and unpaid interest, if any, on such Notes to the repurchase date. If we sell assets under certain circumstances, we must use the proceeds to make an offer to repurchase all of the Notes at a price equal to 100% of their principal amount, plus accrued and unpaid interest, if any, to the date of purchase.

See Note 7 for additional information on the fair value of the tranche B term loan and the senior unsecured notes.

NOTE 10 STOCK-BASED COMPENSATION

We compensate our officers, directors and employees with stock-based compensation under the 2017 Stock Incentive Plan (the 2017 Plan) approved by our shareholders and administered under the supervision of our Board of Directors. During the second quarter of fiscal year 2020, we registered an additional 500 shares of common stock for issuance under the 2017 Plan. As of June 27, 2020, a total of 738 shares were available for issuance under the 2017 Plan.

We make an annual stock grant under the 2017 Plan of stock options, restricted stock units and performance restricted stock units, as well as stock grants throughout the fiscal year. For fiscal years 2020, 2019 and 2018, the annual stock grant occurred in December 2019, December 2018 and April 2018, respectively.

Stock Options
During the nine months ended June 27, 2020, 278 stock options were granted at a weighted average fair value of $9.24. During the nine months ended June 29, 2019, 231 stock options were granted at a weighted average fair value of $9.91.

Restricted Stock Units and Performance Restricted Stock Units
We award restricted stock units to directors and key employees and performance restricted stock units to key employees. During the nine months ended June 27, 2020, we granted 159 restricted stock units and 53 performance restricted stock units to directors, officers and employees. During the nine months ended June 29, 2019, we granted 129 restricted stock units and 40 performance restricted stock units. The fair value of the restricted stock units and performance restricted stock units granted during the nine months ended June 27, 2020 and June 29, 2019 was $40.38 and $46.67, respectively, representing the market value of our shares as of the date of grant less the present value of estimated foregone dividends over the vesting period.

Employee Stock Purchase Plan
Our U.S. employees are eligible to participate in the 2012 Employee Stock Purchase Plan (2012 ESPP) approved by our shareholders. During the nine months ended June 27, 2020 and June 29, 2019, we issued 14 and 16 shares, respectively, under the 2012 ESPP at a weighted average price per share of $40.83 and $34.11, respectively. As of June 27, 2020, 567 shares were available for issuance under the 2012 ESPP.

NOTE 11 INCOME TAXES

The Tax Cuts and Jobs Act (the Tax Act) was enacted into law on December 22, 2017 and made significant changes to U.S. federal corporate tax law. Effective January 1, 2018, the Tax Act lowered the U.S. corporate tax rate from 35% to 21% and prompted various other changes to U.S. federal corporate tax law, including the establishment of a territorial-style system for taxing foreign-source income of domestic multinational corporations and a one-time deemed repatriation tax on untaxed foreign earnings.

Generally, the impacts of new tax legislation would be required to be recorded in the period of enactment, which was our first quarter of fiscal year 2018. However, in March 2018, the FASB issued ASU No. 2018-05, *Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118*, which incorporates various SEC paragraphs from Staff Accounting Bulletin No. 118 into income tax accounting guidance effective immediately, allowing registrants to record provisional amounts during a one-year measurement period.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was signed into law to help alleviate the impact of the COVID-19 pandemic in the United States. Amongst other provisions, the CARES Act allows taxpayers to modify their IRC Section 163(j) business interest limitation in a favorable way that allows for the utilization of more interest deduction for tax years 2019 and 2020. We are analyzing the impacts of these and other provisions of the CARES Act to take full advantage of possible tax savings.

The effective tax rate for the nine months ended June 27, 2020 decreased primarily due to certain discrete tax benefits of $1,807 in the current year for finalization of the Tax Cuts and Jobs Act for the fiscal year ending September 28, 2019, offset by $405 of discrete tax expense for stock-based compensation expense and a discrete tax expense of $382 in the current year related to foreign taxes that are not creditable in the U.S. Excluding the impact of certain discrete items in both fiscal years, the effective tax rate for the nine months ended June 27, 2020 compared to the same prior year period remained relatively consistent.

As of December 29, 2018, we completed our accounting for the tax effects of the Tax Act at the conclusion of the one-year measurement period. As a result, the income tax provision for the nine months ended June 29, 2019 includes certain discrete tax benefits of $1,293 for Tax Act measurement period adjustments. The discrete tax benefits relate to $1,297 of additional dividends received deduction for certain foreign tax credits included in the mandatory deemed repatriation tax calculation, partially offset by $4 of expense for other Tax Act measurement period adjustments. The additional dividends received deduction is based on our assessment of the treatment under the applicable provisions of the Tax Act as written and enacted during the first quarter of fiscal year 2019. The Department of the Treasury provided regulatory updates during the three months ended June 29, 2019, causing us to change our assessment of the benefit associated with the dividends received deduction, and in the third quarter of fiscal year 2019 to reverse the entire benefit of $1,297 that was recorded in the first quarter of fiscal year 2019.

As of June 27, 2020, the liability for unrecognized tax benefits was $4,770, of which $3,117 would favorably affect our effective tax rate, if recognized. As of September 28, 2019, the liability for unrecognized tax benefits was $4,414, of which $2,761 would favorably affect our effective tax rate, if recognized. As of June 27, 2020, we do not expect significant changes in the amount of unrecognized tax benefits during the next twelve months.

NOTE 12 EARNINGS (LOSS) PER SHARE

Basic earnings (loss) per share is computed by dividing net income (loss) by the daily weighted average number of common shares outstanding during the applicable period. For the three and nine months ended June 29, 2019, the tangible equity units (TEUs) were assumed to be settled at the minimum settlement amount of 1.9841 shares per TEU when calculating weighted-average common shares outstanding for purposes of basic earnings (loss) per share.

Using the treasury stock method, diluted earnings (loss) per share includes the potentially dilutive effect of common shares issued in connection with outstanding stock-based compensation options and grants. The potentially dilutive effect of common shares issued in connection with outstanding stock options is determined based on the average market price for the period. For the three and nine months ended June 29, 2019 diluted earnings per share, the TEUs were assumed to be settled at a conversion factor based on our daily volume-weighted average price per share of our common stock for the 20 consecutive trading days preceding the end of the current fiscal quarter not to exceed 2.3810 shares of common stock per TEU.

Under the treasury stock method, shares associated with certain stock options have been excluded from the diluted weighted average shares outstanding calculation because the exercise of those options would lead to a net reduction in common shares outstanding or anti-dilution. As a result, stock options to acquire 1,187 and 835 weighted common shares have been excluded from the diluted weighted average common shares outstanding calculation for the three months ended June 27, 2020 and June 29, 2019, respectively. Stock options to acquire 1,154 and 812 weighted common shares have been excluded from the diluted weighted average common shares outstanding calculation for the nine months ended June 27, 2020 and June 29, 2019, respectively.

In connection with the pricing of the TEUs, we purchased capped calls. For the three and nine months ended June 29, 2019, the capped calls were not reflected in the calculation of diluted earnings per share as they had not yet settled and, therefore, led to a net reduction in common shares outstanding or anti-dilution. The capped calls were settled in the fourth quarter of fiscal year 2019 in conjunction with the settlement of the TEUs.

Basic and diluted earnings (loss) per share are calculated as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net income (loss)	$ 4,389	$ 13,585	$ 8,624	$ 38,246
Weighted average common shares outstanding	19,229	19,297	19,189	19,255
Effect of dilutive securities				
Stock-based compensation	86	223	160	181
Weighted average dilutive common shares outstanding	19,315	19,520	19,349	19,436
Earnings per share				
Basic	$ 0.23	$ 0.70	$ 0.45	$ 1.99
Diluted	0.23	0.70	0.45	1.97

NOTE 13 OTHER COMPREHENSIVE INCOME (LOSS)

Other comprehensive income (loss), a component of shareholders' equity, consists of foreign currency translation adjustments, gains or losses on derivative instruments and defined benefit pension plan adjustments.

Income tax expense or benefit allocated to each component of other comprehensive income (loss) is as follows:

	Three Months Ended			Nine Months Ended		
	June 27, 2020					
	Pre-tax	Tax	Net	Pretax	Tax	Net
Foreign currency translation gain (loss) adjustments	$ 3,974	$ —	$ 3,974	$ 4,922	$ —	$ 4,922
Derivative instruments						
Unrealized net gain (loss)	(930)	205	(725)	130	(33)	97
Net (gain) loss reclassified to earnings	(343)	73	(270)	(1,215)	269	(946)
Defined benefit pension plan						
Unrealized net gain (loss)	301	(90)	211	(2,047)	618	(1,429)
Net (gain) loss reclassified to earnings	302	(91)	211	905	(273)	632
Currency exchange rate gain (loss)	(197)	—	(197)	(324)	—	(324)
Other comprehensive income (loss)	$ 3,107	$ 97	$ 3,204	$ 2,371	$ 581	$ 2,952

	Three Months Ended June 29, 2019			Nine Months Ended June 29, 2019		
	Pre-tax	Tax	Net	Pretax	Tax	Net
Foreign currency translation gain (loss) adjustments	$ 506	$ —	$ 506	$ (2,165)	$ —	$ (2,165)
Derivative instruments						
Unrealized net gain (loss)	(1,371)	297	(1,074)	(3,684)	802	(2,882)
Net (gain) loss reclassified to earnings	(837)	182	(655)	(2,731)	595	(2,136)
Defined benefit pension plan						
Unrealized net gain (loss)	600	(181)	419	(239)	72	(167)
Net (gain) loss reclassified to earnings	134	(39)	95	408	(122)	286
Currency exchange rate gain (loss)	(82)	—	(82)	179	—	179
Other comprehensive income (loss)	$ (1,050)	$ 259	$ (791)	$ (8,232)	$ 1,347	$ (6,885)

The changes in the net-of-tax balances of each component of AOCI are as follows:

	Three Months Ended June 27, 2020				Nine Months Ended June 27, 2020			
	Adjustments				Adjustments			
	Foreign Currency Translation	Unrealized Derivative Instrument	Defined Benefit Pension Plan	Total	Foreign Currency Translation	Unrealized Derivative Instrument	Defined Benefit Pension Plan	Total
Beginning balance	$ (7,260)	$ 1,420	$ (12,885)	$ (18,725)	$ (8,208)	$ 1,274	$ (11,539)	$ (18,473)
Other comprehensive net gain (loss) reclassifications	3,974	(725)	14	3,263	4,922	97	(1,753)	3,266
Net (gain) loss reclassified to earnings	—	(270)	211	(59)	—	(946)	632	(314)
Other comprehensive income (loss)	3,974	(995)	225	3,204	4,922	(849)	(1,121)	2,952
Ending balance	$ (3,286)	$ 425	$ (12,660)	$ (15,521)	$ (3,286)	$ 425	$ (12,660)	$ (15,521)

