

**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 EXCHANGE ACT OF 1934**

For The Quarterly Period Ended March 31, 2020

OR

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

For the Transition Period from _____ to _____

Commission File Number: 1-4639

CTS CORPORATION

(Exact name of registrant as specified in its charter)

IN

(State or other jurisdiction of
incorporation or organization)

35-0225010

(IRS Employer
Identification Number)

4925 Indiana Avenue

Lisle IL

(Address of principal executive offices)

60532

(Zip Code)

Registrant's telephone number, including area code: (630) 577-8800

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, without par value	CTS	New York Stock Exchange

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, or a smaller reporting company. See the definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of April 21, 2020: 32,259,907.

CTS CORPORATION AND SUBSIDIARIES

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF EARNINGS - UNAUDITED
(In thousands, except per share amounts)

	Three Months Ended	
	March 31, 2020	March 31, 2019
Net sales	\$ 103,075	\$ 117,625
Cost of goods sold	70,176	77,010
Gross Margin	32,899	40,615
Selling, general and administrative expenses	16,759	17,522
Research and development expenses	7,408	6,791
Restructuring charges	240	2,084
Operating earnings	8,492	14,218
Other (expense) income:		
Interest expense	(851)	(466)
Interest income	331	432
Other (expense) income, net	(1,982)	96
Total other (expense) income, net	(2,502)	62
Earnings before income taxes	5,990	14,280
Income tax expense	2,182	2,861
Net earnings	\$ 3,808	\$ 11,419
Earnings per share:		
Basic	\$ 0.12	\$ 0.35
Diluted	\$ 0.12	\$ 0.34
Basic weighted – average common shares outstanding:	32,466	32,807
Effect of dilutive securities	327	463
Diluted weighted – average common shares outstanding:	32,793	33,270
Cash dividends declared per share	\$ 0.04	\$ 0.04

See notes to unaudited condensed consolidated financial statements.

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS - UNAUDITED
(In thousands of dollars)

	Three Months Ended	
	March 31, 2020	March 31, 2019
Net earnings	\$ 3,808	\$ 11,419
Other comprehensive (loss) earnings:		
Changes in fair market value of derivatives, net of tax	(4,414)	78
Changes in unrealized pension cost, net of tax	1,285	1,022
Cumulative translation adjustment, net of tax	(139)	91
Other comprehensive (loss) earnings	\$ (3,268)	\$ 1,191
Comprehensive earnings	\$ 540	\$ 12,610

See notes to unaudited condensed consolidated financial statements.

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands of dollars)

	(Unaudited) March 31, 2020	December 31, 2019
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 150,955	\$ 100,241
Accounts receivable, net	71,250	78,008
Inventories, net	45,679	42,237
Other current assets	15,094	16,992
Total current assets	282,978	237,478
Property, plant and equipment, net	101,755	105,038
Operating lease assets, net	25,117	24,644
Other Assets		
Prepaid pension asset	63,093	62,082
Goodwill	106,056	106,056
Other intangible assets, net	82,919	85,215
Deferred income taxes	20,296	19,795
Other	2,951	3,046
Total other assets	275,315	276,194
Total Assets	\$ 685,165	\$ 643,354
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities		
Accounts payable	\$ 46,766	\$ 48,219
Operating lease obligations	3,178	2,787
Accrued payroll and benefits	8,818	9,564
Accrued expenses and other liabilities	34,476	36,378
Total current liabilities	93,238	96,948
Long-term debt	151,200	99,700
Long-term operating lease obligations	25,078	24,926
Long-term pension obligations	6,548	6,632
Deferred income taxes	5,576	5,637
Other long-term obligations	6,059	4,292
Total Liabilities	287,699	238,135
Commitments and Contingencies (Note 10)		
Shareholders' Equity		
Common stock	310,098	307,932
Additional contributed capital	39,832	43,689
Retained earnings	512,276	509,766
Accumulated other comprehensive loss	(94,994)	(91,726)
Total shareholders' equity before treasury stock	767,212	769,661
Treasury stock	(369,746)	(364,442)
Total shareholders' equity	397,466	405,219
Total Liabilities and Shareholders' Equity	\$ 685,165	\$ 643,354

See notes to unaudited condensed consolidated financial statements.

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS - UNAUDITED
(In thousands of dollars)

	Three Months Ended	
	March 31, 2020	March 31, 2019
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net earnings	\$ 3,808	\$ 11,419
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	6,532	5,924
Pension and other post-retirement plan expense	673	251
Stock-based compensation	228	1,214
Restructuring impairment charges	—	854
Deferred income taxes	333	1,063
(Gain) on sales of fixed assets	—	(40)
Impairment of fixed assets	1,016	—
(Gain) loss on foreign currency hedges, net of cash	(23)	53
Changes in assets and liabilities, net of acquisition:		
Accounts receivable	6,176	(2,682)
Inventories	(4,005)	1,053
Operating lease assets	(473)	(2,372)
Other assets	799	(1,687)
Accounts payable	1,252	1,275
Accrued payroll and benefits	(237)	(5,250)
Accrued liabilities	(5,364)	(4,014)
Income taxes payable	730	(535)
Operating lease liabilities	542	2,439
Accrued expenses and other liabilities	7	675
Pension and other post-retirement plans	(67)	(47)
Net cash provided by operating activities	11,927	9,593
CASH FLOWS FROM INVESTING ACTIVITIES:		
Capital expenditures	(4,570)	(5,325)
Proceeds from sale of assets	—	51
Net cash used in investing activities	(4,570)	(5,274)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments of long-term debt	(764,550)	(159,100)
Proceeds from borrowings of long-term debt	816,050	159,100
Purchase of treasury stock	(5,304)	(849)
Dividends paid	(1,299)	(1,310)
Taxes paid on behalf of equity award participants	(1,903)	(2,637)
Net cash provided by (used) in financing activities	42,994	(4,796)
Effect of exchange rate changes on cash and cash equivalents	363	252
Net increase (decrease) in cash and cash equivalents	50,714	(225)
Cash and cash equivalents at beginning of period	100,241	100,933
Cash and cash equivalents at end of period	\$ 150,955	\$ 100,708
Supplemental cash flow information:		
Cash paid for interest	\$ 678	\$ 281
Cash paid for income taxes, net	\$ 1,183	\$ 2,122
Non-cash financing and investing activities:		
Capital expenditures incurred but not paid	\$ 1,843	\$ 3,734

See notes to unaudited condensed consolidated financial statements.

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY - UNAUDITED
(in thousands of dollars)

The following summarizes the changes in total equity for the three months ended March 31, 2020:

	Common Stock	Additional Contributed Capital	Retained Earnings	Accumulated Other Comprehensive Earnings/(Loss)	Treasury Stock	Total
Balances at December 31, 2019	\$ 307,932	\$ 43,689	\$ 509,766	\$ (91,726)	\$ (364,442)	\$ 405,219
Net earnings	—	—	3,808	—	—	3,808
Changes in fair market value of derivatives, net of tax	—	—	—	(4,414)	—	(4,414)
Changes in unrealized pension cost, net of tax	—	—	—	1,285	—	1,285
Cumulative translation adjustment, net of tax	—	—	—	(139)	—	(139)
Cash dividends of \$0.04 per share	—	—	(1,298)	—	—	(1,298)
Acquired 220,731 for treasury stock	—	—	—	—	(5,304)	(5,304)
Issued shares on vesting of restricted stock units	2,166	(4,069)	—	—	—	(1,903)
Stock compensation	—	212	—	—	—	212
Balances at March 31, 2020	\$ 310,098	\$ 39,832	\$ 512,276	\$ (94,994)	\$ (369,746)	\$ 397,466

See notes to unaudited condensed consolidated financial statements.

CTS CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY - UNAUDITED
(in thousands of dollars)

The following summarizes the changes in total equity for the three months ended March 31, 2019:

	Common Stock	Additional Contributed Capital	Retained Earnings	Accumulated Other Comprehensive Earnings/(Loss)	Treasury Stock	Total
Balances at December 31, 2018	\$ 306,697	\$ 42,820	\$ 478,847	\$ (97,739)	\$ (352,696)	\$ 377,929
Net earnings	—	—	11,419	—	—	11,419
Changes in fair market value of derivatives, net of tax	—	—	—	78	—	78
Changes in unrealized pension cost, net of tax	—	—	—	1,022	—	1,022
Cumulative translation adjustment, net of tax	—	—	—	91	—	91
Cash dividends of \$0.04 per share	—	—	(1,315)	—	—	(1,315)
Acquired 31,500 shares for treasury stock	—	—	—	—	(849)	(849)
Issued shares on vesting of restricted stock units	967	(3,603)	—	—	—	(2,636)
Stock compensation	—	1,154	—	—	—	1,154
Balances at March 31, 2019	\$ 307,664	\$ 40,371	\$ 488,951	\$ (96,548)	\$ (353,545)	\$ 386,893

See notes to unaudited condensed consolidated financial statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS - UNAUDITED
(in thousands except for share and per share data)

March 31, 2020

NOTE 1—Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared by CTS Corporation (“CTS” “we”, “our”, “us” or the “Company”), without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been omitted pursuant to such rules and regulations. The unaudited condensed consolidated financial statements should be read in conjunction with the financial statements, notes thereto, and other information included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2019.