	Three Months Ended June 29, 2019				Nine Months Ended June 29, 2019			
	Adjustments				Adjustments			
	Foreign Currency Translation	Unrealized Derivative Instrument	Defined Benefit Pension Plan	Total	Foreign Currency Translation	Unrealized Derivative Instrument	Defined Benefit Pension Plan	Total
Beginning balance	$ (899)	$ 3,031	$ (6,750)	$ (4,618)	$ 1,772	$ 6,320	$ (6,616)	$ 1,476
Other comprehensive net gain (loss) reclassifications	506	(1,074)	337	(231)	(2,165)	(2,882)	12	(5,035)
Net (gain) loss reclassified to earnings	—	(655)	95	(560)	—	(2,136)	286	(1,850)
Other comprehensive income (loss)	506	(1,729)	432	(791)	(2,165)	(5,018)	298	(6,885)
Ending balance	$ (393)	$ 1,302	$ (6,318)	$ (5,409)	$ (393)	$ 1,302	$ (6,318)	$ (5,409)

The effect on certain line items in the Consolidated Statements of Income of amounts reclassified out of AOCI are as follows:

	Three Months Ended		Nine Months Ended		Affected Line Item in the Consolidated Statements of Income
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019	
Derivative instruments					
Currency exchange contracts gain (loss)	$ 151	$ 142	$ 486	$ 743	Revenue
Interest rate swap contracts gain (loss)	192	695	729	1,988	Interest expense, net
Income tax benefit (expense)	(73)	(182)	(269)	(595)	Income tax provision (benefit)
Total net gain (loss) on derivative instruments	270	655	946	2,136	Net income (loss)
Defined benefit pension plan					
Actuarial loss	(302)	(134)	(905)	(408)	Other income (expense), net
Income tax benefit	91	39	273	122	Income tax provision (benefit)
Total net loss on pension plan	(211)	(95)	(632)	(286)	Net income (loss)
Total net of tax reclassifications out of AOCI included in net income	$ 59	$ 560	$ 314	$ 1,850	

NOTE 14 BUSINESS SEGMENT INFORMATION

Our Interim Chief Executive Officer (the Chief Operating Decision Maker) regularly reviews financial information for our two reportable segments, Test & Simulation and Sensors. Test & Simulation manufactures and sells equipment and related software and services which are used by customers to characterize a product's mechanical properties or performance or create a desired human experience. Sensors manufactures and sells high-performance sensors which provide measurements of vibration, pressure, position, force and sound in a variety of applications.

In evaluating each segment's performance, our Interim Chief Executive Officer focuses on income from operations. This measure excludes interest income and expense, income taxes and other non-operating items. Corporate expenses, including costs associated with various support functions such as human resources, information technology, legal, finance and accounting, and general and administrative costs are allocated to the reportable segments on the basis of revenue. The accounting policies of the reportable segments are the same as those described in Note 1 and Note 3 to the Consolidated Financial Statements found in our Annual Report on Form 10-K for the fiscal year ended September 28, 2019.

Intersegment revenue is based on standard costs with reasonable mark-ups established between the reportable segments. All significant intersegment amounts are eliminated to arrive at consolidated financial results.

Financial information by reportable segment is as follows:

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Revenue				
Test & Simulation	$ 116,404	$ 148,328	$ 362,631	$ 424,920
Sensors	80,222	84,231	251,955	244,556
Intersegment eliminations	(401)	(350)	(1,055)	(1,040)
Total revenue	$ 196,225	$ 232,209	$ 613,531	$ 668,436
Income (Loss) from operations				
Test & Simulation[1]	$ (292)	$ 11,424	$ 5,899	$ 31,439
Sensors	12,935	11,556	29,873	33,694
Intersegment eliminations	—	21	(1)	8
Total income from operations [1]	$ 12,643	$ 23,001	$ 35,771	$ 65,141

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[1] Test & Simulation Income (Loss) from operations for the three and nine months ended June 27, 2020 includes $2,745 and $8,883 of pre-tax severance and related expense, respectively. See Note 15 for additional information on restructuring and related costs.

NOTE 15 RESTRUCTURING AND RELATED COSTS

Fiscal Year 2020 Restructuring

In the second quarter of fiscal year 2020, we initiated a series of global workforce reductions and facility closures, including the reorganization of our European operations within Test & Simulation intended to increase organizational effectiveness, gain operational efficiencies and provide cost savings that can be reinvested in our growth initiatives. As a result, during the three and nine months ended June 27, 2020, we recorded $734 and $6,872, respectively, of pre-tax severance and related expense, respectively. We expect to incur a total of approximately $7,000 to $10,000 of pre-tax severance and related expense and facility closure costs related to these actions throughout fiscal year 2020 and 2021. The majority of the expenses are expected to be paid in the second half of fiscal year 2021.

In the third quarter of fiscal year 2020, we initiated an additional workforce reduction within Test & Simulation to reduce the overall cost structure in response to COVID-19. As a result, during the three and nine months ended June 27, 2020, we recorded $2,011 of pre-tax severance and related expense. As of June 27, 2020, substantially all expenses have been paid.

Restructuring expenses included in the Consolidated Statements of Income are as follows:

	Three Months Ended	Nine Months Ended
	June 27, 2020	
	Test & Simulation	
Cost of sales	$ 2,192	$ 6,060
Selling and marketing	686	686
General and administrative	(183)	2,087
Research and development	50	50
Total restructuring expense	$ 2,745	$ 8,883

Restructuring expense accruals included in accrued payroll and related costs in the Consolidated Balance Sheets for the above restructuring action are as follows:

	Test & Simulation
Balance, September 28, 2019	$ —
Restructuring expense	8,883
Payments	(2,332)
Other adjustments	187
Currency translation	—
Balance, June 27, 2020	$ 6,738

NOTE 16 BUSINESS ACQUISITIONS

Acquisition of R&D Entities

Effective December 31, 2019, we completed the acquisition of R&D Test Systems, R&D Engineering, R&D Steel, R&D Prague, RGDK Engineering Private Limited and R&D Tools and Structures (collectively, R&D) for an upfront cash purchase price of $58,280. The acquisition was primarily funded through our existing Revolving Credit Facility. The remaining purchase price is based on earn-out payments of up to an additional $26,000 contingent on financial performance through June 2021. As of the acquisition date, we estimated the fair value of the earn-out liability (contingent consideration) to be $16,903. As of June 27, 2020, the fair value of the contingent consideration was $19,180. See Note 7 for addition information on the fair value of the contingent consideration. Based out of Denmark, R&D is a leader in high-quality, durable, rotating test systems, serving primarily the wind energy markets. During the three and nine months ended June 27, 2020, we included $14,105 and $28,813, respectively, of revenue from R&D in our Consolidated Statements of Income. Costs of $2,493 associated with the acquisition of R&D were expensed as incurred. Pro forma information related to the acquisition of R&D has not been included as the impact on our consolidated results of operations was not considered material.

The following table summarizes the preliminary fair value measurement of the assets acquired as of the date of acquisition:

	Fair Value	Finite-Lived Intangible Asset Lives (Years)
Asset (Liability)		
Accounts receivable	$ 13,557	
Unbilled accounts receivable	6,325	
Inventories	41	
Prepaid expenses and other current assets	533	
Property and equipment	1,185	
Intangible assets		
Customer lists	24,364	15
Trademarks and trade names	8,546	15
Technology	5,083	10
Other intangible assets	4,258	1
Other long-term assets	3,122	
Purchased goodwill	35,794	
Accounts payable	(12,592)	
Accrued payroll and related costs	(2,193)	
Advanced payments from customers	(3,203)	
Accrued income taxes	(1,113)	
Other accrued liabilities	(5,074)	
Deferred income taxes	(10,138)	
Other long-term liabilities	(2,230)	
Net assets acquired	$ 66,265	

Supplemental information		
Consideration paid at closing	$ 58,280	
Estimated contingent consideration	16,903	
Less: Cash acquired	(8,918)	
Purchase price, net of cash acquired	$ 66,265	

The allocation of purchase price consideration is considered preliminary as of June 27, 2020 with provisional amounts related to accounts receivable, unbilled accounts receivable, intangible assets, accounts payable, advanced payments from customers, accrued income taxes, other accrued liabilities, deferred income taxes and purchase price adjustments included, which includes the contingent consideration, as our allocation process has not been finalized. We expect to finalize the allocation of purchase price as soon as possible, but no later than one year from the acquisition date. Measurement period adjustments were recorded in the third quarter of fiscal year 2020 and have been reflected in the table above. The measurement period adjustments were not material.

Goodwill was calculated as the difference between the acquisition date fair value of the total purchase price consideration and the fair value of the net assets acquired and represents the future economic benefits that we expect to achieve as a result of the acquisition. This resulted in a purchase price in excess of the fair value of identifiable assets acquired. The purchase price also included the fair value of other assets that were not identifiable, not separately recognizable under accounting rules (e.g., assembled workforce) or of immaterial value. All of the goodwill was assigned to Test & Simulation. None of the goodwill is deductible for income tax purposes.

The fair value of the acquired intangible assets was $42,251. The acquired intangible assets are being amortized on a straight-line basis over the useful lives identified in the table above.

Endevco Acquisition

On August 5, 2019, we acquired the Endevco sensors business (Endevco) from Meggitt PLC for a cash purchase price of $68,330. We funded the acquisition of Endevco through cash on hand. Endevco is a historic leader in high performance test and measurement sensors used primarily in the testing of new products. This strategic product line purchase brings together two iconic brands in the test and measurement sensors market, in PCB and Endevco, and further enhances our long-term strategy of growth and market leadership in our core businesses. The transaction was accounted for under the acquisition method of accounting. The acquired assets and operating results have been included in our financial statements within Sensors from the date of acquisition. During the three and nine months ended June 27, 2020, we included approximately $5,000 and $12,500, respectively, of revenue from Endevco in our Consolidated Statements of Income. Pro forma information related to the acquisition of Endevco has not been included as the impact on our consolidated results of operations was not considered material.

The following table summarizes the fair value measurement of the assets acquired as of the date of acquisition:

		Fair Value	Finite-Lived Intangible Asset Lives (Years)
Asset			
Inventories	$	11,649	
Property and equipment		1,078	
Intangible assets			
Customer lists		13,400	15
Trademarks and trade names		7,900	15
Technology		4,400	15
Purchased goodwill		23,324	
Deferred income taxes		6,579	
Net assets acquired	$	68,330	
Supplemental information			
Consideration paid at closing	$	70,000	
Post-closing purchase price adjustment		(1,670)	
Purchase price	$	68,330	

The fair value measurement was completed as of March 28, 2020. Measurement period adjustments were recorded in fiscal year 2020 and have been reflected in the table above. The measurement period adjustments were not material.

Goodwill was calculated as the difference between the acquisition date fair value of the total purchase price consideration and the fair value of the net assets acquired and represents the future economic benefits that we expect to achieve as a result of the acquisition. This resulted in a purchase price in excess of the fair value of identifiable assets acquired. The purchase price also included the fair value of other assets that were not identifiable, not separately recognizable under accounting rules (e.g., assembled workforce) or of immaterial value. All of the goodwill was assigned to Sensors. All of the goodwill is deductible for income tax purposes.

The fair value of the acquired intangible assets was $25,700. The acquired intangible assets are being amortized on a straight-line basis over the useful lives identified in the table above.

E2M Technologies B.V. Acquisition

On November 21, 2018, we acquired all ownership interests of E2M Technologies B.V. (E2M) for a cash purchase price of $80,287. Based in Amsterdam, Netherlands, E2M is a leading manufacturer of high force, electrically driven actuation systems, serving primarily the human-rated entertainment and training simulation markets. The acquisition of E2M expands our technology and product offerings for human-rated simulation systems and brings key regulatory approvals and customers in the flight simulation and entertainment markets. The transaction was accounted for under the acquisition method of accounting. The acquired assets, liabilities and operating results have been included in our financial statements within Test & Simulation from the date of acquisition. During fiscal year 2019, we included $29,554 of revenue from E2M in our Consolidated Statements of Income. We funded the acquisition of E2M primarily with borrowings on our Revolving Credit Facility. Costs of $1,287 associated with the acquisition of E2M were expensed as incurred. Pro forma information related to the acquisition of E2M has not been included as the impact on our consolidated results of operations was not considered material.

The following table summarizes the fair value measurement of the assets acquired and liabilities assumed, net of cash acquired, as of the date of acquisition:

		Fair Value	Finite-Lived Intangible Asset Lives (Years)
Asset (Liability)			
Accounts receivable	$	4,651	
Unbilled accounts receivable		1,518	
Inventories		11,063	
Prepaid expenses and other current assets		123	
Property and equipment		672	
Intangible assets			
Customer lists		21,652	15
Trademarks and trade names		5,926	15
Technology		12,650	15
Other intangible assets		3,761	4
Other long-term assets		60	
Purchased goodwill		36,665	
Accounts payable		(3,657)	
Accrued payroll and related costs		(1,328)	
Advance payments from customers		(4,315)	
Accrued income taxes		(290)	
Other accrued liabilities		(127)	
Deferred income taxes		(10,477)	
Net assets acquired	$	78,547	
Supplemental information			
Consideration paid at closing	$	79,772	
Post-closing purchase price adjustment		515	
Less: Cash acquired		(1,740)	
Purchase price, net of cash acquired	$	78,547	

The fair value measurement was completed as of September 28, 2019. Measurement period adjustments were recorded in fiscal year 2019 and have been reflected in the table above. The measurement period adjustments were not material.

Goodwill was calculated as the difference between the acquisition date fair value of the total purchase price consideration and the fair value of the net assets acquired and represents the future economic benefits that we expect to achieve as a result of the acquisition. This resulted in a purchase price in excess of the fair value of identifiable net assets acquired. The purchase price also included the fair value of other assets that were not identifiable, not separately recognizable under accounting rules (e.g., assembled workforce) or of immaterial value. All of the goodwill was assigned to Test & Simulation. None of the goodwill is deductible for income tax purposes.

The fair value of the acquired intangible assets was $43,989. The acquired intangible assets are being amortized on a straight-line basis over the useful lives identified in the table above.

NOTE 17 RISKS AND UNCERTAINTIES

Coronavirus 2019 (COVID-19) Pandemic

The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption. As an essential critical infrastructure business, we have continued to operate in the U.S. and other parts of the world as permitted. Our production capacity continues to recover as jurisdictions ease work restrictions throughout the world; however, restrictions on our employees' ability to access our customers, temporary closures of customer facilities and delays in customer spending continued to negatively impact our sales and operating results for the third quarter of fiscal year 2020. We anticipate these challenges to continue to negatively impact our fiscal year 2020 and 2021 revenue and operating results. The future impact COVID-19 will have on our business, operations and financial results remains unknown at this time, and we remain unable to accurately quantify the impact due to the significant global economic uncertainty.

The extent to which COVID-19 impacts our business, operations and financial results will depend on numerous evolving factors that we may or may not be able to accurately predict, including: the duration and scope of the pandemic; governmental, business and individual actions that have been and continue to be taken in response to the pandemic; the impact of the pandemic on economic activity and actions taken in response; the effect on our customers' demand for our goods and services; our vendors' ability to supply us with raw materials; our ability to sell and provide our goods and services amidst travel restrictions; the ability of our customers to pay for our goods and services; and any further closures of our facilities or the facilities of our customers. Customers have and may continue to slow down decision-making, delay planned work or seek to terminate existing agreements. Any of these events could materially adversely affect our business, financial condition, results of operations and/or stock price.

In response to COVID-19 and the economic uncertainty, we continue to right-size our operations and manage short-term business risk to allow for bottom-line improvement through the execution of cost savings initiatives. We have taken actions to manage and reduce operating costs and further enhance our financial flexibility, including the temporary reduction by senior executives of their salaries by 10% to at least 15%; the temporary reduction by non-employee directors of their cash compensation by 20%; a reduction in workforce in connection with global restructuring efforts in Test & Simulation being executed in specifically targeted areas, including the reorganization of our European operations; other reductions in salaries or work schedules and temporary furloughs for employees, targeted toward specific, short-term impacted areas within each business; and the reduction in all discretionary spending, capital expenditures and a strong focus on working capital management. To the extent we are eligible based on actions taken, we have participated in government aid programs in the United States and Europe, including the employer payroll tax (FICA) deferrals extensions offered under the CARES Act. We also continued the suspension of our quarterly dividend of $0.30 per share, equating to approximately $23 million in annualized cash payments, which will enable us to maximize our liquidity for the foreseeable future as we face uncertain economic times. Lastly, in the fourth quarter of fiscal year 2020, we entered into a fifth amendment to the Credit Agreement to maximize flexibility and available liquidity under our current capital structure in the event we would need to access additional funds.

Although we believe our financial position is strong, given the level of economic uncertainty, these cost reduction actions provide an increased level of flexibility during these challenging times. The temporary, incremental cost reduction measures taken will remain in place until we begin to see marked improvement in the markets we serve. While we expect that these actions will be sufficient to provide the needed flexibility, we continue to evaluate the ongoing impact of COVID-19 and may need to take further cost reduction or other actions in the future.

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

Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is designed to provide a reader of our financial statements with a narrative from the perspective of management on our financial condition, results of operations, liquidity and certain other factors that may affect our future results. Our MD&A is presented in nine sections:

- Overview
- Financial Results
- Cash Flow Comparison
- Liquidity and Capital Resources
- Off-balance Sheet Arrangements
- Critical Accounting Policies
- Recently Issued Accounting Pronouncements
- Other Matters
- Forward-looking Statements

Our MD&A should be read in conjunction with the Consolidated Financial Statements and related Notes included in Item 1 of Part I of this Quarterly Report on Form 10-Q. All dollar and share amounts are in thousands, unless otherwise noted.

Overview

Our testing and simulation hardware, software and service solutions simulate real world environments in other than real world settings thereby enabling customers to improve design, development and manufacturing processes, determine the mechanical behavior of materials, products and structures, or create a desired human experience such as amusement rides, vehicle simulators or flight training simulators. Our high-performance sensors provide measurements of vibration, pressure, position, force and sound in a variety of applications.

Further globalization and expansion of many industries along with growth in emerging markets, such as China and India, provide a strong and vibrant market base from which we can grow revenue. We have aligned our organizational structure to be more flexible to the demands of globalized and volatile markets by adjusting our structure to be more cost effective and nimble in responding to our customers' needs. We continue to deliver distinctive business performance through our commitment to sustain the differentiated competitive advantage that comes from offering an innovative portfolio of Test & Simulation and Sensor solutions that create value for customers, delivered with total customer satisfaction.

Coronavirus 2019 (COVID-19) Pandemic

The global spread of COVID-19 has created significant volatility, uncertainty and economic disruption. As an essential critical infrastructure business, we have continued to operate in the U.S. and other parts of the world as permitted. Our production capacity continues to recover as jurisdictions ease work restrictions throughout the world; however, restrictions on our employees' ability to access our customers, temporary closures of customer facilities and delays in customer spending continued to negatively impact our sales and operating results for the third quarter of fiscal year 2020. We anticipate these challenges to continue to negatively impact our fiscal year 2020 and 2021 revenue and operating results. The future impact COVID-19 will have on our business, operations and financial results is unknown at this time, and we are unable to accurately quantify the impact due to the significant global economic uncertainty. In response, we continue to right-size our operations and manage short-term business risk to allow for bottom-line improvement through the execution of cost savings initiatives previously discussed. Additionally, we continue to evaluate our global business operations and may take future actions as deemed necessary to improve our profitability and optimize our overall cost structure. See Note 17 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for further discussion of COVID-19.

Acquisition

Effective December 31, 2019, we acquired R&D for an upfront cash purchase price of $58,280 primarily funded through our existing Revolving Credit Facility. The remaining purchase price is based on earn-out payments of up to an additional $26,000 contingent on financial performance through June 2021. See Note 16 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for further discussion of the acquisition of R&D.

Restructuring Initiatives

In the second and third quarters of fiscal year 2020, we initiated a series of global workforce reductions and facility closures, including the reorganization of our European operations within Test & Simulation, intended to increase organizational effectiveness, gain operational efficiencies, provide cost savings that can be reinvested in our growth initiatives and reduce our overall cost structure in light of COVID-19. As a result, during three and nine months ended June 27, 2020, we recorded $2,745 and $8,883 of pre-tax severance and related expense, respectively.

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See Note 15 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for further discussion of restructuring initiatives.

Foreign Currency
Over the past 15 years, approximately 70% of our revenue has been derived from customers outside of the U.S. Our financial results are principally exposed to changes in exchange rates between the U.S. dollar and the Euro, the Japanese yen and the Chinese yuan. A change in foreign exchange rates could positively or negatively affect our reported financial results. The discussion below quantifies the impact of foreign currency translation on our financial results for the periods discussed.

Terms
The terms "MTS," "we," "us," "the Company" or "our" in this Quarterly Report on Form 10-Q, unless the context otherwise requires, refer to MTS Systems Corporation and its wholly owned subsidiaries.

Financial Results

Total Company

Results of Operations
The following tables compare results of operations, separately identifying the estimated impact of currency translation, the acquisition of R&D in the second quarter of fiscal year 2020, restructuring costs incurred in fiscal year 2020 and acquisition-related costs associated with Endevco incurred in fiscal year 2020.

	Three Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition / Restructuring[1]	Currency Translation	June 29, 2019
Revenue	$ 196,225	$ (48,663)	$ 14,105	$ (1,426)	$ 232,209
Cost of sales	130,730	(26,810)	11,513	(1,079)	147,106
Gross profit	65,495	(21,853)	2,592	(347)	85,103
Gross margin	*33.4%*				*36.6%*
Operating expenses					
Selling and marketing	26,857	(7,601)	1,064	73	33,321
General and administrative	19,692	(5,881)	5,029	(77)	20,621
Research and development	6,303	(1,695)	(148)	(14)	8,160
Total operating expenses	52,852	(15,177)	5,945	(18)	62,102
Income from operations	$ 12,643	$ (6,676)	$ (3,353)	$ (329)	$ 23,001

	Nine Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition / Restructuring[1]	Currency Translation	June 29, 2019
Revenue	$ 613,531	$ (78,289)	$ 28,813	$ (5,429)	$ 668,436
Cost of sales	400,186	(40,434)	26,971	(4,029)	417,678
Gross profit	213,345	(37,855)	1,842	(1,400)	250,758
Gross margin	*34.8%*				*37.5%*
Operating expenses					
Selling and marketing	89,707	(10,056)	1,493	(535)	98,805
General and administrative	67,382	(9,644)	13,545	(323)	63,804
Research and development	20,485	(2,289)	(148)	(86)	23,008
Total operating expenses	177,574	(21,989)	14,890	(944)	185,617
Income from operations	$ 35,771	$ (15,866)	$ (13,048)	$ (456)	$ 65,141

[1] The Acquisition / Restructuring column includes operating results and costs incurred as part of the acquisition of R&D, costs incurred as part of the acquisition of Endevco and $2,745 and $8,883, for the three and nine months ended June 27, 2020, respectively, of restructuring costs. Endevco operating results are not separately identifiable as Endevco has been integrated into the existing Sensors business. See Note 15 and Note 16 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on restructuring and related costs and the R&D acquisition, respectively.