The accompanying unaudited condensed consolidated financial statements reflect, in the opinion of management, all adjustments (consisting of normal recurring items) necessary for a fair statement, in all material respects, of the financial position and results of operations for the periods presented. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ materially from those estimates. The results of operations for the interim periods are not necessarily indicative of the results for the entire year.

NOTE 2 – Revenue Recognition

The core principle of Topic 606 is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The guidance provides a five-step process to achieve that core principle:

- Identify the contract(s) with a customer
- Identify the performance obligations
- Determine the transaction price
- Allocate the transaction price
- Recognize revenue when the performance obligations are met

We recognize revenue when the performance obligations specified in our contracts have been satisfied, after considering the impact of variable consideration and other factors that may affect the transaction price. Our contracts normally contain a single performance obligation that is fulfilled on the date of delivery based on shipping terms stipulated in the contract. We usually expect payment within 30 to 90 days from the shipping date, depending on our terms with the customer. None of our contracts as of March 31, 2020 contained a significant financing component. Differences between the amount of revenue recognized and the amount invoiced, collected from, or paid to our customers are recognized as contract assets or liabilities. Contract assets will be reviewed for impairment when events or circumstances indicate that they may not be recoverable.

To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price utilizing the most likely amount method based on an analysis of historical experience and current facts and circumstances, which requires significant judgment. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur.

Disaggregated Revenue

The following table presents revenues disaggregated by the major markets we serve:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Transportation	\$ 61,534	\$ 78,842
Industrial	20,843	18,156
Medical	9,370	9,666
Aerospace & Defense	9,005	7,523
Telecom & IT	2,323	3,438
Total	\$ 103,075	\$ 117,625

NOTE 3 – Accounts Receivable

The components of accounts receivable, net are as follows:

	As of	
	March 31, 2020	December 31, 2019
Accounts receivable, gross	\$ 71,932	\$ 78,269
Less: Allowance for credit losses	(682)	(261)
Accounts receivable, net	\$ 71,250	\$ 78,008

NOTE 4 – Inventories

Inventories, net consist of the following:

	As of	
	March 31, 2020	December 31, 2019
Finished goods	\$ 9,595	\$ 9,447
Work-in-process	16,276	14,954
Raw materials	25,012	23,363
Less: Inventory reserves	(5,204)	(5,527)
Inventories, net	\$ 45,679	\$ 42,237

NOTE 5 – Property, Plant and Equipment

Property, plant and equipment is comprised of the following:

	As of	
	March 31, 2020	December 31, 2019
Land and land improvements	\$ 1,095	\$ 1,095
Buildings and improvements	68,175	68,350
Machinery and equipment	225,258	224,312
Less: Accumulated depreciation	(192,773)	(188,719)
Property, plant and equipment, net	\$ 101,755	\$ 105,038
Depreciation expense for the three months ended March 31, 2020		\$ 4,237
Depreciation expense for the three months ended March 31, 2019		\$ 4,234

NOTE 6 – Retirement Plans

Pension Plans

Net pension expense for our domestic and foreign plans included in other income (expense) in the Condensed Consolidated Statement of Earnings is as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Net pension expense	\$ 664	\$ 250

The components of net pension expense for our domestic and foreign plans include the following:

	Domestic Pension Plans		Foreign Pension Plans	
	Three Months Ended		Three Months Ended	
	March 31, 2020	March 31, 2019	March 31, 2020	March 31, 2019
Service cost	\$ —	\$ —	\$ 7	\$ 9
Interest cost	1,443	1,931	7	7
Expected return on plan assets ⁽¹⁾	(2,454)	(3,047)	(4)	(4)
Amortization of loss	1,622	1,312	43	42
Total expense, net	\$ 611	\$ 196	\$ 53	\$ 54

(1) Expected return on plan assets is net of expected investment expenses and certain administrative expenses.

In February 2020, the CTS Board of Directors authorized management to explore termination of our U.S. based pension plans at management's discretion, subject to certain conditions. Management has not yet made a final decision on whether to pursue a plan termination and the potential timing thereof.

Other Post-retirement Benefit Plan

Net post-retirement expense for our other post-retirement plan includes the following components:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Service cost	\$ —	\$ —
Interest cost	30	42
Amortization of gain	(21)	(41)
Total expense, net	\$ 9	\$ 1

NOTE 7 – Other Intangible Assets

Other intangible assets, net consist of the following components:

	As of		
	March 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Net Amount
Customer lists/relationships	\$ 92,194	\$ (40,012)	\$ 52,182
Technology and other intangibles	47,925	(19,388)	28,537
In process research and development	2,200	—	2,200
Other intangible assets, net	\$ 142,319	\$ (59,400)	\$ 82,919
Amortization expense for the three months ended March 31, 2020		\$ 2,295	

	As of		
	December 31, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Amount
Customer lists/relationships	\$ 92,194	\$ (38,682)	\$ 53,512
Technology and other intangibles	47,925	(18,422)	29,503
In process research and development	2,200	—	2,200
Other intangible assets, net	\$ 142,319	\$ (57,104)	\$ 85,215
Amortization expense for the three months ended March 31, 2019		\$ 1,690	

Remaining amortization expense for other intangible assets as of March 31, 2020 is as follows:

	Amortization expense
2020	\$ 6,756
2021	8,893
2022	8,657
2023	6,651
2024	6,489
Thereafter	45,473
Total amortization expense	\$ 82,919

NOTE 8 – Costs Associated with Exit and Restructuring Activities

Restructuring charges are reported as a separate line within operating earnings in the Condensed Consolidated Statement of Earnings.

Total restructuring charges is as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Restructuring charges	\$ 240	\$ 2,084

2016 Plan

In June 2016, we announced plans to restructure operations by phasing out production at our Elkhart, IN facility and transitioning it into a research and development center supporting our global operations ("June 2016 Plan"). Additional organizational changes were also implemented in various other locations. In 2017, we revised this plan to include an additional \$1,100 in planned costs related to the relocation of our corporate headquarters in Lisle, IL and our plant in Bolingbrook, IL, both of which have now been consolidated into a single facility. Restructuring charges under this plan, which is substantially complete, were \$(32) and \$2,332 during the three months ended March 31, 2020 and March 31, 2019, respectively. The total restructuring liability related to the June 2016 Plan was \$104 at March 31, 2020 and \$233 at December 31, 2019. Additional costs related to production line movements, equipment charges, and other costs will be expensed as incurred.

The following table displays the planned restructuring charges associated with the June 2016 Plan as well as a summary of the actual costs incurred through March 31, 2020:

June 2016 Plan	Planned Costs	Actual costs incurred through March 31, 2020
Workforce reduction	\$ 3,075	\$ 3,312
Building and equipment relocation	9,025	10,530
Other charges ⁽¹⁾	1,300	2,156
Total restructuring charges	\$ 13,400	\$ 15,998

(1) Other charges includes the effects of currency translation, non-cash asset write-downs and other charges.

2014 Plan

In April 2014, we announced plans to restructure our operations and consolidate our Canadian operations into other existing facilities as part of our overall plan to simplify our business model and rationalize our global footprint ("April 2014 Plan"). These restructuring actions were completed in 2015. Restructuring charges associated with this plan were \$(248) for the three months ended March 31, 2019. There were no restructuring charges incurred under this plan during the three months ended March 31, 2020. The total restructuring liability related to the April 2014 Plan was \$648 at March 31, 2020, and \$703 at December 31, 2019.

Other Restructuring Activities

From time to time we incur other restructuring activities that are not part of a formal plan. During the three months ended March 31, 2020, we incurred restructuring charges of \$272 primarily relating to workforce reduction actions taken during the quarter. There were no such charges incurred during the three months ended March 31, 2019. The total remaining restructuring liability associated with these actions was \$431 at March 31, 2020.

The following table displays the restructuring liability activity included in Accrued expenses and other liabilities for all plans for the three months ended March 31, 2020:

Restructuring liability at January 1, 2020	\$	1,993
Restructuring charges		240
Cost paid		(606)
Other activity ⁽¹⁾		(444)
Restructuring liability at March 31, 2020	\$	1,183

(1) Other activity includes the effects of currency translation, non-cash asset write-downs and other charges that do not flow through restructuring expense.