Revenue

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Revenue	$ 196,225	$ 232,209	$ (35,984)	(15.5)%	$ 613,531	$ 668,436	$ (54,905)	(8.2)%

Revenue for the three months ended June 27, 2020 declined 15.5% primarily driven by a decline in both Test & Simulation and Sensors, and the unfavorable impact of currency translation. Revenue for the nine months ended June 27, 2020 declined 8.2% primarily driven by a decline in Test & Simulation and the unfavorable impact of currency translation, partially offset by growth in Sensors. Both businesses were negatively impacted by COVID-19 resulting from our employees' inability to access our customers, reduced production capacity, temporary closures of customer facilities and delayed spending by our customers.

Test & Simulation revenue for the three and nine months ended June 27, 2020 decreased $31,924 and $62,289, respectively, primarily driven by lower volume from weakness in our ground vehicles sector, materials sector and service in all regions, and the unfavorable impact of currency translation. This decline was partially offset by contributions from the acquisition of R&D of $14,105 and $28,813, respectively.

Sensors revenue for the three and nine months ended June 27, 2020 decreased $4,009 and increased $7,399, respectively. The three-month decrease was primarily due to weakness in all sectors except our test sector, which included contributions from the Endevco acquisition and volume growth from a multi-year contract with the U.S. Department of Defense and the unfavorable impact of currency translation. The nine-month increase was primarily due to growth in our test sector from contracts with the U.S. Department of Defense and contributions from the Endevco acquisition, partially offset by weakness in the other three sectors, specifically in Europe, and the unfavorable impact of currency translation.

Excluding the impact of currency translation and the R&D acquisition, total Company revenue decreased 21.0% and 11.7%, respectively.

Gross Profit

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Gross profit	$ 65,495	$ 85,103	$ (19,608)	(23.0)%	$ 213,345	$ 250,758	$ (37,413)	(14.9)%
Gross margin	*33.4%*	*36.6%*	*(3.2)*	ppts	*34.8%*	*37.5%*	*(2.7)*	ppts

Gross profit for the three months ended June 27, 2020 declined 23.0% primarily driven by lower revenue volume in both Test & Simulation and Sensors and restructuring costs of $2,192, partially offset by the gross profit contribution from the R&D acquisition. Both businesses were negatively impacted by COVID-19. Gross margin decreased 3.2 percentage points primarily due to unfavorable operating leverage on lower revenue volumes in both Test & Simulation and Sensors, restructuring costs, higher Test & Simulation warranty expense and the unfavorable impact from Endevco integration efforts, partially offset by lower compensation expense and cost savings initiatives in both businesses. Excluding the impact of currency translation, R&D expenses, restructuring costs and the inventory acquisition adjustment in the prior year, gross profit declined 25.8% and gross margin declined 2.2 percentage points.

Gross profit for the nine months ended June 27, 2020 declined 14.9% primarily driven by lower revenue volume in Test & Simulation, higher restructuring costs of $5,943 and the unfavorable impact from Endevco integration efforts, partially offset by the contributions from the R&D acquisition and lower compensation expense in both businesses. Both businesses were negatively impacted by COVID-19. Gross margin decreased 2.7 percentage points primarily due to leverage on lower revenue volume in Test & Simulation, higher restructuring costs and the unfavorable impact from Endevco integration efforts, partially offset by lower compensation expense in Test & Simulation and cost savings initiatives in both businesses. Excluding the impact of currency translation, R&D expenses, restructuring costs and the inventory acquisition adjustment in both fiscal years, gross profit declined 15.5% and gross margin declined 1.6 percentage points.

Selling and Marketing Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Selling and marketing	$ 26,857	$ 33,321	$ (6,464)	(19.4)%	$ 89,707	$ 98,805	$ (9,098)	(9.2)%
% of revenue	*13.7%*	*14.3%*			*14.6%*	*14.8%*		

Selling and marketing expense for the three months ended June 27, 2020 declined 19.4% primarily due to lower compensation, marketing and travel expense driven by cost savings initiatives in response to COVID-19 and lower commission expense on fewer orders, partially offset by restructuring costs of $686 and the addition of R&D expenses. Excluding the impact of currency translation, R&D expenses, restructuring costs and acquisition-related expenses in both fiscal years, selling and marketing expense decreased 22.8%.

Selling and marketing expense for the nine months ended June 27, 2020 declined 9.2% primarily due to lower compensation, marketing and travel expense driven by cost savings initiatives in response to COVID-19, lower commission expense on fewer orders and the favorable impact of currency translation, partially offset by higher compensation expense in Sensors, the addition of R&D expenses and restructuring costs of $686. Excluding the impact of currency translation, R&D expenses, restructuring costs and acquisition-related expenses in both fiscal years, selling and marketing expense decreased 10.2%.

General and Administrative Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
General and administrative	$ 19,692	$ 20,621	$ (929)	(4.5)%	$ 67,382	$ 63,804	$ 3,578	5.6%
% of revenue	*10.0%*	*8.9%*			*11.0%*	*9.5%*		

General and administrative expense for the three months ended June 27, 2020 declined 4.5% primarily due to lower compensation expense, including the stock-based compensation forfeitures associated with our former CEO, and cost savings initiatives in response to COVID-19, partially offset by the addition of R&D expenses, the R&D contingent consideration fair value adjustment of $1,301 and higher R&D and Endevco acquisition-related expenses of $763. Excluding the impact of currency translation, R&D expenses, the R&D contingent consideration fair value adjustment, restructuring costs and acquisition-related expenses incurred in both fiscal years, general and administrative expense decreased 28.5%.

General and administrative expense for the nine months ended June 27, 2020 increased 5.6% primarily due to the addition of R&D expenses, higher acquisition-related expenses of $2,976, higher restructuring costs of $2,074 and the R&D contingent consideration fair value adjustment of $1,301, partially offset by lower compensation expense and cost savings initiatives in response to COVID-19. Excluding the impact of currency translation, R&D expenses, the R&D contingent consideration fair value adjustment, restructuring costs and acquisition-related expenses incurred in both fiscal years, general and administrative expense decreased 13.8%.

Research and Development Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Research and development	$ 6,303	$ 8,160	$ (1,857)	(22.8)%	$ 20,485	$ 23,008	$ (2,523)	(11.0)%
% of revenue	*3.2%*	*3.5%*			*3.3%*	*3.4%*		

Research and development expense for the three months ended June 27, 2020 declined 22.8% primarily due to cost savings initiatives and lower compensation expense, partially offset by the acquisition of R&D. Excluding the impact of currency translation, restructuring costs and acquisition-related expenses in the prior year, research and development expense decreased 20.2%.

Research and development expense for the nine months ended June 27, 2020 declined 11.0% primarily due to the shift of internal resources to larger, capitalizable Test & Simulation projects, cost savings initiatives and lower compensation expense, partially offset by investment in new product development during the first half of fiscal year 2020 and the acquisition of Endevco. Excluding the impact of currency translation, restructuring costs and acquisition-related expense in the prior fiscal year, research and development expense decreased 9.5%.

Income from Operations

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Income from operations	$ 12,643	$ 23,001	$ (10,358)	(45.0)%	$ 35,771	$ 65,141	$ (29,370)	(45.1)%
% of revenue	*6.4%*	*9.9%*			*5.8%*	*9.7%*		

Income from operations for the three and nine months ended June 27, 2020 declined 45.0% and 45.1%, respectively, primarily due to lower gross profit in both Test & Simulation and Sensors, higher acquisition-related expenses and restructuring costs, partially offset by lower operating compensation expense and cost savings initiatives in both businesses. Excluding the impact of currency translation, the R&D acquisition, restructuring costs, and the inventory acquisition adjustments and acquisition-related expenses in both fiscal years, income from operations decreased 29.8% and 27.0%, respectively.

Interest Expense, Net

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Interest expense, net	$ 8,846	$ 6,687	$ 2,159	32.3%	$ 25,975	$ 20,873	$ 5,102	24.4%

Interest expense, net for the three and nine months ended June 27, 2020 increased primarily due to higher interest expense on an increased debt position related to the issuance of the Notes in the fourth quarter of fiscal year 2019 and accretion on the contingent purchase price of R&D.

Other Income (Expense), Net

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Other income (expense), net	$ (446)	$ (124)	$ (322)	(259.7)%	$ (1,059)	$ 195	$ (1,254)	(643.1)%

The decrease in other income (expense), net for the three months ended June 27, 2020 was primarily driven by the loss on sale of an asset partially offset by a gain on foreign currency transactions.

The decrease in other income (expense), net for the nine months ended June 27, 2020 was primarily driven by an increase in losses on foreign currency transactions and the loss on sale of an asset.

Income Tax Provision (Benefit)

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Income tax provision (benefit)	$ (1,038)	$ 2,605	$ (3,643)	(139.8)%	$ 113	$ 6,217	$ (6,104)	(98.2)%
Effective tax rate	*(31.0)%*	*16.1%*			*1.3%*	*14.0%*		

The effective tax rate for the three months ended June 27, 2020 decreased primarily due to certain discrete tax benefits in the current quarter of $1,897 for the finalization of the Tax Cuts and Jobs Act as part of the fiscal year 2019 tax return, partially offset by $348 of discrete tax expense for stock-based compensation expense. Excluding the impact of these discrete items, the effective tax rate for the three months ended June 27, 2020 would have been 15.2% primarily driven by a decrease in earnings.

The effective tax rate for the nine months ended June 27, 2020 decreased primarily due to certain discrete tax benefits in the current year of $1,807 for the finalization of the Tax Cuts and Jobs Act as part of the fiscal year 2019 tax return, partially offset by $405 of discrete tax expense for stock-based compensation expense and $382 of discrete tax expense for foreign dividend withholdings that are not creditable in the U.S. Excluding the impact of these discrete items, the effective tax rate for the nine months ended June 27, 2020 would have been 13.0% primarily driven by a decrease in earnings.

Net Income

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Net income	$ 4,389	$ 13,585	$ (9,196)	(67.7)%	$ 8,624	$ 38,246	$ (29,622)	(77.5)%
Diluted earnings per share	$ 0.23	$ 0.70	$ (0.47)	(67.1)%	$ 0.45	$ 1.97	$ (1.52)	(77.2)%

Net income and diluted earnings per share for the three months ended June 27, 2020 decreased primarily due to lower income from operations in Test & Simulation, partially offset by higher income from operations in Sensors and lower income tax expense from decreased earnings and higher interest expense.

Net income and diluted earnings per share for the nine months ended June 27, 2020 decreased primarily due to lower income from operations in both Test & Simulation and Sensors, partially offset by lower income tax expense from decreased earnings and increased interest expense.

Segment Results

Test & Simulation Segment

Results of Operations

The following tables compare results of operations for Test & Simulation, separately identifying the estimated impact of currency translation and the acquisition of R&D and restructuring costs incurred in fiscal year 2020. See Note 14 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on our reportable segments.

	Three Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition / Restructuring[1]	Currency Translation	June 29, 2019
Revenue	$ 116,404	$ (45,000)	$ 14,105	$ (1,029)	$ 148,328
Cost of sales	87,629	(27,104)	11,513	(833)	104,053
Gross profit	28,775	(17,896)	2,592	(196)	44,275
Gross margin	*24.7%*				*29.8%*
Operating expenses					
Selling and marketing	14,536	(5,093)	1,064	115	18,450
General and administrative	12,157	(3,080)	4,484	(76)	10,829
Research and development	2,374	(1,045)	(148)	(5)	3,572
Total operating expenses	29,067	(9,218)	5,400	34	32,851
Income from operations	$ (292)	$ (8,678)	$ (2,808)	$ (230)	$ 11,424

	Nine Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition / Restructuring[1]	Currency Translation	June 29, 2019
Revenue	$ 362,631	$ (87,854)	$ 28,813	$ (3,248)	$ 424,920
Cost of sales	263,777	(53,111)	25,831	(2,753)	293,810
Gross profit	98,854	(34,743)	2,982	(495)	131,110
Gross margin	*27.3%*				*30.9%*
Operating expenses					
Selling and marketing	47,180	(8,458)	1,493	(168)	54,313
General and administrative	38,914	(7,712)	11,171	(261)	35,716
Research and development	6,861	(2,606)	(148)	(27)	9,642
Total operating expenses	92,955	(18,776)	12,516	(456)	99,671
Income from operations	$ 5,899	$ (15,967)	$ (9,534)	$ (39)	$ 31,439

[1] The Acquisition / Restructuring column includes operating results, costs incurred as part of the acquisition of R&D and $2,745 and $8,883, for the three and nine months ended June 27, 2020, respectively, of restructuring costs. See Note 15 and Note 16 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on restructuring and related costs and the R&D acquisition, respectively.

Revenue

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Revenue	$ 116,404	$ 148,328	$ (31,924)	(21.5)%	$ 362,631	$ 424,920	$ (62,289)	(14.7)%

Revenue for the three and nine months ended June 27, 2020 decreased 21.5% and 14.7%, respectively, primarily driven by lower volume from weakness in our ground vehicles sector, materials sector and service in all regions as Test & Simulation was negatively impacted by COVID-19, and the unfavorable impact of currency translation. The decline was partially offset by contributions from the acquisition of R&D of $14,105 and $28,813, respectively. Excluding the impact of currency translation and the R&D acquisition, revenue decreased 30.3% and 20.7%, respectively.

Gross Profit

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Gross profit	$ 28,775	$ 44,275	$ (15,500)	(35.0)%	$ 98,854	$ 131,110	$ (32,256)	(24.6)%
Gross margin	*24.7%*	*29.8%*	*(5.1)*	ppts	*27.3%*	*30.9%*	*(3.6)*	ppts

Gross profit for the three and nine months ended June 27, 2020 declined 35.0% and 24.6%, respectively, primarily due to lower revenue volume and higher restructuring costs of $2,192 and $5,943, respectively, partially offset by contributions from the R&D acquisition, lower compensation expense and cost savings initiatives. Overall, Test & Simulation was negatively impacted by COVID-19. Gross margin declined 5.1 and 3.6 percentage points, respectively, primarily driven by leverage on lower revenue volume, higher restructuring costs and higher warranty expense, partially offset by lower compensation expense and higher gross margin contribution from product mix. Excluding the impact of currency translation, R&D expenses, restructuring costs in both fiscal years and the inventory acquisition adjustment in the prior year, gross profit declined 40.7% and 27.2%, respectively, and gross margin declined 4.5 and 2.6 percentage points, respectively.

Selling and Marketing Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Selling and marketing	$ 14,536	$ 18,450	$ (3,914)	(21.2)%	$ 47,180	$ 54,313	$ (7,133)	(13.1)%
% of revenue	*12.5%*	*12.4%*			*13.0%*	*12.8%*		

Selling and marketing expense for the three and nine months ended June 27, 2020 declined 21.2% and 13.1%, respectively, primarily due to lower compensation, marketing and travel expenses mainly driven by cost savings initiatives in response to COVID-19 and lower commission expense on fewer orders, partially offset by the addition of R&D expenses and restructuring costs of $686. Excluding the impact of currency translation, R&D expenses, restructuring costs and acquisition-related expenses in both fiscal years, selling and marketing expense decreased 27.6% and 15.6%, respectively.

General and Administrative Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
General and administrative	$ 12,157	$ 10,829	$ 1,328	12.3%	$ 38,914	$ 35,716	$ 3,198	9.0%
% of revenue	*10.4%*	*7.3%*			*10.7%*	*8.4%*		

General and administrative expense for the three months ended June 27, 2020 increased 12.3% primarily driven by the addition of R&D expenses, the R&D contingent consideration fair value adjustment of $1,301 and higher acquisition-related expenses of $218, partially offset by lower compensation expense and cost savings initiatives in response to COVID-19. Excluding the impact of currency translation, R&D expenses, the R&D contingent consideration fair value adjustment, restructuring costs and acquisition-related expenses in both fiscal years, general and administrative expense decreased 28.3%.

General and administrative expense for the nine months ended June 27, 2020 increased 9.0% primarily driven by the addition of R&D expenses, higher restructuring costs of $2,074, the R&D contingent consideration fair value adjustment of $1,301 and higher acquisition-related expenses of $602, partially offset by lower compensation expense and cost savings initiatives in response to COVID-19. Excluding the impact of currency translation, R&D expenses, the R&D contingent consideration fair value adjustment, and restructuring costs and acquisition-related expenses incurred in both fiscal years, general and administrative expense decreased 19.4%.

Research and Development Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Research and development	$ 2,374	$ 3,572	$ (1,198)	(33.5)%	$ 6,861	$ 9,642	$ (2,781)	(28.8)%
% of revenue	*2.0%*	*2.4%*			*1.9%*	*2.3%*		

Research and development expense for the three months ended June 27, 2020 declined 33.5% primarily due to cost savings initiatives and lower compensation expense in response to COVID-19. Excluding the impact of currency translation and restructuring costs, and acquisition-related expense in the prior fiscal year, research and development expense decreased 28.2%.

Research and development expense for the nine months ended June 27, 2020 declined 28.8% primarily due to the shift of internal resources to larger, capitalizable Test & Simulation projects, cost savings initiatives in response to COVID-19 and lower compensation expense, partially offset by investment in new product development. Excluding the impact of currency translation, restructuring costs and acquisition-related expense in the prior year, research and development expense decreased 26.1%.

Income from Operations

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Income from operations	$ (292)	$ 11,424	$ (11,716)	(102.6)%	$ 5,899	$ 31,439	$ (25,540)	(81.2)%
% of revenue	*(0.3)%*	*7.7%*			*1.6%*	*7.4%*		

Income from operations for the three and nine months ended June 27, 2020 declined 102.6% and 81.2%, respectively, primarily due to decreased gross profit on lower revenue volume, higher restructuring costs of $2,745 and $8,753, respectively, the R&D contingent consideration fair value adjustment of $1,301 and higher acquisition-related expenses of $160 and $465, respectively, partially offset by lower operating compensation expense and cost savings initiatives in response to COVID-19, the contributions from the R&D acquisition and the E2M inventory acquisition adjustment in the prior year. Excluding the impact of currency translation, the R&D acquisition, restructuring costs in both fiscal years, the inventory acquisition adjustment in the prior year and acquisition-related expenses in both fiscal years, income from operations decreased 76.5% and 54.3%, respectively.

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Sensors Segment

Results of Operations

The following tables compare results of operations for Sensors, separately identifying the estimated impact of currency translation and the Endevco acquisition-related expenses incurred in fiscal year 2020. See Note 14 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on our reportable segments.

	Three Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition[1]	Currency Translation	June 29, 2019
Revenue	$ 80,222	$ (3,612)	$ —	$ (397)	$ 84,231
Cost of sales	43,502	324	—	(246)	43,424
Gross profit	36,720	(3,936)	—	(151)	40,807
Gross margin	*45.8%*				*48.4%*
Operating expenses					
Selling and marketing	12,321	(2,508)	—	(42)	14,871
General and administrative	7,535	(2,801)	545	(1)	9,792
Research and development	3,929	(650)	—	(9)	4,588
Total operating expenses	23,785	(5,959)	545	(52)	29,251
Income (loss) from operations	$ 12,935	$ 2,023	$ (545)	$ (99)	$ 11,556

	Nine Months Ended				
		Estimated			
	June 27, 2020	Business Change	Acquisition[1]	Currency Translation	June 29, 2019
Revenue	$ 251,955	$ 9,580	$ —	$ (2,181)	$ 244,556
Cost of sales	137,463	12,683	1,140	(1,276)	124,916
Gross profit	114,492	(3,103)	(1,140)	(905)	119,640
Gross margin	*45.4%*				*48.9%*
Operating expenses					
Selling and marketing	42,527	(1,598)	—	(367)	44,492
General and administrative	28,468	(1,932)	2,374	(62)	28,088
Research and development	13,624	317	—	(59)	13,366
Total operating expenses	84,619	(3,213)	2,374	(488)	85,946
Income (loss) from operations	$ 29,873	$ 110	$ (3,514)	$ (417)	$ 33,694

[1] The Acquisition column includes costs incurred as part of the acquisition of Endevco. The Endevco operating results are not separately identifiable as Endevco has been integrated into the existing Sensors business. See Note 16 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on the Endevco acquisition.

Revenue

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Revenue	$ 80,222	$ 84,231	$ (4,009)	(4.8)%	$ 251,955	$ 244,556	$ 7,399	3.0%

Revenue for the three months ended June 27, 2020 decreased 4.8% primarily due to weakness in all sectors except our test sector, which included contributions from the Endevco acquisition and volume growth from contracts with the U.S. Department of Defense, and the unfavorable impact of currency translation. Excluding the impact of currency translation, revenue decreased 4.3%.

Revenue for the nine months ended June 27, 2020 increased 3.0% primarily driven by growth in our test sector from contracts with the U.S. Department of Defense and contributions from the Endevco acquisition, partially offset by weakness in the other three sectors, specifically in Europe, and the unfavorable impact of currency translation. Excluding the impact of currency translation, revenue increased 3.9%.