NOTE 9 – Accrued Liabilities

The components of Accrued expenses and other liabilities are as follows:

	As of	
	March 31, 2020	December 31, 2019
Accrued product related costs	\$ 4,234	\$ 4,464
Accrued income taxes	8,573	7,903
Accrued property and other taxes	809	1,574
Accrued professional fees	979	1,599
Accrued customer related liabilities	2,520	2,877
Dividends payable	1,298	1,299
Remediation reserves	8,975	11,444
Derivative liabilities	3,256	—
Other accrued liabilities	3,832	5,218
Total accrued expenses and other liabilities	\$ 34,476	\$ 36,378

NOTE 10 – Commitments and Contingencies

Certain processes in the manufacture of our current and past products create by-products classified as hazardous waste. We have been notified by the U.S. Environmental Protection Agency, state environmental agencies, and in some cases, groups of potentially responsible parties, that we may be potentially liable for environmental contamination at several sites currently and formerly owned or operated by us. Two of those sites, Asheville, North Carolina and Mountain View, California, are designated National Priorities List sites under the U.S. Environmental Protection Agency’s Superfund program. We accrue a liability for probable remediation activities, claims and proceedings against us with respect to environmental matters if the amount can be reasonably estimated, and provide disclosures including the nature of a loss whenever it is probable or reasonably possible that a potentially material loss may have occurred but cannot be estimated. We record contingent loss accruals on an undiscounted basis.

A roll-forward of remediation reserves included in Accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets is comprised of the following:

	As of	
	March 31, 2020	December 31, 2019
Balance at beginning of period	\$ 11,444	\$ 11,274
Remediation expense	143	2,602
Net remediation payments	(2,605)	(2,455)
Other activity ⁽¹⁾	(7)	23
Balance at end of the period	\$ 8,975	\$ 11,444

⁽¹⁾ Other activity includes currency translation adjustments not recorded through remediation expense.

Unrelated to the environmental claims described above, certain other legal claims are pending against us with respect to matters arising out of the ordinary conduct of our business.

We provide product warranties when we sell our products and accrue for estimated liabilities at the time of sale. Warranty estimates are forecasts based on the best available information and historical claims experience. We accrue for specific warranty claims if we believe that the facts of a specific claim make it probable that a liability in excess of our historical experience has been incurred, and provide disclosures for specific claims whenever it is reasonably possible that a material loss may be incurred which cannot be estimated.

We cannot provide assurance that the ultimate disposition of environmental, legal, and product warranty claims will not materially exceed the amount of our accrued losses and adversely impact our consolidated financial position, results of operations, or cash flows. Our accrued liabilities and disclosures will be adjusted accordingly if additional information becomes available in the future.

NOTE 11 - Debt

Long-term debt was comprised of the following:

	As of	
	March 31, 2020	December 31, 2019
Total credit facility	\$ 300,000	\$ 300,000
Balance outstanding	151,200	99,700
Standby letters of credit	1,800	1,800
Amount available	\$ 147,000	\$ 198,500
Weighted-average interest rate	2.78%	3.25%
Commitment fee percentage per annum	0.23%	0.23%

On February 12, 2019, we entered into an amended and restated five-year Credit Agreement with a group of banks (the "Credit Agreement") to extend the term of the facility. The Credit Agreement provides for a revolving credit facility of \$300,000, which may be increased by \$150,000 at the request of the Company, subject to the administrative agent's approval. This new unsecured credit facility replaces the prior \$300,000 unsecured credit facility, which would have expired August 10, 2020. Borrowings of \$50,000 under the prior credit agreement were refinanced into the Credit Agreement. The prior agreement was terminated as of February 12, 2019.

The Revolving Credit Facility includes a swing line sublimit of \$15,000 and a letter of credit sublimit of \$10,000. Borrowings under the Revolving Credit Facility bear interest at the base rate defined in the Credit Agreement. We also pay a quarterly commitment fee on the unused portion of the Revolving Credit Facility. The commitment fee ranges from 0.20% to 0.30% based on our total leverage ratio.

The Revolving Credit Facility requires, among other things, that we comply with a maximum total leverage ratio and a minimum fixed charge coverage ratio. Failure to comply with these covenants could reduce the borrowing availability under the Revolving Credit Facility. We were in compliance with all debt covenants at March 31, 2020. The Revolving Credit Facility requires that we deliver quarterly financial statements, annual financial statements, auditor certifications, and compliance certificates within a specified number of days after the end of a quarter and year. Additionally, the Revolving Credit Facility contains restrictions limiting our ability to: dispose of assets; incur certain additional debt; repay other debt or amend subordinated debt instruments; create liens on assets; make investments, loans or advances; make acquisitions or engage in mergers or consolidations; engage in certain transactions with our subsidiaries and affiliates; and make stock repurchases and dividend payments. Interest rates on the Revolving Credit Facility fluctuate based upon the LIBOR and the Company's quarterly total leverage ratio.

We have debt issuance costs related to our long-term debt that are being amortized using the straight-line method over the life of the debt. Amortization expense for the three months ended March 31, 2020 and 2019 was approximately \$42 and \$36. These costs are included in interest expense in our Condensed Consolidated Statement of Earnings.

We use interest rate swaps to convert the revolving credit facility's variable rate of interest into a fixed rate on a portion of the debt as described more fully in Note 12 "Derivative Financial Instruments". These swaps are treated as cash flow hedges and consequently, the changes in fair value were recorded in other comprehensive earnings.

Note 12 - Derivative Financial Instruments

Our earnings and cash flows are subject to fluctuations due to changes in foreign currency exchange rates and interest rates. We selectively use derivative financial instruments including foreign currency forward contracts and interest rate swaps to manage our exposure to these risks.

The use of derivative financial instruments exposes the Company to credit risk, which relates to the risk of nonperformance by a counterparty to the derivative contracts. We manage our credit risk by entering into derivative contracts with only highly rated financial institutions and by using netting agreements.

The effective portion of derivative gains and losses are recorded in accumulated other comprehensive (loss) income until the hedged transaction affects earnings upon settlement, at which time they are reclassified to cost of goods sold or net sales. If it is probable that an anticipated hedged transaction will not occur by the end of the originally specified time period, we reclassify the gains or losses related to that hedge from accumulated other comprehensive (loss) income to other income (expense).

We assess hedge effectiveness qualitatively by verifying that the critical terms of the hedging instrument and the forecasted transaction continue to match, and that there have been no adverse developments that have increased the risk that the counterparty will default. No recognition of ineffectiveness was recorded in our Condensed Consolidated Statement of Earnings for the three months ended March 31, 2020.

Foreign Currency Hedges

We use forward contracts to mitigate currency risk related to a portion of our forecasted foreign currency revenues and costs. The currency forward contracts are designed as cash flow hedges and are recorded in the Condensed Consolidated Balance Sheets at fair value.

We continue to monitor the Company's overall currency exposure and may elect to add cash flow hedges in the future. At March 31, 2020, we had a net unrealized loss of \$2,076 in accumulated other comprehensive (loss) income, of which \$1,483 is expected to be reclassified to income within the next 12 months. At March 31, 2019 we had a net unrealized gain of \$746 in accumulated other comprehensive (loss) income. The notional amount of foreign currency forward contracts outstanding was \$30,745 at March 31, 2020.

Interest Rate Swaps

We use interest rate swaps to convert a portion of our revolving credit facility's outstanding balance from a variable rate of interest to a fixed rate. As of March 31, 2020, we have agreements to fix interest rates on \$50,000 of long-term debt through February 2024. The difference to be paid or received under the terms of the swap agreements will be recognized as an adjustment to interest expense when settled.

These swaps are treated as cash flow hedges and consequently, the changes in fair value are recorded in other comprehensive (loss) income. The estimated net amount of the existing losses that are reported in accumulated other comprehensive (loss) income that are expected to be reclassified into earnings within the next twelve months is approximately \$405.

The location and fair values of derivative instruments designated as hedging instruments in the Condensed Consolidated Balance Sheets as of March 31, 2020, are shown in the following table:

	As of	
	March 31, 2020	December 31, 2019
Interest rate swaps reported in Other current assets	\$ —	\$ 82
Interest rate swaps reported in Accrued liabilities	\$ (523)	\$ —
Interest rate swaps reported in Other long-term obligations	\$ (1,840)	\$ (78)
Foreign currency hedges reported in Other current assets	\$ —	\$ 580
Foreign currency hedges reported in Accrued liabilities	\$ (2,733)	\$ —

The Company has elected to net its foreign currency derivative assets and liabilities in the balance sheet in accordance with ASC 210-20 (*Balance Sheet, Offsetting*). On a gross basis, there were foreign currency derivative assets of \$235 and foreign currency derivative liabilities of \$2,968 at March 31, 2020.