Gross Profit

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Gross profit	$ 36,720	$ 40,807	$ (4,087)	(10.0)%	$ 114,492	$ 119,640	$ (5,148)	(4.3)%
Gross margin	*45.8%*	*48.4%*	*(2.6)* ppts		*45.4%*	*48.9%*	*(3.5)* ppts	

Gross profit for the three months ended June 27, 2020 declined 10.0% primarily due to lower revenue volume in all sectors except our test sector as Sensors was negatively impacted by COVID-19. Gross margin declined 2.6 percentage points primarily driven by the unfavorable impact from Endevco integration efforts and the unfavorable operating leverage on lower revenue volumes. Excluding the impact of currency translation, gross profit declined 9.6% and gross margin declined 2.7 percentage points.

Gross profit for the nine months ended June 27, 2020 declined 4.3% primarily due to the Endevco inventory acquisition adjustment of $1,140 and the unfavorable impact of currency translation, partially offset by increased revenue volume. Overall, Sensors was negatively impacted by COVID-19. Gross margin declined 3.5 percentage points primarily driven by the unfavorable impact from Endevco integration efforts, lower gross margin contribution from product mix and the Endevco inventory acquisition adjustment. Excluding the impact of currency translation and the Endevco inventory acquisition adjustment, gross profit declined 2.6% and gross margin declined 3.0 percentage points.

Selling and Marketing Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Selling and marketing	$ 12,321	$ 14,871	$ (2,550)	(17.1)%	$ 42,527	$ 44,492	$ (1,965)	(4.4)%
% of revenue	*15.4%*	*17.7%*			*16.9%*	*18.2%*		

Selling and marketing expense for the three and nine months ended June 27, 2020 decreased 17.1% and 4.4%, respectively, primarily driven by lower compensation, marketing and travel expense driven by cost savings initiatives in response to COVID-19 and lower commission expense on fewer orders. Excluding the impact of currency translation, selling and marketing expense decreased 16.9% and 3.6%, respectively.

General and Administrative Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
General and administrative	$ 7,535	$ 9,792	$ (2,257)	(23.0)%	$ 28,468	$ 28,088	$ 380	1.4%
% of revenue	*9.4%*	*11.6%*			*11.3%*	*11.5%*		

General and administrative expense for the three months ended June 27, 2020 decreased 23.0% primarily driven by lower compensation expense, cost savings initiatives and lower professional fees in response to COVID-19, partially offset by acquisition-related expenses of $545. Excluding the impact of currency translation and acquisition-related expenses, general and administrative expense decreased 28.6%.

General and administrative expense for the nine months ended June 27, 2020 increased 1.4% primarily driven by acquisition-related expenses of $2,374, partially offset by lower compensation expense, cost savings initiatives and lower professional fees in response to COVID-19. Excluding the impact of currency translation and acquisition-related expenses, general and administrative expense decreased 6.9%.

Research and Development Expense

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Research and development	$ 3,929	$ 4,588	$ (659)	(14.4)%	$ 13,624	$ 13,366	$ 258	1.9%
% of revenue	*4.9%*	*5.4%*			*5.4%*	*5.5%*		

Research and development expense for the three months ended June 27, 2020 decreased 14.4% primarily driven by cost savings initiatives and lower compensation expense in response to COVID-19, partially offset by the addition of Endevco expenses. Excluding the impact of currency translation, research and development expense decreased 14.2%.

Research and development expense for the nine months ended June 27, 2020 increased 1.9% primarily driven by the addition of Endevco expenses, partially offset by cost savings initiatives and lower compensation expense in response to COVID-19. Excluding the impact of currency translation, research and development expense increased 2.4%.

Income from Operations

	Three Months Ended		Increased / (Decreased)		Nine Months Ended		Increased / (Decreased)	
	June 27, 2020	June 29, 2019	$	%	June 27, 2020	June 29, 2019	$	%
Income from operations	$ 12,935	$ 11,556	$ 1,379	11.9%	$ 29,873	$ 33,694	$ (3,821)	(11.3)%
% of revenue	*16.1%*	*13.7%*			*11.9%*	*13.8%*		

Income from operations for the three months ended June 27, 2020 increased 11.9% primarily due to lower operating compensation expenses, cost savings initiatives and lower marketing expense in response to COVID-19, partially offset by lower gross profit. Excluding the impact of currency translation and acquisition-related expenses, income from operations increased 17.5%.

Income from operations for the nine months ended June 27, 2020 declined 11.3% primarily due to additional expenses related to the Endevco acquisition and lower gross profit, partially offset by lower operating compensation expenses, cost savings initiatives and lower marketing expense in response to COVID-19. Excluding the impact of currency translation, the Endevco inventory acquisition adjustment and acquisition-related expenses, income from operations increased 0.3%.

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Cash Flow Comparison
The following table summarizes our cash flows from total operations:

	Nine Months Ended	
	June 27, 2020	June 29, 2019
Total cash provided by (used in):		
Operating activities	$ 13,420	$ 49,970
Investing activities	(70,325)	(101,178)
Financing activities	62,993	55,384
Effect of exchange rate changes on cash and cash equivalents	1,048	(245)
Increase (decrease) in cash and cash equivalents during the period	7,136	3,931
Cash and cash equivalents balance, beginning of period	57,937	71,804
Cash and cash equivalents balance, end of period	$ 65,073	$ 75,735

Operating Activities
The decrease in cash provided by operating activities was primarily due to lower net income and higher cash used by other assets and liabilities related to accrued project costs. These increases were partially offset by a decrease in cash used by working capital associated with timing fluctuations from accounts receivable payments received and unbilled accounts receivable accruals, accounts payable payments, advanced payments received from customers and inventory purchases.

Investing Activities
The decrease in cash used in investing activities was primarily due to the acquisition of E2M in the first quarter of fiscal year 2019, partially offset by the acquisition of R&D in the second quarter of fiscal year 2020 and an increase in cash used to purchase property and equipment for continued strategic investments in the business.

Financing Activities
The increase in cash provided by financing activities was primarily due to an increase in borrowings under the Revolving Credit Facility used to fund the acquisition of R&D in the second quarter of fiscal year 2020 and operations. These increases were partially offset by borrowings under the Revolving Credit Facility used to fund the acquisition of E2M in the first quarter of fiscal year 2019.

Liquidity and Capital Resources
We had cash and cash equivalents of $65,073 as of June 27, 2020. Of this amount, $2,353 was located in North America, $38,315 in Europe and $24,405 in Asia. Repatriation of certain foreign earnings is restricted by local law. The North American cash balance was primarily invested in bank deposits. The cash balances in Europe and Asia were primarily invested in money market funds and bank deposits. In accordance with our investment policy, we place cash equivalent investments with issuers who have high-quality investment credit ratings. In addition, we limit the amount of investment exposure we have with any particular issuer. Our investment objectives are to preserve principal, maintain liquidity and achieve the best available return consistent with our primary objectives of safety and liquidity. As of June 27, 2020, we held no short-term investments.

As a result of the transition tax related to the enactment of the Tax Act, we are able to repatriate cash held in our foreign subsidiaries without such funds being subject to additional federal income tax liability. We plan to continue to repatriate certain amounts of our existing offshore cash and future earnings back to the U.S.

As of June 27, 2020, our capital structure was comprised of $31,600 in short-term debt, $574,221 in long-term debt and $488,856 in shareholders' equity. The Consolidated Balance Sheets also included $10,725 of unamortized debt issuance costs as of June 27, 2020. Total interest-bearing debt as of June 27, 2020 was $605,821. As of June 27, 2020, we had approximately $89,463 of unused borrowing capacity on the Revolving Credit Facility.

We have a credit agreement with a consortium of financial institutions (the Credit Agreement) that provides for senior secured credit facilities consisting of a Revolving Credit Facility and a Term Facility. The maturity date of the Revolving Credit Facility and the loans under the Term Facility is July 5, 2023, unless a term loan lender agrees to extend the maturity date pursuant to a loan modification agreement made in accordance with the terms of the Credit Agreement. The Credit Agreement also requires mandatory prepayments on our Term Facility in certain circumstances, including the potential for an annual required prepayment of a certain percentage of our excess cash flow.

Under the Credit Agreement, we are subject to customary affirmative and negative covenants, including, among others, restrictions on our ability to incur debt, create liens, dispose of assets, make investments, loans, advances, guarantees and acquisitions, enter into transactions with affiliates and enter into any restrictive agreements and customary events of default (including payment defaults, covenant defaults, change of control defaults and bankruptcy defaults). The Credit Agreement also contains financial covenants, including the ratio of consolidated total indebtedness to adjusted consolidated earnings before interest, taxes, depreciation and amortization (Adjusted EBITDA), as defined in the Credit Agreement, as well as the ratio of Adjusted EBITDA to consolidated interest expense. These covenants restrict our ability to pay dividends and purchase outstanding shares of common stock. As of June 27, 2020, we were in compliance with these financial covenants. Specifically, we ended the third quarter of fiscal year 2020 with a leverage ratio of 4.8x, which is below the current maximum leverage ratio of 5.0x under the Credit Agreement.

On July 30, 2020, we entered into a fifth amendment to the Credit Agreement, which governs the Term Facility and Revolving Credit Facility, to increase the maximum leverage ratio to 6.0x through March 31, 2021 with step downs thereafter. In addition, we amended the interest coverage ratio to maintain 3.0x through March 31, 2021 with subsequent revisions thereafter. This amendment was completed to maximize flexibility and available liquidity under our current capital structure in the event we would need to access additional funds.

In fiscal year 2019, we issued $350,000 in aggregate principal amount of 5.750% senior unsecured notes due in 2027 (the Notes). The Notes were issued pursuant to an Indenture among us, the Guarantors (as defined therein) and Wells Fargo Bank, National Association, as trustee (the Indenture). The Notes will mature on August 15, 2027.

The Indenture governing the Notes contains covenants that limit, among other things, our ability and the ability of our restricted subsidiaries to incur additional indebtedness or issue certain preferred shares; create liens; pay dividends, redeem stock or make other distributions; make investments; for our restricted subsidiaries to pay dividends to us or make other intercompany transfers; transfer or sell assets; merge or consolidate; enter into certain transactions with our affiliates; and designate subsidiaries as unrestricted subsidiaries. As of June 27, 2020, we were in compliance with these financial covenants.

See Note 9 to the Consolidated Financial Statements included in Item I of Part I of this Quarterly Report on Form 10-Q for additional information on our financing arrangements.

Shareholders' equity increased by $4,797 during the nine months ended June 27, 2020 primarily due to $8,624 net income, $5,276 stock-based compensation and $2,952 other comprehensive income. The increase was partially offset by $11,509 dividends declared.

As discussed, we have implemented various cost reduction initiatives to manage and reduce operating costs and further enhance our financial flexibility, both due to the COVID-19 pandemic and as a part of our general global restructuring effort in Test & Simulation. We continue to suspend our quarterly dividend. While we cannot predict the overall impact of COVID-19 on our liquidity position, as of June 27, 2020, we believe our current capital resources will be sufficient to fund working capital requirements, capital expenditures and operations for the foreseeable future, including at least the next twelve months.

Off-balance Sheet Arrangements

As of June 27, 2020, we did not have any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future material effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

Critical Accounting Policies

The Consolidated Financial Statements have been prepared in accordance with GAAP, which requires us to make estimates and assumptions in certain circumstances that, giving due consideration to materiality, affect the reported amounts of assets and liabilities, revenues and expenses and related disclosures of any contingent assets and liabilities at the date of the financial statements. We regularly review our estimates and assumptions, which are based on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Business Acquisitions

We account for acquired businesses using the acquisition method of accounting which requires that the assets acquired and liabilities assumed be recorded at the date of acquisition at their respective fair values. The judgments made in determining the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact net income. Accordingly, for significant items, we typically engage a third-party valuation firm. There are several methods that can be used to determine the fair value of assets acquired and liabilities assumed in a business combination. For intangible assets, we historically have utilized the "income method." This method starts with a forecast of all of the expected future net cash flows attributable to the subject intangible asset. These cash flows are then adjusted to present value by applying an appropriate discount rate that reflects the risk factors associated with the cash flow streams. Some of the more significant estimates and assumptions inherent in the income method (or other methods) include the projected future cash flows (including timing) and the discount rate reflecting the risks inherent in the future cash flows. Estimating the useful life of an intangible asset also requires judgment. For example, different types of intangible assets will have different useful lives, influenced by the nature of the asset, competitive environment and rate of change in the industry. All of these judgments and estimates can significantly impact the determination of the amortization period of the intangible asset, and thus net income. Contingent consideration liabilities are remeasured to fair value each reporting period using projected revenues, discount rates, probabilities of payment and projected payment dates. Increases or decreases in the fair value of the contingent consideration liability can result from changes in the timing and amount of revenue estimates or in the timing or likelihood of achieving value-enhancing milestones, and changes in discount periods and rates. Projected contingent payment amounts are discounted back to the current period using a discounted cash flow model.

For further information, see Note 1, Note 3, Note 7 and Note 16 to the Consolidated Financial Statements included in Item 8 of Part II of our Annual Report on Form 10-K for the fiscal year ended September 28, 2019. For a discussion of our critical accounting policies, see Item 7 of Part II of our Annual Report on Form 10-K for the fiscal year ended September 28, 2019.

Recently Issued Accounting Pronouncements

Information regarding new accounting pronouncements is included in Note 2 and Note 5 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q.

Other Matters

Dividends

Our dividend policy is to maintain a payout ratio that allows dividends to increase in conjunction with the long-term growth of earnings per share, while sustaining dividends through economic cycles. Our dividend practice is to target, over time, a payout ratio of approximately 25% of net earnings per share. We have historically paid dividends to holders of our common stock on a quarterly basis. The declaration and payment of future dividends will depend on many factors, including, but not limited to, our earnings, financial condition, debt repayment obligations, business development needs and regulatory considerations and are at the discretion of our Board of Directors. The quarterly dividend has been suspended as of the third quarter of fiscal year 2020. The reinstatement of the dividend will be considered in future periods at the discretion of the Board of Directors.

Forward-looking Statements

Statements contained in this Quarterly Report on Form 10-Q including, but not limited to, the discussion under Item 2 of Part I, that are not statements of historical fact are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, certain statements in our future filings with the SEC, in press releases and in oral and written statements made by us or with our approval that are not statements of historical fact also constitute forward-looking statements. Examples of forward-looking statements include, but are not limited to: (i) projections of revenue, Adjusted EBITDA, net income or loss, earnings or loss per share, the payment or nonpayment of dividends, our capital structure, the adequacy of our liquidity and reserves, the anticipated level of expenditures required and other statements concerning future financial performance; (ii) statements of plans and objectives by our management or Board of Directors, including those relating to products or services, restructuring initiatives, merger or acquisition activity and the potential impact of newly acquired businesses; (iii) statements of assumptions underlying such statements; (iv) statements regarding business relationships with vendors, customers or collaborators or statements relating to our order cancellation history, our ability to convert our backlog of undelivered orders into revenue, the timing of purchases, competitive advantages and growth in end markets; (v) statements regarding our products and their characteristics, fluctuations in the costs of raw materials for products, our geographic footprint, performance, sales potential or effect in the hands of customers; and (vi) statements about the impact of COVID-19 and related economic uncertainty. Words such as "believes," "anticipates," "expects," "intends," "targeted," "should," "potential," "goals," "strategy" and similar expressions are intended to identify forward-looking statements, but are not the exclusive means of identifying such statements.

Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those discussed in such statements. Factors that could cause actual results to differ from those discussed in such statements include, but are not limited to, the currently-unknown impact of COVID-19 and related economic uncertainty and those described in Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended September 28, 2019 and in Item 1A of Part II of this Quarterly Report on Form 10-Q. The performance of our business and our securities may be adversely affected by these factors and by other factors common to other businesses and investments, or to the general economy. Forward-looking statements are qualified by some or all of these risk factors. Therefore, you should consider these forward-looking statements with caution and form your own critical and independent conclusions about the likely effect of these risk factors on our future performance. Forward-looking statements speak only as of the date on which such statements are made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made to reflect the occurrence of unanticipated events or circumstances. You should carefully review the disclosures and the risk factors described in our Annual Report on Form 10-K for the fiscal year ended September 28, 2019 and in other documents we file from time to time with the SEC, including our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Foreign Currency Exchange Risk

Over the past 15 years, approximately 70% of our revenue has been derived from customers outside of the U.S. Our international subsidiaries have functional currencies other than our U.S. dollar reporting currency and, occasionally, transact business in currencies other than their functional currencies. These non-functional currency transactions expose us to market risk on assets, liabilities and cash flows recognized on these transactions.

The strengthening of the U.S. dollar relative to foreign currencies decreases the value of foreign currency-denominated revenue and earnings when translated into U.S. dollars resulting in an unfavorable currency translation impact on revenue and earnings. Conversely, a weakening of the U.S. dollar increases the value of foreign currency-denominated revenue and earnings resulting in a favorable currency translation impact on revenue and earnings.

A hypothetical 10% appreciation or depreciation in foreign currencies against the U.S. dollar, assuming all other variables are held constant, would result in an increase or decrease in revenue of approximately $23,694 for the nine months ended June 27, 2020.

We have operational procedures to mitigate these non-functional currency exposures. We also utilize foreign currency exchange contracts to exchange currencies at set exchange rates on future dates to offset expected gains or losses on specifically identified exposures.

Mark-to-market gains and losses on derivatives designated as cash flow hedges in our currency hedging program are recorded within accumulated other comprehensive income (loss) (AOCI) in the Consolidated Balance Sheets. Mark-to-market gains and losses are reclassified from AOCI to earnings in the same line item in the Consolidated Statements of Income and in the same period as the recognition of the underlying hedged transaction. Net gains and losses on foreign currency transactions included in the accompanying Consolidated Statements of Income were net losses of $703 and $651 during the nine months ended June 27, 2020 and June 29, 2019, respectively. See Note 8 to the Consolidated Financial Statements included in Item 1 of Part I of this Quarterly Report on Form 10-Q for additional information on our cash flow hedge currency exchange contracts.

Interest Rates

We are directly exposed to changes in market interest rates on cash, cash equivalents, short-term investments and long-term debt, and are indirectly exposed to the impact of market interest rates on overall business activity.

On floating-rate investments, increases and decreases in market interest rates will increase or decrease future interest income, respectively. On floating-rate debt, increases or decreases in market interest rates will increase or decrease future interest expense, respectively. On fixed-rate investments, increases or decreases in market interest rates do not impact future interest income but may decrease or increase the fair market value of the investments, respectively. On fixed-rate debt, increases or decreases in market interest rates do not impact future interest expense but may decrease or increase the fair market value of the debt, respectively.

As of June 27, 2020, we had cash and cash equivalents of $65,073, some of which was invested in interest-bearing bank deposits or money market funds. The interest-bearing bank deposits and money market funds have interest rates that reset every 1 to 89 days and generate interest income that will vary based on changes in short-term interest rates. A hypothetical decrease of 100 basis points in market interest rates, assuming all other variables were held constant, would decrease interest income by approximately $64 for the nine months ended June 27, 2020.

As of June 27, 2020, we had floating interest rate debt of $255,821. Secured floating rate credit facilities require interest payments to be calculated at a floating rate tied in part to LIBOR or, if LIBOR is no longer available, at a replacement rate to be determined by the administrative agent for the Credit Facility and consented to by us. As a result, changes in floating rate can affect our operating results and liquidity to the extent we do not have effective interest rate swap arrangements in place. A hypothetical increase of 100 basis points in floating interest rates, assuming all other variables were held constant, would result in an approximately $2,416 increase in future annual interest expense.

Item 4. Controls and Procedures

Our management, including our Interim Chief Executive Officer and Chief Financial Officer, has conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)), as of June 27, 2020. Based on that evaluation, our Interim Chief Executive Officer and Chief Financial Officer concluded that, as of June 27, 2020, our disclosure controls and procedures were effective.

There were no changes in our internal control over financial reporting during the third quarter of fiscal year 2020 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 subject to various claims, legal actions and complaints arising in the ordinary course of business. We are not presently a party to any litigation the outcome of which we believe, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, cash flows or financial condition.

Item 1A. Risk Factors

A discussion of our risk factors can be found in Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended September 28, 2019. The information below includes an additional risk relating to COVID-19 and updates to our government regulation risk. The risks described below and in our Annual Report on Form 10-K are not the only risks we face. Additional risks not currently known to us, or that we currently deem to be immaterial, may also adversely affect our business, financial condition or results of operations in future periods.

The extent to which the outbreak of COVID-19 and measures taken to contain the outbreak will negatively affect our financial condition and results of operations is highly uncertain and cannot be predicted.
Our global operations expose us to risks associated with public health crises and pandemics, such as the outbreak of COVID-19. Attempts to slow the spread of COVID-19 implemented by governments across the globe, including travel bans, restrictions on gatherings, shutdowns of business and government facilities, shelter in place orders, and quarantines, have impacted and will continue to impact our workforce and operations, the operations of our customers, and the operations of our vendors and suppliers.

We have significant manufacturing operations in North America, Europe and Asia, and each of the countries in which we operate has been affected by the outbreak and taken measures in an attempt to contain it. There is considerable uncertainty about the magnitude and duration of the effect that containment measures will have on our operations and the operations of our suppliers and customers. The number of jurisdictions in which we operate will add complexity to our efforts to operate under these restrictions. We also operate with a global supply chain, and both restrictions on the operations of our suppliers and regulation of the international movement of goods may prevent us from timely completing customer orders.

If the COVID-19 outbreak continues and conditions worsen, we may continue to experience a decline in sales activities and delays in customer orders, and it remains uncertain what impact these declines will have on future sales and customer orders once conditions begin to improve. Many of our customer orders are part of large capital expenditures and the financial uncertainty resulting from COVID-19 and its market impacts may cause customers to delay planned capital expenditures.

The extent to which the COVID-19 outbreak impacts our business, results of operations and financial condition will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, the severity of the outbreak, the actions of governments and private actors to slow the spread of the outbreak, the effect of fiscal stimulus measures, and how quickly and to what extent normal economic and operating conditions can resume. We do not yet know the full extent of the impact on our business, our operations or the global economy as a whole. However, the effects could have a material impact on our results of operations, and we will continue to monitor the COVID-19 situation closely.