The effect of derivative instruments on the Condensed Consolidated Statements of Earnings is as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Foreign Exchange Contracts:		
Amounts reclassified from AOCI to earnings:		
Cost of goods sold	\$ 248	\$ 42
Selling, general and administrative expense	(5)	17
Total gain reclassified from AOCI to earnings	243	59
Loss recognized in other expense for hedge ineffectiveness	—	—
Total derivative gain on foreign exchange contracts recognized in earnings	\$ 243	\$ 59
Interest Rate Swaps:		
Benefit recorded in Interest expense	\$ 38	\$ 156
Total gains on derivatives	\$ 281	\$ 215

NOTE 13 – Accumulated Other Comprehensive (Loss) Income

Shareholders' equity includes certain items classified as accumulated other comprehensive (loss) income ("AOCI") in the Condensed Consolidated Balance Sheets, including:

- **Unrealized gains (losses) on hedges** relate to interest rate swaps to convert a portion of our revolving credit facility's outstanding balance from a variable rate of interest into a fixed rate and foreign currency forward contracts used to hedge our exposure to changes in exchange rates affecting certain revenues and costs denominated in foreign currencies. These hedges are designated as cash flow hedges, and we have deferred income statement recognition of gains and losses until the hedged transactions occur, at which time amounts are reclassified into earnings. Further information related to our derivative financial instruments is included in Note 12 - Derivative Financial Instruments and Note 16 – Fair Value Measurements.
- **Unrealized gains (losses) on pension obligations** are deferred from income statement recognition until the gains or losses are realized. Amounts reclassified to income from AOCI are included in net periodic pension income (expense). Further information related to our pension obligations is included in Note 6 – Retirement Plans.
- **Cumulative translation adjustments** relate to our non-U.S. subsidiary companies that have designated a functional currency other than the U.S. dollar. We are required to translate the subsidiary functional currency financial statements to dollars using a combination of historical, period-end, and average foreign exchange rates. This combination of rates creates the foreign currency translation adjustment component of other comprehensive income.

Changes in exchange rates between the functional currency and the currency in which a transaction is denominated are foreign exchange transaction gains or losses. Transaction (losses) gains for the three months ended March 31, 2020 and 2019 were \$(1,271) and \$474, respectively, which have been included in other income (expense) in the Condensed Consolidated Statement of Earnings.

The components of accumulated other comprehensive (loss) income for the three months ended March 31, 2020, are as follows:

	As of December 31, 2019	Gain (Loss) Recognized in OCI	(Gain) Loss Reclassified from AOCI to Income	As of March 31, 2020
Changes in fair market value of hedges:				
Gross	\$ 659	\$ (5,422)	\$ (281)	\$ (5,044)
Income tax (expense) benefit	(150)	1,225	64	1,139
Net	509	(4,197)	(217)	(3,905)
Changes in unrealized pension cost:				
Gross	(124,140)	—	1,660	(122,480)
Income tax benefit (expense)	34,018	—	(375)	33,643
Net	(90,122)	—	1,285	(88,837)
Cumulative translation adjustment:				
Gross	(2,211)	(41)	—	(2,252)
Income tax benefit (expense)	98	(98)	—	—
Net	(2,113)	(139)	—	(2,252)
Total accumulated other comprehensive (loss) income	\$ (91,726)	\$ (4,336)	\$ 1,068	\$ (94,994)

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The components of accumulated other comprehensive (loss) income for the three months ended March 31, 2019, are as follows:

	As of December 31, 2018	Gain (Loss) Recognized in OCI	(Gain) Loss Reclassified from AOCI to Income	As of March 31, 2019
Changes in fair market value of hedges:				
Gross	\$ 1,316	\$ 315	\$ (215)	\$ 1,416
Income tax (expense) benefit	(298)	(71)	49	(320)
Net	1,018	244	(166)	1,096
Changes in unrealized pension cost:				
Gross	(132,454)	—	1,319	(131,135)
Income tax benefit (expense)	35,893	—	(297)	35,596
Net	(96,561)	—	1,022	(95,539)
Cumulative translation adjustment:				
Gross	(2,291)	88	—	(2,203)
Income tax benefit	95	3	—	98
Net	(2,196)	91	—	(2,105)
Total accumulated other comprehensive (loss) income	\$ (97,739)	\$ 335	\$ 856	\$ (96,548)

NOTE 14 – Shareholders’ Equity

Share count and par value data related to shareholders’ equity are as follows:

	As of	
	March 31, 2020	December 31, 2019
Preferred Stock		
Par value per share	No par value	No par value
Shares authorized	25,000,000	25,000,000
Shares outstanding	—	—
Common Stock		
Par value per share	No par value	No par value
Shares authorized	75,000,000	75,000,000
Shares issued	57,023,530	56,929,298
Shares outstanding	32,345,907	32,472,406
Treasury stock		
Shares held	24,677,623	24,456,892

On February 7, 2019, the Board of Directors authorized a new stock repurchase program with a maximum dollar limit of \$25,000 in stock repurchases, which replaced the previous program. During the three months ended March 31, 2020 and 2019, 220,731 and 31,500 shares of common stock were repurchased for \$5,304 and \$849, respectively. Approximately \$8,516 is available for future purchases.

A roll-forward of common shares outstanding is as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Balance at the beginning of the year	32,472,406	32,750,727
Repurchases	(220,731)	(31,500)
Restricted share issuances	94,232	136,281
Balance at the end of the period	32,345,907	32,855,508

Certain potentially dilutive restricted stock units are excluded from diluted earning per share because they are anti-dilutive. The number of outstanding awards that were anti-dilutive at March 31, 2020 and March 31, 2019 were 38,839 and 91,098, respectively.

NOTE 15 - Stock-Based Compensation

At March 31, 2020, we had five active stock-based compensation plans: the Non-Employee Directors' Stock Retirement Plan ("Directors' Plan"), the 2004 Omnibus Long-Term Incentive Plan ("2004 Plan"), the 2009 Omnibus Equity and Performance Incentive Plan ("2009 Plan"), the 2014 Performance & Incentive Plan ("2014 Plan"), and the 2018 Equity and Incentive Compensation Plan ("2018 Plan"). Future grants can only be made under the 2018 Plan.

These plans allow for grants of stock options, stock appreciation rights, restricted stock, restricted stock units ("RSUs"), performance shares, performance units, and other stock awards subject to the terms of the specific plans under which the awards are granted.

The following table summarizes the compensation expense included in selling, general and administrative expenses in the Condensed Consolidated Statements of Earnings related to stock-based compensation plans:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Service-based RSUs	\$ 580	\$ 606
Performance-based RSUs	(368)	548
Cash-settled RSUs	16	60
Total	\$ 228	\$ 1,214
Income tax benefit	51	274
Net expense	\$ 177	\$ 940

The following table summarizes the unrecognized compensation expense related to non-vested RSUs by type and the weighted-average period in which the expense is to be recognized:

	Unrecognized Compensation Expense at March 31, 2020	Weighted- Average Period
Service-based RSUs	\$ 3,020	1.56
Performance-based RSUs	3,919	2.24
Total	\$ 6,939	1.94

We recognize expense on a straight-line basis over the requisite service period for each separately vesting portion of the award as if the award was, in substance, multiple awards.

The following table summarizes the status of these plans as of March 31, 2020:

	2018 Plan	2014 Plan	2009 Plan	2004 Plan	Directors' Plan
Awards originally available	2,500,000	1,500,000	3,400,000	6,500,000	N/A
Performance-based options outstanding	—	225,000	—	—	—
Maximum potential RSU and cash settled awards outstanding	452,250	218,272	92,600	35,952	5,522
Maximum potential awards outstanding	452,250	443,272	92,600	35,952	5,522
RSUs and cash settled awards vested and released	27,037	—	—	—	—
Awards available for grant	2,020,713	—	—	—	—

Performance-Based Stock Options

During 2015 and 2016, the Compensation Committee of the Board of Directors of the Company (the “Committee”) granted a total of 350,000 performance-based stock option awards (“Performance-Based Option Awards”) for certain employees under the 2014 Plan, of which 225,000 remain outstanding after considering forfeitures. The Performance-Based Option Awards have an exercise price of \$18.37, a term of five years, and generally will become exercisable (provided the optionee remains employed by the Company or an affiliate) upon our attainment of at least \$600,000 in revenues during any of our trailing four quarterly periods (as determined by the Committee) during the term. We have not recognized any expense on these Performance-Based Option Awards for the three-month periods ended March 31, 2020 and 2019, since the revenue target was not deemed likely to be attained based on our current forecast.

Service-Based Restricted Stock Units

The following table summarizes the service-based RSU activity for the three months ended March 31, 2020:

	Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2019	364,396	\$ 19.87
Granted	64,796	30.13
Vested and released	(47,195)	27.05
Forfeited	(3,624)	28.45
Outstanding at March 31, 2020	378,373	\$ 20.65
Releasable at March 31, 2020	224,974	\$ 15.02

Performance and Market-Based Restricted Stock Units

The following table summarizes the performance and market-based RSU activity for the three months ended March 31, 2020:

	Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2019	217,229	\$ 27.73
Granted	72,521	32.56
Attained by performance	38,820	23.84
Released	(111,838)	23.74
Forfeited	(11,884)	25.69
Outstanding at March 31, 2020	204,848	\$ 30.85
Releasable at March 31, 2020	—	\$ —

The following table summarizes each grant of performance awards outstanding at March 31, 2020.

Description	Grant Date	Vesting Year	Vesting Dependency	Target Units Outstanding	Maximum Number of Units to be Granted
2018 - 2020 Performance RSUs	February 8, 2018	2020	35% RTSR, 35% sales growth, 30% operating cash flow	31,398	62,796
2018 - 2020 Performance RSUs	February 16, 2018	2020	35% RTSR, 35% sales growth, 30% operating cash flow	31,820	63,640
2019 - 2021 Performance RSUs	February 7, 2019	2021	35% RTSR, 35% sales growth, 30% operating cash flow	60,414	120,828
2019 Supplemental Performance RSUs	February 7, 2019	2021	Succession Planning Targets	6,945	13,890
2020 - 2022 QTI Performance RSUs	September 24, 2019	2022	50% EBITDA growth, 50% Sales growth	1,750	3,500
2020 - 2022 Performance RSUs	February 6, 2020	2022	25% RTSR, 40% sales growth, 35% operating cash flow	72,521	145,042
Total				204,848	409,696

Cash-Settled Restricted Stock Units

Cash-Settled RSUs entitle the holder to receive the cash equivalent of one share of common stock for each unit when the unit vests. These RSUs are issued to key employees residing in foreign locations as direct compensation. Generally, these RSUs vest over a three-year period. Cash-Settled RSUs are classified as liabilities and are remeasured at each reporting date until settled. At March 31, 2020 and December 31, 2019 we had 16,547 and 17,271 cash-settled RSUs outstanding, respectively. At March 31, 2020 and December 31, 2019, liabilities of \$135 and \$353, respectively, were included in Accrued expenses and other liabilities on our Condensed Consolidated Balance Sheets.

NOTE 16 — Fair Value Measurements

We use interest rate swaps to convert a portion of our Revolving Credit Facility’s outstanding balance from a variable rate of interest into a fixed rate and foreign currency forward contracts to hedge the effect of foreign currency changes on certain revenues and costs denominated in foreign currencies. These derivative financial instruments are measured at fair value on a recurring basis.

The table below summarizes our financial assets (liabilities) that were measured at fair value on a recurring basis at March 31, 2020:

	Liability Carrying Value at March 31, 2020	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Interest rate swaps	\$ (2,363)	\$ —	\$ (2,363)	\$ —
Foreign currency hedges	\$ (2,733)	\$ —	\$ (2,733)	\$ —

The table below summarizes the financial assets that were measured at fair value on a recurring basis as of December 31, 2019:

	Asset Carrying Value at December 31, 2019	Quoted Prices in Active Markets for Identical Instruments (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Interest rate swaps	\$ 4	\$ —	\$ 4	\$ —
Foreign currency hedges	\$ 580	\$ —	\$ 580	\$ —

The fair value of our interest rate swaps and foreign currency hedges were measured using standard valuation models using market-based observable inputs over the contractual terms, including forward yield curves, among others. There is a readily determinable market for these derivative instruments, but that market is not active and therefore they are classified within Level 2 of the fair value hierarchy.

Our long-term debt consists of the Revolving credit facility which is recorded at its carrying value. There is a readily determinable market for our long-term debt and it is classified within Level 2 of the fair value hierarchy as the market is not deemed to be active.

The fair value of long-term debt approximates carrying value and was determined by valuing a similar hypothetical coupon bond and attributing that value to our long-term debt under the Revolving Credit Facility.

NOTE 17 — Income Taxes

The effective tax rates for the three-month periods ended March 31, 2020 and 2019 are as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Effective tax rate	36.4%	20.0%

Our effective income tax rate was 36.4% and 20.0% in the first quarters of 2020 and 2019, respectively. This increase is primarily attributed to establishment of valuation allowances on certain U.S. tax credits and a one-time tax expense resulting from a change in company structure during 2020. The first quarter 2020 tax rate was higher than the U.S. statutory federal tax rate for the same reasons noted above. The first quarter 2019 tax rate was lower than the U.S. statutory federal tax rate primarily due to the tax benefits recorded upon vesting of restricted stock units.

NOTE 18 — Leases

We lease certain land, buildings and equipment under non-cancellable operating leases used in our operations. Operating lease assets represent our right to use an underlying asset for the lease term. Operating lease liabilities represent the present value of lease payments over the lease term, discounted using an estimate of our secured incremental borrowing rate because none of our leases contain a rate implicit in the lease arrangement.

Components of lease expense for the three months ended March 31, 2020 were as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Operating lease cost	\$ 1,199	\$ 994
Short-term lease cost	167	73
Total lease cost	\$ 1,366	\$ 1,067

Supplemental cash flow information related to leases was as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Cash paid for amounts included in the measurement of lease liabilities	\$ 1,130	\$ 927
Leased assets obtained in exchange for new operating lease liabilities	\$ 1,179	\$ 2,961

Supplemental balance sheet information related to leases was as follows:

	As of	
	March 31, 2020	December 31, 2019
Balance Sheet Classification:		
Operating lease obligations	\$ 3,178	\$ 2,787
Long-term operating lease obligations	25,078	24,926
Total lease liabilities	\$ 28,256	\$ 27,713
Weighted-average remaining lease terms (years)	8.68	9.04
Weighted-average discount rate	6.46%	6.54%

Remaining maturity of our existing lease liabilities as of March 31, 2020 is as follows:

	Operating Leases⁽¹⁾	
2020	\$	3,514
2021		4,686
2022		4,547
2023		4,185
2024		4,075
Thereafter		16,950
Total	\$	37,957
Less: interest		(9,701)
Present value of lease liabilities	\$	28,256

⁽¹⁾ Operating lease payments include \$3,822 of payments related to options to extend lease terms that are reasonably expected to be exercised.

NOTE 19 – Business Acquisitions

On July 31, 2019, we acquired 100% of the outstanding shares of Quality Thermistor, Inc. (QTI) for \$75 million plus a contingent earn out of up to \$5 million based on sales performance objectives. The purchase price included adjustments for debt assumed and changes in working capital. QTI, doing business as QTI Sensing Solutions, is a leading designer and manufacturer of high-quality temperature sensors serving original equipment manufacturers with mission-critical applications in the industrial, aerospace, defense and medical markets. This acquisition provided us with a new core temperature sensing technology that expands our sensing product portfolio, while increasing our presence in the industrial and medical markets.

The final purchase price of \$73,906 was allocated to the fair values of assets and liabilities acquired as of July 31, 2019.

The following table summarizes the consideration paid and the fair values of the assets acquired and the liabilities assumed as of the date of acquisition:

	Consideration Paid
Cash paid, net of cash acquired of \$567	\$ 72,850
Contingent consideration	1,056
Purchase price	\$ 73,906

	Fair Values at July 31, 2019
Current assets	\$ 6,221
Property, plant and equipment	2,567
Other assets	29
Goodwill	34,999
Intangible assets	32,800
Fair value of assets acquired	76,616
Less fair value of liabilities acquired	(2,710)
Purchase price	\$ 73,906

Goodwill represents value the Company expects to be created by combining the operations of the acquired business with the Company's operations, including the expansion of customer relationships within our existing business, access to new customers, and potential cost savings and synergies. Goodwill related to the acquisition is expected to be deductible for tax purposes.

The contingent earn out was payable in cash upon the achievement of a revenue performance target for the year ending December 31, 2019. The Company recorded contingent consideration for the earn out of \$1,056 based on the achievement performance target for the full year 2019 results. This amount is reflected as an addition to the purchase price.

The following table summarizes the carrying amounts and weighted average lives of the acquired intangible assets:

	Carrying Value	Weighted Average Amortization Period
Customer lists/relationships	\$ 31,000	15.0
Technology and other intangibles	1,800	5.0
Total	\$ 32,800	

NOTE 20 — Recent Accounting Pronouncements

Accounting Pronouncements Recently Adopted

ASU No. 2018-13 "Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement"

In August 2018, the FASB issued ASU No. 2018-13 "Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement". This ASU modified the disclosures related to recurring and nonrecurring fair value measurements. Disclosures related to the transfer of assets between Level 1 and Level 2 hierarchies have been eliminated and various additional disclosures related to Level 3 fair value measurements have been added, modified or removed. This ASU is effective for annual periods beginning after December 15, 2019, and interim periods within those fiscal years. We adopted this ASU on January 1, 2020 and it did not have a material impact on our financial statements.

ASU No. 2016-16 "Income Taxes (Topic 740) Intra-Entity Transfers of Assets Other Than Inventory"

In October 2016, the FASB issued ASU No. 2016-16, "Intra-Entity Transfers of Assets Other Than Inventory". This ASU is meant to improve the accounting for the income tax effect of intra-entity transfers of assets other than inventory. Currently, U.S. GAAP prohibits the recognition of current and deferred income taxes for intra-entity asset transfers until the asset is sold to a third party. This ASU will now require companies to recognize the income tax effect of an intra-entity asset transfer (other than inventory) when the transaction occurs. This ASU is effective for public companies, for fiscal years beginning after December 15, 2019 and interim periods within those annual reporting periods and is to be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption. We adopted this ASU on January 1, 2020 and it did not have a material impact on our financial statements.

ASU 2016-13 "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments"

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which amends the current accounting guidance and requires the measurement of all expected losses based on historical experience, current conditions and reasonable and supportable forecasts. For trade receivables, loans, and other financial instruments, we will be required to use a forward-looking expected loss model that reflects losses that are probable rather than the incurred loss model for recognizing credit losses. The standard became effective for interim and annual periods beginning after December 15, 2019. Application of the amendments is through a cumulative-effect adjustment to retained earnings as of the effective date. We adopted this ASU on January 1, 2020 and it did not have a material impact on our financial statements.

Recently Issued Accounting Pronouncements

ASU No. 2019-12 "Simplifying the Accounting for Income Taxes"

In December 2019, the Financial Accounting Standards Board ("FASB") issued ASU 2019-12, *Simplifying the Accounting for Income Taxes*, as part of its simplification initiative to reduce the cost and complexity in accounting for income taxes. ASU 2019-12 removes certain exceptions related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period, and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also amends other aspects of the guidance to help simplify and promote consistent application of GAAP. The guidance is effective for interim and annual periods beginning after December 15, 2020, with early adoption permitted. We are currently evaluating the impact of this ASU on our financial statements.

ASU No. 2018-14 "Compensation - Retirement Benefits - Defined Benefit Plans - General"

In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General." This ASU modifies the disclosure requirements for defined benefit and other postretirement plans. This ASU eliminates certain disclosures associated with accumulated other comprehensive income, plan assets, related parties, and the effects of interest rate basis point changes on assumed health care costs; while other disclosures have been added to address significant gains and losses related to changes in benefit obligations. This ASU also clarifies disclosure requirements for projected benefit and accumulated benefit obligations. The amendments in this ASU are effective for fiscal years ending after December 15, 2020 and for interim periods therein with early adoption permitted. Adoption on a retrospective basis for all periods presented is required. This ASU will impact our annual financial statement disclosures but will not impact our interim financial statements and does not have an impact on our consolidated financial position, results of operations, or cash flows.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations (“MD&A”)

(in thousands, except percentages and per share amounts)

The following discussion should be read in conjunction with our unaudited Condensed Consolidated Financial Statements and notes included under Item 1, as well as our Consolidated Financial Statements and notes and related Management’s Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K for the year ended December 31, 2019.

Overview

CTS Corporation ("CTS", "we", "our" or "us") is a leading designer and manufacturer of products that Sense, Connect and Move. Our vision is to be a leading provider of sensing and motion devices as well as connectivity components, enabling an intelligent and seamless world. These devices are categorized by their ability to Sense, Connect or Move. Sense products provide vital inputs to electronic systems. Connect products allow systems to function in synchronization with other systems. Move products ensure required movements are effectively and accurately executed. We are committed to achieving our vision by continuing to invest in the development of products and technologies within these categories.

We manufacture sensors, actuators, and electronic components in North America, Europe, and Asia. CTS provides engineered products to OEMs and tier one suppliers in the aerospace and defense, industrial, information technology, medical, telecommunications, and transportation markets.

There is an increasing proliferation of sensing and motion applications within various markets we serve. In addition, the increasing connectivity of various devices to the internet results in greater demand for communication bandwidth and data storage, increasing the need for our connectivity products. Our success is dependent on the ability to execute our strategy to support these trends. We are subject to challenges including periodic market softness, competition from other suppliers, changes in technology, and the ability to add new customers, launch new products or penetrate new markets.

Impact of COVID-19

The recent outbreak of COVID-19 has resulted and will continue to result in significant disruption that adversely affects our business. We have experienced and expect to continue to experience reductions in customer demand in several of our end markets. We expect that social distancing measures, reductions in production due to mandated closures of or labor restrictions at our plants in China, Europe, and North America, as well as the reduced operational capacity of our suppliers will more meaningfully impact our operations in the second quarter, and general business uncertainty will continue to negatively impact demand in several of our end markets in the second quarter, and possibly beyond. The pandemic could lead to an extended disruption of economic activity and the impact on our consolidated results of operations, financial position and cash flows could be material.

Results of Operations: First Quarter 2020 versus First Quarter 2019

The following table highlights changes in significant components of the Unaudited Condensed Consolidated Statements of Earnings for the quarters ended March 31, 2020, and March 31, 2019:

	Three Months Ended		Percent Change	Percent of Net Sales – 2020	Percent of Net Sales – 2019
	March 31, 2020	March 31, 2019			
Net sales	\$ 103,075	\$ 117,625	(12.4)%	100.0%	100.0%
Cost of goods sold	70,176	77,010	(8.9)	68.1	65.5
Gross margin	32,899	40,615	(19.0)	31.9	34.5
Selling, general and administrative expenses	16,759	17,522	(4.4)	16.3	14.9
Research and development expenses	7,408	6,791	9.1	7.2	5.8
Restructuring charges	240	2,084	(88.5)	0.2	1.8
Total operating expenses	24,407	26,397	(7.5)	23.7	22.4
Operating earnings	8,492	14,218	(40.3)	8.2	12.1
Total other (expense) income, net	(2,502)	62	(4,135.5)	(2.4)	0.1
Earnings before income taxes	5,990	14,280	(58.1)	5.8	12.1
Income tax expense	2,182	2,861	(23.7)	2.1	2.4
Net earnings	\$ 3,808	\$ 11,419	(66.7)%	3.7%	9.7%
Earnings per share:					
Diluted net earnings per share	\$ 0.12	\$ 0.34			

Sales were \$103,075 in the first quarter of 2020, a decrease of \$14,550 or 12.4% from the first quarter of 2019. Sales were negatively impacted as a result of the COVID-19 pandemic and government activities to control its spread. In the first quarter, we were impacted by: (1) successively mandated closures of or labor restrictions at our plants in China, Europe and North America, (2) supply chain disruptions resulting from the closure of a number of our suppliers in China and in North America, and (3) weak demand from certain customers as a result of their mandated or elective plant closures. These economic impacts are ongoing and continue to have an effect on our operations, which we are currently unable to quantify.

Sales to transportation markets decreased \$17,308 or 22.0%. Sales to other markets increased \$2,758 or 7.1%. The QTI acquisition, which was completed in July 2019, added \$5,575 in sales for the quarter. Changes in foreign exchange rates decreased sales by \$574 year-over-year due to the U.S. Dollar appreciating compared to the Chinese Renminbi and Euro.

Gross margin as a percent of sales was 31.9% in the first quarter of 2020 compared to 34.5% in the first quarter of 2019. The decrease in gross margin was driven primarily by lower sales volumes.

Selling, general and administrative ("SG&A") expenses were \$16,759 or 16.3% of sales in the first quarter of 2020 versus \$17,522 or 14.9% of sales in the first quarter of 2019. The 2020 SG&A costs include amortization of intangibles and other operating costs associated with the QTI acquisition, which were offset by other expense reductions.

Research and development expenses were \$7,408 or 7.2% of sales in the first quarter of 2020 compared to \$6,791 or 5.8% of sales in the comparable quarter of 2019.

Restructuring charges were \$240 or 0.2% of sales in the first quarter of 2020 and were mainly for severance charges. Restructuring charges were \$2,084 or 1.8% of sales in the first quarter of 2019.

Operating earnings were \$8,492 or 8.2% of sales in the first quarter of 2020 compared to operating earnings of \$14,218 or 12.1% of sales in the first quarter of 2019.

Due to the ongoing impact of COVID-19, we have implemented temporary cost savings measures to reduce operating expenses to better align our cost structure to current and expected future market conditions. We will continue to evaluate market conditions to determine if further steps are necessary.

Other income and expense items are summarized in the following table:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Interest expense	\$ (851)	\$ (466)
Interest income	331	432
Other (expense) income, net	(1,982)	96
Total other (expense) income, net	\$ (2,502)	\$ 62

Interest expense increased mainly as a result of an increase in debt related to the QTI acquisition. Other expense in the first quarter of 2020 was principally driven by foreign currency translation losses, mainly due to the appreciation of the U.S. Dollar compared to the Chinese Renminbi and Euro during the quarter, as well as pension expense.

	Three Months Ended	
	March 31, 2020	March 31, 2019
Effective tax rate	36.4%	20.0%

Our effective income tax rate was 36.4% and 20.0% in the first quarters of 2020 and 2019, respectively. The increase in the effective tax rate for the three months ended March 31, 2020, compared with the same period in 2019, was primarily attributed to the establishment of valuation allowances on certain U.S. tax credits and a one-time tax expense resulting from a change in company structure during 2020.

Liquidity and Capital Resources

Cash and cash equivalents were \$150,955 at March 31, 2020, and \$100,241 at December 31, 2019, of which \$99,064 and \$98,309, respectively, were held outside the United States. The increase in cash and cash equivalents of \$50,714 was primarily driven by net proceeds from an increase in borrowings of long-term debt of \$51,500 and cash generated from operating activities of \$11,927, which were partially offset by capital expenditures of \$4,570, treasury stock purchases of \$5,304, dividends paid of \$1,299, and taxes paid on behalf of equity award participants of \$1,903. Total long-term debt was \$151,200 as of March 31, 2020 and \$99,700 as of December 31, 2019. Total debt as a percentage of total capitalization, defined as long-term debt as a percentage of total debt and shareholders' equity, was 27.6% at March 31, 2020, compared to 19.7% at December 31, 2019.

We increased our cash position during the quarter to improve liquidity given the current economic environment. Our net debt, defined as cash and cash equivalents less long-term debt, was zero at March 31, 2020. We currently have \$147,000 available for additional borrowings under our credit facility.

Working capital increased by \$49,210 during the three months ended March 31, 2020, primarily due to the increase in cash and cash equivalents from borrowings under our credit facility.

Cash Flows from Operating Activities

Net cash provided by operating activities was \$11,927 during the first three months of 2020. Components of net cash provided by operating activities included net earnings of \$3,808, depreciation and amortization expense of \$6,532, other net non-cash items of \$2,227, and a net cash outflow from changes in assets and liabilities of \$640.

Cash Flows from Investing Activities

Net cash used in investing activities for the first three months of 2020 was \$4,570, driven entirely by capital expenditures.

Cash Flows from Financing Activities

Net cash provided by financing activities for the first three months of 2020 was \$42,994. The net cash inflow was the result of net proceeds from an increase in borrowings of long-term debt of \$51,500, which was partially offset by treasury stock purchases of \$5,304, dividends paid of \$1,299, and taxes paid on behalf of equity award participants in the amount of \$1,903.

Capital Resources

Long-term debt is comprised of the following:

	As of	
	March 31, 2020	December 31, 2019
Total credit facility	\$ 300,000	\$ 300,000
Balance outstanding	151,200	99,700
Standby letters of credit	1,800	1,800
Amount available	\$ 147,000	\$ 198,500
Weighted-average interest rate	2.78%	3.25%
Commitment fee percentage per annum	0.23%	0.23%

Our Credit Agreement provides for a revolving credit facility of \$300,000, which may be increased by \$150,000 at the request of the Company, subject to the administrative agent's approval.

We have entered into interest rate swap agreements to fix interest rates on \$50,000 of long-term debt through February 2024. The difference to be paid or received under the terms of the swap agreements is recognized as an adjustment to interest expense when settled.

We have historically funded our capital and operating needs primarily through cash flows from operating activities, supported by available credit under our Revolving Credit Facility. We believe that cash flows from operating activities and available borrowings under our Revolving Credit Facility will be adequate to fund our working capital needs, capital expenditures, and debt service requirements for at least the next twelve months. However, we may choose to pursue additional equity and debt financing to provide additional liquidity or to fund acquisitions.

Critical Accounting Policies and Estimates

Management prepared the condensed consolidated financial statements under accounting principles generally accepted in the United States of America. These principles require the use of estimates, judgments, and assumptions. We believe that the estimates, judgments, and assumptions we used are reasonable, based upon the information available.

Our estimates and assumptions affect the reported amounts in our financial statements. The following accounting policies comprise those that we believe are the most critical in understanding and evaluating our reported financial results.

Revenue Recognition

Product revenue is recognized when the transfer of promised goods to a customer occurs in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods. We follow the five step model to determine when this transfer has occurred: 1) identify the contract(s) with the customer; 2) identify the performance obligations in the contract; 3) determine the transaction price; 4) allocate the transaction price to the performance obligations in the contract; 5) recognize revenue when (or as) the entity satisfies a performance obligation.

Product Warranties

Provisions for estimated warranty expenses primarily related to our automotive products are made at the time products are sold. These estimates are established using a quoted industry rate. We adjust our warranty reserve for any known or anticipated warranty claims as new information becomes available. We evaluate our warranty obligations at least quarterly and adjust our accruals if it is probable that future costs will be different than our current reserve. Over the last three years, product warranty reserves have ranged from 2.0% to 2.9% of total sales. We believe our reserve level is appropriate considering all facts and circumstances surrounding any outstanding quality claims and our historical experience selling our products to our customers.

Accounts Receivable

We have standardized credit granting and review policies and procedures for all customer accounts, including:

- Credit reviews of all new customer accounts,
- Ongoing credit evaluations of current customers,
- Credit limits and payment terms based on available credit information,
- Adjustments to credit limits based upon payment history and the customer's current credit worthiness,
- An active collection effort by regional credit functions, reporting directly to the corporate financial officers, and;
- Limited credit insurance on the majority of our international receivables.

We reserve for estimated credit losses based on historical experience, specific customer collection issues, current conditions and reasonable and supportable forecasts that affect the collectability of the remaining cash flows over the contractual terms of our receivables and other financial assets. Over the last three years, accounts receivable reserves have been approximately 0.1% to 0.9% of total accounts receivable. We believe our reserve level is appropriate considering the quality of the portfolio. While credit losses have historically been within expectations of the reserves established, we cannot guarantee that our credit loss experience will continue to be consistent with historical experience or our current forecasts.

Inventories

We value our inventories at the lower of the actual cost to purchase or manufacture using the first-in, first-out ("FIFO") method, or net realizable value. We review inventory quantities on hand and record a provision for excess and obsolete inventory based on forecasts of product demand and production requirements.

Over the last three years, our reserves for excess and obsolete inventories have ranged from 10.2% to 16.8% of gross inventory. We believe our reserve level is appropriate considering the quantities and quality of the inventories.

Retirement Plans

Actuarial assumptions are used in determining pension income and expense and our pension benefit obligation. We utilize actuaries from consulting companies in each applicable country to develop our discount rates that match high-quality bonds currently available and expected to be available during the period to maturity of the pension benefit in order to provide the necessary future cash flows to pay the accumulated benefits when due. After considering the recommendations of our actuaries, we have assumed a discount rate, expected rate of return on plan assets and a rate of compensation increase in determining our annual pension income and expense and the projected benefit obligation. During the fourth quarter of each year, we review our actuarial assumptions in light of current economic factors to determine if the assumptions need to be adjusted. Changes in the actuarial assumptions could have a material effect on our results of operations.

In February 2020, the CTS Board of Directors authorized management to explore termination of our U.S. based pension plans at management's discretion, subject to certain conditions. Management has not yet made a final decision on whether to pursue a plan termination and the potential timing thereof.

Impairment of Goodwill

Goodwill of a reporting unit is tested for impairment annually, or more frequently if an event occurs or circumstances change that would more-likely-than-not reduce the fair value of a reporting unit below its carrying amount. Examples of such events or circumstances include, but are not limited to, the following:

- Significant decline in market capitalization relative to net book value,
- Significant adverse change in regulatory factors or in the business climate,
- Unanticipated competition,
- More-likely-than-not expectation that a reporting unit or a significant portion of a reporting unit will be sold or otherwise disposed of,
- Testing for recoverability of a significant asset group within a reporting unit, and
- Allocation of a portion of goodwill to a business to be disposed.

If we believe that one or more of the above indicators of impairment have occurred, we perform an impairment test. We have the option to perform a qualitative assessment (commonly referred to as "step zero" test) to determine whether further quantitative analysis for impairment of goodwill and indefinite-lived intangible assets is necessary. The qualitative assessment includes a review of macroeconomic conditions, industry and market considerations, internal cost factors, and our own overall financial and share price performance, among other factors. If, after assessing the totality of events or circumstances we determine that it is not more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, we do not need to perform a quantitative analysis.

If a quantitative assessment is required, we estimate the fair value of each reporting unit using a combination of discounted cash flow analysis and market-based valuation methodologies. Determining fair value using a quantitative approach requires significant judgment, including judgments about projected revenues, operating expenses, working capital investment, capital expenditures, and cash flows over a multi-year period. The discount rate applied to our forecasts of future cash flows is based on our estimated weighted average cost of capital. In assessing the reasonableness of our determined fair values, we evaluate our results against our market capitalization. Changes in these estimates and assumptions could materially affect the determination of fair value and impact the goodwill impairment assessment.

Our latest assessment was performed using a qualitative approach as of October 1, 2019, and we determined that it was likely that the fair values of our reporting units were more than their carrying amounts, and therefore no impairment charges were recorded. We will monitor future results and will perform a test if indicators trigger an impairment review. At this time, we have not deemed the impact that the current economic environment has or is expected to have on our business to be a triggering event for impairment purposes.

Impairment of Other Intangible and Long-Lived Assets

We evaluate the impairment of identifiable intangibles and other long-lived assets whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors considered that may trigger an impairment review consist of, but are not limited to, the following:

- Significant decline in market capitalization relative to net book value,
- Significant under performance relative to expected historical or projected future operating results,
- Significant changes in the manner of use of the acquired assets or the strategy for the overall business,
- Significant negative industry or economic trends.

If we believe that one or more indicators of impairment have occurred, we perform a recoverability test by comparing the carrying amount of an asset or asset group to the sum of the undiscounted cash flows expected to result from the use and the eventual disposition of the asset or asset group. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value. We recorded a charge of \$1,016 during the current quarter due to the impairment of a specific asset group. No other indicators of impairment were identified during the quarter ended March 31, 2020.

Environmental and Legal Contingencies

U.S. GAAP requires a liability to be recorded for contingencies when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated. Significant judgment is required to determine the existence and amounts of our environmental, legal and other contingent liabilities. We regularly consult with attorneys and consultants to determine the relevant facts and circumstances before we record a liability. Changes in laws, regulatory orders, cost estimates, participation of other parties, timing of payments, input of attorneys and consultants, or other circumstances may have a material impact on the recorded liability.

Income Taxes

Our income tax expense, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect management's best estimate of current and future taxes to be paid. We are subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgments and estimates are required in the determination of consolidated income tax expense.

Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which will result in taxable or deductible amounts in the future. In evaluating our ability to recover our deferred tax assets in the jurisdiction from which they arise, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent

operations. The assumptions about future taxable income require the use of significant judgment and are consistent with the plans and estimates we are using to manage our underlying businesses.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions across our global operations. Accounting Standards Codification (ASC) No. 740 states that a tax benefit from an uncertain tax position may be recognized when it is more-likely-than-not that the position will be sustained upon examination, including resolution of any related appeals or litigation processes, on the basis of its technical merits. We record unrecognized tax benefits as liabilities in accordance with ASC 740 and adjust these liabilities when our judgment changes as a result of the evaluation of new information not previously available. Because of the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the unrecognized tax benefit liabilities. These differences will be reflected as increases or decreases to income tax expense in the period in which new information is available.

Our practice is to recognize interest and penalties related to income tax matters as part of income tax expense.

Following the enactment of the 2017 Tax Cut and Jobs Act and the associated one-time transition tax, in general, repatriation of foreign earnings to the U.S. can be completed with no incremental U.S. Tax. However, there are limited other taxes that continue to apply such as foreign withholding and certain state taxes. The company records a deferred tax liability for the estimated foreign earnings and state tax cost associated with the undistributed foreign earnings that are not permanently reinvested.

Significant Customers

Our net sales to customers representing at least 10% of total net sales is as follows:

	Three Months Ended	
	March 31, 2020	March 31, 2019
Cummins Inc.	16.5%	18.7%
Toyota Motor Corporation	11.9%	10.4%
Honda Motor Co.	6.6%	10.3%

Forward-Looking Statements

This document contains statements that are, or may be deemed to be, forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, any financial or other guidance, statements that reflect our current expectations concerning future results and events, and any other statements that are not based solely on historical fact. Forward-looking statements are based on management's expectations, certain assumptions and currently available information. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof and are based on various assumptions as to future events, the occurrence of which necessarily are subject to uncertainties. These forward-looking statements are made subject to certain risks, uncertainties and other factors, which could cause our actual results, performance or achievements to differ materially from those presented in the forward-looking statements. Examples of factors that may affect future operating results and financial condition include, but are not limited to: changes in the economy generally and in respect to the business in which CTS operates; unanticipated issues in integrating acquisitions; the results of actions to reposition our business; rapid technological change; general market conditions in the automotive, communications, and computer industries, as well as conditions in the industrial, defense and aerospace, and medical markets; reliance on key customers; unanticipated natural disasters or other events; the ability to protect our intellectual property; pricing pressures and demand for our products; unanticipated developments that could occur with respect to contingencies such as litigation and environmental matters as well as any product liability claims; and risks associated with our international operations, including trade and tariff barriers, exchange rates and political and geopolitical risks. Many of these and other risks and uncertainties are discussed in further detail in Item 1A. of CTS' Annual Report on Form 10-K for the fiscal year ended December 31, 2019. We undertake no obligation to publicly update our forward-looking statements to reflect new information or events or circumstances that arise after the date hereof, including market or industry changes.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

For a discussion of current market conditions resulting from the COVID-19 pandemic, refer to Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and to Part II, Item 1A, "Risk Factors".

There have been no other material changes in our market risk since December 31, 2019.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this Quarterly Report on Form 10-Q were effective in providing reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within CTS Corporation have been detected.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting for the quarter ended March 31, 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

From time to time we are involved in litigation with respect to matters arising from the ordinary conduct of our business, and currently certain claims are pending against us. In the opinion of management, we believe we have established adequate accruals pursuant to U.S. generally accepted accounting principles for our expected future liability with respect to pending lawsuits, claims and proceedings, where the nature and extent of any such liability can be reasonably estimated based on presently available information. However, there can be no assurance that the final resolution of any existing or future lawsuits, claims or proceedings will not have a material adverse effect on our business, results of operations, financial condition, or cash flows.

See Note 10 "Contingencies" in the Notes to the Condensed Consolidated Financial Statements in this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors

The COVID-19 pandemic is adversely affecting, and is expected to continue to adversely affect, our operations, supply chains and distribution systems, and results of operations. We have experienced, and expect to continue to experience, disruptions in production and supply due to mandated facility closures and unpredictable fluctuations in demand for our products. The pandemic could lead to a continued disruption of economic activity and the impact on our consolidated results of operations, financial position and cash flows could be material.

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

On February 7, 2019 the Board of Directors authorized a stock repurchase program with a maximum dollar limit of \$25 million. This program authorizes us to make repurchases of our common stock from time to time on the open market, but does not obligate us to make repurchases, and it has no expiration date.

	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Dollar Value of Shares That May Yet By Purchased Under Publicly Announced Plans or Programs
January 1, 2020 through January 31, 2020	22,821	\$ 29.92	22,821	\$ 13,137
February 1, 2020 through February 29, 2020	38,106	\$ 29.47	38,106	\$ 12,014
March 1, 2020 through March 31, 2020	159,804	\$ 21.89	159,804	\$ 8,516
Total	220,731	\$ 24.03	220,731	

Item 6. Exhibits

- (31)(a) [Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- (31)(b) [Certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- (32)(a) [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- (32)(b) [Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101.1 The following information from CTS Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 formatted in Inline XBRL: (i) Condensed Consolidated Statements of Earnings for the three months ended March 31, 2020 and 2019; (ii) Condensed Consolidated Statements of Comprehensive Earnings for the three months ended March 31, 2020 and 2019; (iii) Condensed Consolidated Balance Sheets at March 31, 2020 and December 31, 2019; (iv) Condensed Consolidated Statements of Cash Flows for the three months ended March 31, 2020 and 2019; (v) Condensed Consolidated Statements of Shareholders' Equity for the three months ended March 31, 2020 and 2019; (vi) Notes to Condensed Consolidated Financial Statements, tagged as blocks of text and including detailed tags.
- 104 The cover page from this Current Report on Form 10-Q formatted as inline XBRL

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

CTS Corporation*/s/ William M. Cahill*

 William M. Cahill
 Chief Accounting Officer
 (Principal Accounting Officer)

Dated: April 24, 2020

CTS Corporation*/s/ Ashish Agrawal*

 Ashish Agrawal
 Vice President and Chief Financial Officer
 (Principal Financial Officer)

Dated: April 24, 2020

CERTIFICATION

I, Kieran O'Sullivan, certify that:

1. I have reviewed this quarterly report on Form 10-Q of CTS 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; and
 - (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 statement for external purposes in accordance with generally accepted accounting principles; and
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusion about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - (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: April 24, 2020

/s/ Kieran O'Sullivan

Kieran O'Sullivan

Chairman, President and Chief Executive Officer

CERTIFICATION

I, Ashish Agrawal, certify that:

1. I have reviewed this quarterly report on Form 10-Q of CTS 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; and
 - (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 statement for external purposes in accordance with generally accepted accounting principles; and
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusion about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - (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: April 24, 2020

/s/Ashish Agrawal

Ashish Agrawal

Vice President and Chief Financial Officer

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

In connection with the quarterly report of CTS Corporation (the Company) on Form 10-Q for the quarter ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 24, 2020

/s/ Kieran O'Sullivan

Kieran O'Sullivan

Chairman, President and Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to CTS Corporation and will be retained by CTS Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

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

In connection with the quarterly report of CTS Corporation (the Company) on Form 10-Q for the quarter ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the Report), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 24, 2020

/s/Ashish Agrawal

Ashish Agrawal

Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to CTS Corporation and will be retained by CTS Corporation and furnished to the Securities and Exchange Commission or its staff upon request.