Government regulation and policy imposes costs and other constraints.
Our manufacturing operations and past and present ownership and operations of real property are subject to extensive and changing federal, state, local and foreign laws and regulations, including laws and regulations pertaining to regulatory compliance, such as environmental, health and safety, employee benefits, import and export compliance, intellectual property, product liability, tax matters and securities regulation. We expect to continue to incur costs to comply with these laws and may incur penalties for any failure to do so.

In particular, some of our export sales require approval from the U.S. government. Recent changes in policy may increase the number of our export sales that require licenses, in particular for certain sales to customers located in China, which would increase both our costs to make such sales and the time to do so. Depending on how these changes in policy are interpreted, this could limit our ability in certain cases to recognize these sales orders at all. Moreover, changes in political relations between the U.S. and foreign countries and/or specific potential customers for which export licenses may be required may cause a license application to be delayed or denied, or a previously issued license withdrawn, rendering us unable to complete a sale or vulnerable to competitors who do not operate under such restrictions.

In addition, the U.S. government has imposed tariffs on certain products imported from China as well as steel and aluminum imported from the European Union, Mexico and Canada. China and the European Union have imposed tariffs on U.S. products in response. These tariffs could force our customers or us to consider various strategic options including, but not limited to, looking for different suppliers, shifting production to facilities in different geographic regions, absorbing the additional costs or passing the cost on to customers. Moreover, any retaliatory actions by other countries where we operate could also negatively impact our financial performance.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The following table presents repurchases of our equity securities we made during the fiscal quarter ended June 27, 2020:

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased As Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet be Purchased As Part of Publicly Announced Plans or Programs
March 29, 2020 – May 2, 2020	—	$ —	—	438
May 3, 2020 – May 30, 2020	—	$ —	—	438
May 31, 2020 – June 27, 2020	—	$ —	—	438

We purchase common stock from time to time to mitigate dilution related to new shares issued for employee compensation such as stock options, restricted stock units, performance restricted stock units and for employee stock purchase plan activity, as well as to return to shareholders capital not immediately required to fund ongoing operations.

Share Purchase Plan

Our Board of Directors approved, and on February 11, 2011 announced, a purchase authorization of 2,000 shares. Authority over pricing and timing under the authorization has been delegated to management. The share purchase authorization has no expiration date. We made no share purchases during the third quarter of fiscal year 2020. As of June 27, 2020, there were 438 shares available for purchase under the existing authorization.

Item 5. Other Information

Effective May 23, 2020, we entered into an agreement (the "Letter Agreement") with Randy J. Martinez pertaining to his employment as our Interim President and Chief Executive Officer. This Letter Agreement reflects his previously-disclosed annualized base salary of $720 during the period of his service as Interim President and Chief Executive Officer. Consistent with the temporary reductions previously announced, Mr. Martinez has taken a temporary reduction to his cash compensation of 20%. Mr. Martinez is also eligible to participate in benefits plans offered to similarly situated employees, but, as an interim employee, is not eligible for the Executive Change in Control Severance Plan or the Executive Severance Plan.

Additionally, this Letter Agreement reflects the previously-approved issuance to Mr. Martinez of restricted stock units with a value of $450, granted effective June 15, 2020. Mr. Martinez will receive an additional monthly grant of restricted stock units in the amount of $150 per month, commencing on September 15, 2020 and continuing until the appointment of a full-time, permanent President and Chief Executive Officer. The restricted stock units will vest at the earlier of the one-year anniversary of Mr. Martinez's appointment as Interim President and Chief Executive Officer or upon the appointment of a full-time, permanent President and Chief Executive Officer. The foregoing summary of the Letter Agreement is subject to, and qualified in its entirety by, the full text of the Letter Agreement, which is attached hereto as Exhibit 10.2 and incorporated herein by reference.

Item 6. Exhibits

Exhibit Number	Description
10.1	Amendment No. 5 to Credit Agreement, dated as of July 30, 2020, by and among the Company, JPMorgan Chase Bank, N.A., as Administrative Agent and Swingline Lender, JPMorgan Chase Bank, N.A. and U.S. Bank National Association, as Issuing Banks and the Revolving Lenders party thereto, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 3, 2020.
10.2	Letter Agreement, dated effective as of May 23, 2020, by and between the Company and Randy J. Martinez (filed herewith).
31.1	Certification of the Interim Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certification of the Interim Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.2	Certification of the Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document (filed herewith).
101.SCH	XBRL Taxonomy Extension Schema Document (filed herewith).
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document (filed herewith).
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document (filed herewith).
101.LAB	XBRL Taxonomy Extension Label Linkbase Document (filed herewith).
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document (filed herewith).
104	Cover Page Interactive Data File (embedded within the Inline XBRL document) (filed herewith).

SIGNATURES

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

		MTS SYSTEMS CORPORATION
Date:	August 3, 2020	/s/ RANDY J. MARTINEZ
		Randy J. Martinez Interim President and Chief Executive Officer (Principal Executive Officer)
Date:	August 3, 2020	/s/ BRIAN T. ROSS
		Brian T. Ross Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)

Exhibit 10.2

MTS®

14000 Technology Drive
Eden Prairie, MN 55344
952-937-4000

May 20, 2020

Mr. Randy Martinez
[Address Omitted]

Dear Randy,

Congratulations! On behalf of MTS Systems Corporation ("MTS"), I am pleased to confirm our verbal offer to you for the temporary full-time exempt position of Interim President and CEO. This position will report the MTS Board of Directors with primary work direction from David Anderson and will be based in Eden Prairie, MN.

Employment Date: May 23, 2020

Compensation: Your starting salary will be $720,000 annually, less applicable withholding, and paid bi-weekly in accordance with MTS' payroll procedures. You have voluntarily agreed to reduce your base pay by 20% beginning on your start date through the end of the fiscal year or if extended as previously agreed to by the Board of Directors. This reflects a temporary salary of $576,000 annually.

Equity Compensation: You will receive an equity grant equal in value of $450,000. The date of grant will be the 15th of the month after your month of hire. It will be provided in the form of 100% Restricted Stock Units. You will also receive monthly grants of Restricted Stock Units in the amount of $150,000 per month commencing on September 15, 2020, and continuing until the appointment of a full-time, permanent President and CEO. All Restricted Stock Units will vest at the earlier of the first anniversary of your appointment as Interim President and CEO or upon the appointment of a full-time, permanent President and Chief Executive Officer.

Health & Welfare Benefits: On your first day of employment, you will be eligible to enroll in many insurance programs including Medical, Preventive Vision, Dental, Life Insurance, and Short and Long-Term Disability as well as tax-advantaged savings plans to include (FSA) Flexible Spending and (HSA) Health Savings Accounts. A comprehensive description of these benefits will be provided to you when your employment commences.

Click here to access the MTS benefits app to learn more about MTS benefits.

Employee Notice:

- Employment Status: **Exempt**
  - x Executive ☐ Professional ☐ Administrative ☐ Other: ____________________
- Paid by: **Salary**
- Number of days in the pay period: **14**
- Regular Scheduled Pay Day: **Every Other Thursday**
  - Date Employee Will Receive First Payment of Wages: **June 11, 2020**
- Allowances for Meals or Lodging: **As agreed by Board of Directors**
- Paid Time Off: None

Deductions that may be made from employee's pay: employment taxes and withholdings; insurance premiums,; uniform costs; garnishments/attachments; and any other amount the company is permitted by law to withhold from your wages (including Minn. Stat. § 181.79).

Executive Plan: Since you will be classified as a temporary employee you will not be considered eligible as a participant under the Executive Change in Control Severance Plan and Executive Severance Plan.

IMPORTANT: This offer is contingent upon your ability to provide documentary proof of your identity and eligibility to work in the United States. By accepting this offer, you confirm that you are able to accept this job and carry out the work that it would involve without breaching any legal restrictions on your activities, such as restrictions imposed by any applicable law or current or former employer. You also confirm that you will inform MTS about any such restrictions and provide MTS with as much information about them as possible, including any agreements between you and your current or former employer describing such restrictions on your activities. You further confirm that you will not remove or take any documents or proprietary data or materials of any kind, electronic or otherwise, with you from your current or former employer to MTS without written authorization from your current or former employer. If you have any questions about the ownership of particular documents or other information, discuss such questions with your former employer before removing or copying the documents or information. You also confirm that you will not remove or take any documents or proprietary data or materials of any kind, electronic or otherwise, with you from MTS to another employer.

While I have every expectation that you will have a successful career with us, I must remind you that your employment with MTS is on an "at will" basis, which means that either of us may choose to terminate your employment at any time, with or without notice and without compensation except for time worked. Accordingly, nothing in this offer letter should be construed as creating a contract of employment, or employment for a specified term. Also, of course, all compensation, benefits and other terms of employment are subject to change from time to time, as MTS determines.

If you find this offer to be acceptable, then please sign this letter below and return it with the enclosed forms to the undersigned.

Sincerely,

Amanda Daniel
SVP and Chief Human Resources Officer
[Phone Number Omitted]

The undersigned accepts the above employment offer and agrees that it contains the terms of employment with MTS, that the employment offered is "at will" as described above, that this offer supersedes any and all prior understandings, offers or agreements, whether oral or written, and that there are no other terms expressed, or implied. *The undersigned also understands that no representation, whether oral or written, by any manager, supervisor, or representative of MTS, at any time, can constitute a contract of employment or employment for any specific duration, other than a document signed by an authorized company representative.*

Accepted: /s/ RANDY J. MARTINEZ

Randy J. Martinez

Date: May 21, 2020

Exhibit 31.1

SARBANES-OXLEY SECTION 302 CERTIFICATION

I, Randy J. Martinez, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MTS Systems 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 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: August 3, 2020

/s/ RANDY J. MARTINEZ

Randy J. Martinez
Interim President and Chief Executive Officer

Exhibit 31.2

SARBANES-OXLEY SECTION 302 CERTIFICATION

I, Brian T. Ross, certify that:

1. I have reviewed this quarterly report on Form 10-Q of MTS Systems 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 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: August 3, 2020

/s/ BRIAN T. ROSS

Brian T. Ross

Executive Vice President and Chief Financial Officer

Exhibit 32.1

MTS SYSTEMS CORPORATION
CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 (18 U.S.C. 1350)

The undersigned, Randy J. Martinez, the Interim Chief Executive Officer of MTS Systems Corporation (the "Company"), has executed this Certification in connection with the filing with the Securities and Exchange Commission of the Company’s Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020 (the "Report").

The undersigned hereby certifies that:

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

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

Date: August 3, 2020	/s/ RANDY J. MARTINEZ
	Randy J. Martinez
	Interim President and Chief Executive Officer

This certification accompanies the Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended.

Exhibit 32.2

MTS SYSTEMS CORPORATION
CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002 (18 U.S.C. 1350)

The undersigned, Brian T. Ross, the Chief Financial Officer of MTS Systems Corporation (the "Company"), has executed this Certification in connection with the filing with the Securities and Exchange Commission of the Company’s Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020 (the "Report").

The undersigned hereby certifies that:

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

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

Date: August 3, 2020	/s/ BRIAN T. ROSS
	Brian T. Ross
	Executive Vice President and Chief Financial Officer

This certification accompanies the Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" by the Company for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended.