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

Form 10-Q

Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended September 28, 2019

or

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from _____ to _____

Commission File Number 0-7087

ASTRONICS CORPORATION

(Exact name of registrant as specified in its charter)

New York
(State or other jurisdiction of
incorporation or organization)

16-0959303
(IRS Employer
Identification Number)

130 Commerce Way, East Aurora, New York
(Address of principal executive offices)

14052
(Zip code)

(716) 805-1599
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, \$.01 par value per share	ATRO	NASDAQ Stock Market

NOT APPLICABLE
(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to Section 12(g) of the Act:
\$.01 par value Common Stock, \$.01 par value Class B Stock
(Title of Class)

[Table of Contents](#)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of “large accelerated filer”, an “accelerated filer”, a “non-accelerated filer” and a “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Emerging growth company
Non-accelerated filer Smaller Reporting Company

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

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

As of November 1, 2019, 30,873,090 shares of common stock were outstanding consisting of 23,107,564 shares of common stock (\$.01 par value) and 7,765,526 shares of Class B common stock (\$.01 par value).

TABLE OF CONTENTS

	PAGE
<u>PART I</u>	<u>FINANCIAL INFORMATION</u>
<u>Item 1</u>	<u>Financial Statements:</u>
	<ul style="list-style-type: none">• Consolidated Condensed Balance Sheets as of September 28, 2019 and December 31, 2018 3• Consolidated Condensed Statements of Operations for the Three and Nine Months Ended September 28, 2019 and September 29, 2018 4• Consolidated Condensed Statements of Comprehensive Income for the Three and Nine Months Ended September 28, 2019 and September 29, 2018 5• Consolidated Condensed Statements of Cash Flows for the Nine Months Ended September 28, 2019 and September 29, 2018 6• Consolidated Condensed Statements of Shareholders' Equity for the Three and Nine Months Ended September 28, 2019 and September 29, 2018 7• Notes to Consolidated Condensed Financial Statements 9
<u>Item 2</u>	Management's Discussion and Analysis of Financial Condition and Results of Operations 24
<u>Item 3</u>	Quantitative and Qualitative Disclosures about Market Risk 31
<u>Item 4</u>	Controls and Procedures 31
<u>PART II</u>	<u>OTHER INFORMATION</u>
<u>Item 1</u>	Legal Proceedings 32
<u>Item 1a</u>	Risk Factors 33
<u>Item 2</u>	Unregistered Sales of Equity Securities and Use of Proceeds 33
<u>Item 3</u>	Defaults Upon Senior Securities 33
<u>Item 4</u>	Mine Safety Disclosures 33
<u>Item 5</u>	Other Information 33
<u>Item 6</u>	Exhibits 34
<u>SIGNATURES</u>	35

Part I – Financial Information**Item 1. Financial Statements**

ASTRONICS CORPORATION
Consolidated Condensed Balance Sheets
September 28, 2019 with Comparative Figures for December 31, 2018
(Unaudited)
(In thousands)

	September 28, 2019	December 31, 2018
Current Assets:		
Cash and Cash Equivalents	\$ 22,795	\$ 16,622
Accounts Receivable, Net of Allowance for Doubtful Accounts	159,715	182,308
Inventories	149,621	138,685
Prepaid Expenses and Other Current Assets	17,576	17,198
Assets Held for Sale	3,186	19,358
Total Current Assets	352,893	374,171
Property, Plant and Equipment, Net of Accumulated Depreciation	113,137	120,862
Other Assets	45,911	21,272
Intangible Assets, Net of Accumulated Amortization	132,433	133,383
Goodwill	133,594	124,952
Total Assets	\$ 777,968	\$ 774,640
Current Liabilities:		
Current Maturities of Long-term Debt	\$ 191	\$ 1,870
Accounts Payable	46,046	50,664
Accrued Expenses and Other Current Liabilities	49,321	47,772
Customer Advance Payments and Deferred Revenue	23,525	26,880
Liabilities Held for Sale	—	906
Total Current Liabilities	119,083	128,092
Long-term Debt	180,055	232,112
Other Liabilities	53,038	27,811
Total Liabilities	352,176	388,015
Shareholders' Equity:		
Common Stock	344	343
Accumulated Other Comprehensive Loss	(13,610)	(13,329)
Other Shareholders' Equity	439,058	399,611
Total Shareholders' Equity	425,792	386,625
Total Liabilities and Shareholders' Equity	\$ 777,968	\$ 774,640

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION
Consolidated Condensed Statements of Operations
Three and Nine Months Ended September 28, 2019 With Comparative Figures for 2018
(Unaudited)
(In thousands, except per share data)

	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Sales	\$ 574,290	\$ 600,339	\$ 177,018	\$ 212,674
Cost of Products Sold	445,056	467,315	140,224	166,354
Gross Profit	129,234	133,024	36,794	46,320
Selling, General and Administrative Expenses	90,677	87,919	31,691	27,976
Income from Operations	38,557	45,105	5,103	18,344
Net (Gain) Loss on Sale of Businesses	(78,801)	—	1,332	—
Other Expense, Net of Other Income	1,197	1,091	464	253
Interest Expense, Net of Interest Income	4,576	7,326	1,547	2,511
Income Before Income Taxes	111,585	36,688	1,760	15,580
Provision for (Benefit from) Income Taxes	25,503	2,370	550	(1,419)
Net Income	\$ 86,082	\$ 34,318	\$ 1,210	\$ 16,999
Earnings Per Share:				
Basic	\$ 2.65	\$ 1.06	\$ 0.04	\$ 0.53
Diluted	\$ 2.61	\$ 1.04	\$ 0.04	\$ 0.52

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION
Consolidated Condensed Statements of Comprehensive Income
Three and Nine Months Ended September 28, 2019 With Comparative Figures for 2018
(Unaudited)
(In thousands)

	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Net Income	\$ 86,082	\$ 34,318	\$ 1,210	\$ 16,999
Other Comprehensive Income (Loss):				
Foreign Currency Translation Adjustments	(722)	(1,346)	(1,336)	226
Retirement Liability Adjustment – Net of Tax	441	646	147	216
Total Other Comprehensive Income (Loss)	(281)	(700)	(1,189)	442
Comprehensive Income	\$ 85,801	\$ 33,618	\$ 21	\$ 17,441

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION
Consolidated Condensed Statements of Cash Flows
 Nine Months Ended September 28, 2019 With Comparative Figures for 2018
 (Unaudited)
 (In thousands)

	Nine Months Ended	
	September 28, 2019	September 29, 2018
Cash Flows From Operating Activities:		
Net Income	\$ 86,082	\$ 34,318
Adjustments to Reconcile Net Income to Cash Provided By Operating Activities:		
Depreciation and Amortization	24,183	26,756
Provisions for Non-Cash Losses on Inventory and Receivables	4,613	2,432
Equity-based Compensation Expense	2,943	2,349
Deferred Tax Benefit	(3,820)	(1,536)
Net Gain on Sale of Businesses, Before Taxes	(78,801)	—
Other	(792)	(507)
Cash Flows from Changes in Operating Assets and Liabilities, Excluding the Effects of Acquisitions:		
Accounts Receivable	23,423	(52,890)
Inventories	(18,963)	(15,768)
Accounts Payable	(5,494)	571
Accrued Expenses	(5,867)	4,977
Other Current Assets and Liabilities	(697)	(1,620)
Customer Advanced Payments and Deferred Revenue	(3,266)	19,241
Income Taxes	5,581	(4,315)
Supplemental Retirement and Other Liabilities	1,116	1,351
Cash Provided By Operating Activities	<u>30,241</u>	<u>15,359</u>
Cash Flows From Investing Activities:		
Acquisition of Business, Net of Cash Acquired	(21,785)	—
Proceeds on Sale of Businesses	104,792	—
Capital Expenditures	(8,850)	(12,416)
Other Investing Activities	—	(3,376)
Cash Provided By (Used For) Investing Activities	<u>74,157</u>	<u>(15,792)</u>
Cash Flows From Financing Activities:		
Proceeds from Long-term Debt	99,000	35,015
Payments for Long-term Debt	(146,080)	(47,116)
Purchase of Outstanding Shares for Treasury	(50,000)	—
Debt Acquisition Costs	—	(516)
Proceeds from Exercise of Stock Options	423	283
Other Financing Activities	(1,284)	—
Cash Used For Financing Activities	<u>(97,941)</u>	<u>(12,334)</u>
Effect of Exchange Rates on Cash	(284)	(254)
Increase (Decrease) in Cash and Cash Equivalents	6,173	(13,021)
Cash and Cash Equivalents at Beginning of Period	16,622	17,914
Cash and Cash Equivalents at End of Period	<u>\$ 22,795</u>	<u>\$ 4,893</u>

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION
Consolidated Condensed Statements of Shareholders' Equity
 Three and Nine Months Ended September 28, 2019 With Comparative Figures for 2018
 (Unaudited)
 (In thousands)

	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Common Stock				
Beginning of Period	\$ 260	\$ 229	\$ 264	\$ 232
Exercise of Stock Options and Equity-based Compensation Expense – Net of Taxes	1	—	—	—
Class B Stock Converted to Common Stock	4	4	1	1
End of Period	\$ 265	\$ 233	\$ 265	\$ 233
Convertible Class B Stock				
Beginning of Period	\$ 83	\$ 111	\$ 80	\$ 109
Exercise of Stock Options and Equity-based Compensation Expense – Net of Taxes	—	1	—	—
Class B Stock Converted to Common Stock	(4)	(4)	(1)	(1)
End of Period	\$ 79	\$ 108	\$ 79	\$ 108
Additional Paid in Capital				
Beginning of Period	\$ 73,044	\$ 67,748	\$ 75,604	\$ 69,665
Exercise of Stock Options and Equity-based Compensation Expense - Net of Taxes	3,365	2,631	805	714
End of Period	\$ 76,409	\$ 70,379	\$ 76,409	\$ 70,379
Accumulated Comprehensive Loss				
Beginning of Period	\$ (13,329)	\$ (13,352)	\$ (12,421)	\$ (15,867)
Adoption of ASU 2018-02	—	(1,373)	—	—
Foreign Currency Translation Adjustments	(722)	(1,346)	(1,336)	226
Retirement Liability Adjustment – Net of Taxes	441	646	147	216
End of Period	\$ (13,610)	\$ (15,425)	\$ (13,610)	\$ (15,425)
Retained Earnings				
Beginning of Period	\$ 376,567	\$ 325,191	\$ 461,439	\$ 347,151
Adoption of ASU 2018-02	—	1,373	—	—
Adoption of ASU 2014-09	—	3,268	—	—
Net income	86,082	34,318	1,210	16,999
End of Period	\$ 462,649	\$ 364,150	\$ 462,649	\$ 364,150
Treasury Stock				
Beginning of Period	\$ (50,000)	\$ (50,000)	\$ (50,000)	\$ (50,000)
Purchase of Shares	(50,000)	—	(50,000)	—
End of Period	\$ (100,000)	\$ (50,000)	\$ (100,000)	\$ (50,000)
Total Shareholders' Equity	\$ 425,792	\$ 369,445	\$ 425,792	\$ 369,445

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION

Consolidated Condensed Statements of Shareholders' Equity, Continued
Three and Nine Months Ended September 28, 2019 With Comparative Figures for 2018
(Unaudited)
(In thousands)

	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Common Stock				
Beginning of Period	25,978	22,861	26,343	23,219
Exercise of Stock Options and Issuances of Restricted Stock	53	25	19	(1)
Class B Stock Converted to Common Stock	444	443	113	111
End of Period	<u>26,475</u>	<u>23,329</u>	<u>26,475</u>	<u>23,329</u>
Convertible Class B Stock				
Beginning of Period	8,290	11,083	8,007	10,789
Exercise of Stock Options	50	21	2	(17)
Class B Stock Converted to Common Stock	(444)	(443)	(113)	(111)
End of Period	<u>7,896</u>	<u>10,661</u>	<u>7,896</u>	<u>10,661</u>
Treasury Stock				
Beginning of Period	(1,675)	(1,675)	(1,675)	(1,675)
Purchase of Shares	(1,823)	—	(1,823)	—
Retirement of Treasury Shares	—	—	—	—
End of Period	<u>(3,498)</u>	<u>(1,675)</u>	<u>(3,498)</u>	<u>(1,675)</u>

See notes to consolidated condensed financial statements.

ASTRONICS CORPORATION
Notes to Consolidated Condensed Financial Statements
September 28, 2019
(Unaudited)

1) Basis of Presentation

The accompanying unaudited statements have been prepared in accordance with U.S. generally accepted accounting principles for interim financial information. Accordingly, they do not include all of the information and footnotes required by U.S. generally accepted accounting principles for complete financial statements. In the opinion of management, all adjustments, consisting of normal recurring accruals, considered necessary for a fair presentation have been included.

Operating Results

The results of operations for any interim period are not necessarily indicative of results for the full year. Operating results for the nine months ended September 28, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019.

The balance sheet at December 31, 2018 has been derived from the audited financial statements at that date, but does not include all of the information and footnotes required by U.S. generally accepted accounting principles ("GAAP") for complete financial statements.

For further information, refer to the financial statements and footnotes thereto included in Astronics Corporation's 2018 annual report on Form 10-K.

Description of the Business

Astronics Corporation ("Astronics" or the "Company") is a leading supplier of advanced technologies and products to the global aerospace and defense industries. Our products and services include advanced, high-performance electrical power generation and distribution systems, seat motion solutions, lighting and safety systems, avionics products, aircraft structures, systems certification and automated test systems.

We have operations in the United States ("U.S."), Canada and France. We design and build our products through our wholly owned subsidiaries Astronics Advanced Electronic Systems Corp. ("AES"); Astronics AeroSat Corporation ("AeroSat"); Armstrong Aerospace, Inc. ("Armstrong"); Astronics Test Systems, Inc. ("ATS"); Ballard Technology, Inc. ("Ballard"); Astronics Connectivity Systems and Certification Corp. ("CSC"); Astronics Custom Control Concepts Inc. ("CCC"); Astronics DME LLC ("DME"); Freedom Communication Technologies, Inc. ("FCT"); Luminescent Systems, Inc. ("LSI"); Luminescent Systems Canada, Inc. ("LSI Canada"); Max-Viz, Inc. ("Max-Viz"); Peco, Inc. ("Peco"); and PGA Electronic s.a. ("PGA"). On October 4, 2019, the Company acquired the primary operating subsidiaries of Diagnosys Test Systems Limited ("Diagnosys").

On February 13, 2019, the Company completed a divestiture of its semiconductor test business within the Test Systems segment. The total proceeds of the divestiture amounted to \$103.8 million. The Company recorded a pre-tax gain on the sale of \$80.1 million in the first quarter of 2019. The income tax expense relating to the gain is expected to be \$21.3 million.

On July 1, 2019, the Company acquired all of the issued and outstanding capital stock of FCT. FCT, located in Kilgore, Texas, is a leader in wireless communication testing, primarily for the civil land mobile radio market. FCT is included in our Test Systems segment. The total consideration for the transaction was \$21.8 million, net of \$0.6 million in cash acquired.

On July 12, 2019, the Company sold intellectual property and certain assets associated with its Airfield Lighting product line for \$1.0 million in cash. The Airfield Lighting product line, part of the Aerospace segment, represented less than 1% of 2018 revenue. The Company recorded a pre-tax loss on the sale of approximately \$1.3 million.

For additional information regarding these acquisitions and divestitures see Note 18.

On October 4, 2019, the Company acquired the stock of the primary operating subsidiaries as well as certain other assets from mass transit and defense market test solution provider, Diagnosys, for \$7.0 million in cash. Diagnosys is a developer and manufacturer of comprehensive automated test equipment providing test, support, and repair of high value electronics, electro-mechanical, pneumatic and printed circuit boards focused on the global mass transit and defense markets. The terms of the acquisition allow for a potential earn-out of up to an additional \$13.0 million over the next three years based on achievement of new order levels of over \$72.0 million during that period. The acquired business has operations in Westford, Massachusetts as well as Ferndown, England, and an engineering center of excellence in Bangalore, India. Refer to Note 19 for additional information.

Cost of Products Sold, Engineering and Development, Interest, and Selling, General and Administrative Expenses

Cost of products sold includes the costs to manufacture products such as direct materials and labor and manufacturing overhead as well as all engineering and development costs. The Company is engaged in a variety of engineering and design activities as well as basic research and development activities directed to the substantial improvement or new application of the Company's existing technologies. These costs are expensed when incurred and included in cost of products sold. Research and development, design and related engineering amounted to \$25.6 million and \$31.2 million for the three months ended and \$80.0 million and \$89.0 million for the nine months ended September 28, 2019 and September 29, 2018, respectively. Selling, general and administrative expenses include costs primarily related to our sales and marketing departments and administrative departments. Interest expense is shown net of interest income. Interest income was insignificant for the three and nine months ended September 28, 2019 and September 29, 2018.

Foreign Currency Translation

The aggregate transaction gain or loss included in operations was insignificant for the three and nine months ended September 28, 2019 and September 29, 2018.

Newly Adopted and Recent Accounting Pronouncements

During the first quarter of 2018, the Company early-adopted ASU No. 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows for a reclassification from accumulated other comprehensive income (loss) to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act. The Company applied the guidance as of the beginning of the period of adoption and reclassified approximately \$1.4 million from accumulated other comprehensive loss to retained earnings due to the change in federal corporate tax rate.

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. ASU 2016-02 required entities to adopt the new standard using a modified retrospective method and initially apply the related guidance at the beginning of the earliest period presented in the financial statements. During July 2018, the FASB issued ASU 2018-11, which allows for an additional and optional transition method under which an entity would record a cumulative-effect adjustment at the beginning of the period of adoption ("cumulative-effect method").

We have adopted this guidance as of January 1, 2019 using the cumulative-effect method. The standard requires lessees to recognize a lease liability and a right-of-use ("ROU") asset on the balance sheet for operating leases. Accounting for finance leases is substantially unchanged. Prior year financial statements were not recast under the new method. We elected the package of transition provisions available for expired or existing contracts, which allowed us to carryforward our historical assessments of (1) whether contracts are or contain leases, (2) lease classification and (3) initial direct costs.

The implementation of this standard did not have a material effect on our consolidated financial statements. As of January 1, 2019, ROU assets of approximately \$8.4 million and lease liabilities of approximately \$18.5 million were recognized on our balance sheet for our leased office and manufacturing facilities and equipment leases. There was a reclassification to ROU assets of approximately \$3.5 million from net property plant and equipment for assets under existing finance leases at the transition date. The standards did not materially impact the Company's consolidated statements of operations or retained earnings. Refer to Note 9 for additional information.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments*. This standard requires that an entity measure impairment of certain financial instruments, including trade receivables, based on expected losses rather than incurred losses. In November 2018, the FASB issued ASU 2018-19 which clarifies the guidance in ASU 2016-13. The provisions of this ASU are effective for years beginning after December 15, 2019, with early adoption permitted. We are currently evaluating the impact of this ASU. We do not expect this ASU to have a significant impact on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Changes to the Disclosure Requirements for Fair Value Measurement*. The new standard removes the disclosure requirements for the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy. The provisions of this ASU are effective for years beginning after December 15, 2019, with early adoption permitted. We do not expect this ASU to have a significant impact on our consolidated financial statements, as it only includes changes to disclosure requirements.

In August 2018, the FASB issued ASU 2018-14, *Changes to the Disclosure Requirements for Defined Benefit Plans*. The new standard includes updates to the disclosure requirements for defined benefit plans including several additions, deletions and modifications to the disclosure requirements. The provisions of this ASU are effective for years beginning after December 15, 2020, with early adoption permitted. We are currently evaluating the impact of this ASU.

2) Revenue

ASU 2014-09 was adopted on January 1, 2018 using the modified retrospective method, which required the recognition of the cumulative effect of the transition as an adjustment to retained earnings. We recognized a transition adjustment of \$3.3 million, net of tax effects, which increased our January 1, 2018 retained earnings.

Revenue is recognized when, or as, the Company transfers control of promised products or services to a customer in an amount that reflects the consideration the Company expects to be entitled in exchange for transferring those products or services. Sales shown on the Company's Consolidated Condensed Statements of Operations are from contracts with customers.

Payment terms and conditions vary by contract, although terms generally include a requirement of payment within a range from 30 to 60 days after the performance obligation has been satisfied; or in certain cases, up-front deposits. In circumstances where the timing of revenue recognition differs from the timing of invoicing, the Company has determined that the Company's contracts generally do not include a significant financing component. Taxes collected from customers, which are subsequently remitted to governmental authorities, are excluded from sales.

The Company recognizes an asset for the incremental, material costs of obtaining a contract with a customer if the Company expects the benefit of those costs to be longer than one year and the costs are expected to be recovered. These incremental costs include, but are not limited to, sales commissions incurred to obtain a contract with a customer. As of September 28, 2019, the Company does not have material incremental costs on any open contracts with an original expected duration of greater than one year.

The Company recognizes an asset for certain, material costs to fulfill a contract if it is determined that the costs relate directly to a contract or anticipated contracts that can be specifically identified, generate or enhance resources that will be used in satisfying performance obligations in the future, and are expected to be recovered. Such costs are amortized on a systematic basis that is consistent with the transfer to the customer of the goods to which the asset relates. Start-up costs are expensed as incurred. Capitalized fulfillment costs are included in Inventories in the accompanying Consolidated Condensed Balance Sheets. Should future orders not materialize or it is determined the costs are no longer probable of recovery, the capitalized costs are written off. As of September 28, 2019, the Company does not have material capitalized fulfillment costs.

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the unit of account. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of our contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts which are, therefore, not distinct. Promised goods or services that are immaterial in the context of the contract are not separately assessed as performance obligations.

Some of our contracts have multiple performance obligations, most commonly due to the contract covering multiple phases of the product lifecycle (development, production, maintenance and support). For contracts with multiple performance obligations, the contract's transaction price is allocated to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. The primary method used to estimate standalone selling price is the expected cost plus margin approach, under which expected costs are forecast to satisfy a performance obligation and then an appropriate margin is added for that distinct good or service. Shipping and handling activities that occur after the customer has obtained control of the good are considered fulfillment activities, not performance obligations.

Some of our contracts offer price discounts or free units after a specified volume has been purchased. The Company evaluates these options to determine whether they provide a material right to the customer, representing a separate performance obligation. If the option provides a material right to the customer, revenue is allocated to these rights and recognized when those future goods or services are transferred, or when the option expires.

Contract modifications are routine in the performance of our contracts. Contracts are often modified to account for changes in contract specifications or requirements. In most instances, contract modifications are for goods or services that are distinct, and, therefore, are accounted for as new contracts. The effect of modifications has been reflected when identifying the satisfied and unsatisfied performance obligations, determining the transaction price and allocating the transaction price.

The majority of the Company's revenue from contracts with customers is recognized at a point in time, when the customer obtains control of the promised product, which is generally upon delivery and acceptance by the customer. These contracts may provide credits or incentives, which may be accounted for as variable consideration. Variable consideration is estimated at the most likely amount to predict the consideration to which the Company will be entitled, and only to the extent it is probable that a subsequent change in estimate will not result in a significant revenue reversal when estimating the amount of revenue to recognize. Variable consideration is treated as a change to the sales transaction price and based on an assessment of all

information (i.e., historical, current and forecasted) that is reasonably available to the Company, and estimated at contract inception and updated at the end of each reporting period as additional information becomes available. Most of our contracts do not contain rights to return product; where this right does exist, it is evaluated as possible variable consideration.

For contracts that are subject to the requirement to accrue anticipated losses, the company recognizes the entire anticipated loss in the period that the loss becomes probable.

For contracts with customers in which the Company promises to provide a product to the customer that has no alternative use to the Company and the Company has enforceable rights to payment for progress completed to date inclusive of profit, the Company satisfies the performance obligation and recognizes revenue over time, using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying our performance obligations. Incurred cost represents work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer. Contract costs include labor, material and overhead.

The Company also recognizes revenue from service contracts (including service-type warranties) over time. The Company recognizes revenue over time during the term of the agreement as the customer is simultaneously receiving and consuming the benefits provided throughout the Company's performance. The Company typically recognizes revenue on a straight-line basis throughout the contract period.

On September 28, 2019, we had \$379.4 million of remaining performance obligations, which we refer to as total backlog. We expect to recognize approximately \$175.0 million of our remaining performance obligations as revenue in 2019. The Company has not recognized any material amount of revenue from performance obligations that were satisfied or partially satisfied in previous periods.

Costs in excess of billings includes unbilled amounts resulting from revenues under contracts with customers that are satisfied over time and when the cost-to-cost measurement method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer, and right to payment is not just subject to the passage of time. Amounts may not exceed their net realizable value. Costs in excess of billings are classified as current assets, within Accounts Receivable, Net of Allowance for Doubtful Accounts on our Consolidated Condensed Balance Sheet.

Billings in excess of cost includes billings in excess of revenue recognized as well as deferred revenue, which includes advanced payments, up-front payments, and progress billing payments. Billings in excess of cost are classified as current liabilities, reported in our Consolidated Condensed Balance Sheet within Customer Advance Payments and Deferred Revenue. To determine the revenue recognized in the period from the beginning balance of billings in excess of cost, the contract liability as of the beginning of the period is recognized as revenue on a contract-by-contract basis when the Company satisfies the performance obligation related to the individual contract. Once the beginning contract liability balance for an individual contract has been fully recognized as revenue, any additional payments received in the period are recognized as revenue once the related costs have been incurred.

We recognized \$5.1 million and \$6.3 million during the three months ended September 28, 2019 and September 29, 2018, respectively, and \$15.7 million and \$6.3 million for the nine months ended September 28, 2019 and September 29, 2018, respectively, in revenues that were included in the contract liability balance at the beginning of the period.

The Company's contract assets and contract liabilities consist primarily of costs in excess of billings and billings in excess of cost, respectively. The following table presents the beginning and ending balances of contract assets and contract liabilities during the nine months ended September 28, 2019:

(In thousands)	Contract Assets		Contract Liabilities	
Beginning Balance, January 1, 2019	\$	33,030	\$	27,347
Ending Balance, September 28, 2019	\$	25,952	\$	23,959

The following table presents our revenue disaggregated by Market Segments as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Aerospace Segment				
Commercial Transport	\$ 393,721	\$ 402,539	\$ 122,212	\$ 136,692
Military	57,753	46,410	17,255	16,125
Business Jet	49,555	30,291	12,432	9,289
Other	19,461	21,143	5,803	7,473
Aerospace Total	520,490	500,383	157,702	169,579
Test Systems Segment				
Semiconductor	7,815	72,061	2,219	33,596
Aerospace & Defense	45,985	27,895	17,097	9,499
Test Systems Total	53,800	99,956	19,316	43,095
Total	\$ 574,290	\$ 600,339	\$ 177,018	\$ 212,674

The following table presents our revenue disaggregated by Product Lines as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Aerospace Segment				
Electrical Power & Motion	\$ 255,007	\$ 218,931	\$ 78,428	\$ 78,610
Lighting & Safety	139,502	129,244	44,127	43,481
Avionics	79,414	100,354	19,871	31,059
Systems Certification	9,050	12,028	3,384	2,373
Structures	18,056	18,683	6,089	6,583
Other	19,461	21,143	5,803	7,473
Aerospace Total	520,490	500,383	157,702	169,579
Test Systems	53,800	99,956	19,316	43,095
Total	\$ 574,290	\$ 600,339	\$ 177,018	\$ 212,674

3) Inventories

Inventories are as follows:

(In thousands)	September 28, 2019	December 31, 2018
Finished Goods	\$ 33,275	\$ 33,100
Work in Progress	26,611	27,409
Raw Material	89,735	78,176
	\$ 149,621	\$ 138,685

Additionally, net Inventories of \$14,385 are classified in Assets Held for Sale at December 31, 2018. Refer to Note 18.

4) Property, Plant and Equipment

Property, Plant and Equipment are as follows:

(In thousands)	September 28, 2019	December 31, 2018
Land	\$ 9,778	\$ 11,191
Buildings and Improvements	73,988	83,812
Machinery and Equipment	114,190	106,327
Construction in Progress	5,676	6,404
	<u>203,632</u>	<u>207,734</u>
Less Accumulated Depreciation	90,495	86,872
	<u>\$ 113,137</u>	<u>\$ 120,862</u>

Additionally, net Property, Plant and Equipment of \$3,186 and \$3,521 are classified in Assets Held for Sale at September 28, 2019 and December 31, 2018, respectively. Refer to Note 18.

5) Intangible Assets

The following table summarizes acquired intangible assets as follows:

(In thousands)	Weighted Average Life	September 28, 2019		December 31, 2018	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Patents	11 years	\$ 2,146	\$ 1,782	\$ 2,146	\$ 1,716
Non-compete Agreement	4 years	10,900	6,925	10,900	4,680
Trade Names	10 years	11,419	5,983	11,454	5,182
Completed and Unpatented Technology	10 years	42,904	17,782	36,406	14,964
Customer Relationships	15 years	142,113	44,577	136,894	37,875
Total Intangible Assets	13 years	<u>\$ 209,482</u>	<u>\$ 77,049</u>	<u>\$ 197,800</u>	<u>\$ 64,417</u>

Additionally, net Intangible Assets of \$651 are classified in Assets Held for Sale at December 31, 2018. Refer to Note 18.

All acquired intangible assets other than goodwill and one trade name are being amortized. Amortization expense for acquired intangibles is summarized as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Amortization Expense	<u>\$ 12,746</u>	<u>\$ 15,144</u>	<u>\$ 4,394</u>	<u>\$ 4,276</u>

Amortization expense for acquired intangible assets expected for 2019 and for each of the next five years is summarized as follows:

(In thousands)	
2019	\$ 17,131
2020	16,888
2021	14,978
2022	14,554
2023	13,386
2024	11,920

6) Goodwill

The following table summarizes the changes in the carrying amount of goodwill for the nine months ended September 28, 2019:

(In thousands)	December 31, 2018	Acquisition/Divestiture/Adjustments	Foreign Currency Translation	September 28, 2019
Aerospace	\$ 124,952	\$ (262)	\$ (225)	\$ 124,465
Test Systems	—	9,129	—	9,129
	<u>\$ 124,952</u>	<u>\$ 8,867</u>	<u>\$ (225)</u>	<u>\$ 133,594</u>

7) Long-term Debt and Notes Payable

The Company's Fourth Amended and Restated Credit Agreement (the "Original Facility") provided for a \$350 million revolving credit line with the option to increase the line by up to \$150 million. The maturity date of the Original Facility was January 13, 2021. On February 16, 2018, the Company modified and extended the Original Facility by entering into the Fifth Amended and Restated Credit Agreement (the "Agreement"), which provides for a \$500 million revolving credit line with the option to increase the line by up to \$150 million. A new lender was added to the facility as well. The outstanding balance of the Original Facility was rolled into the Agreement on the date of closing. The maturity date of the loans under the Agreement is February 16, 2023. At September 28, 2019, there was \$180.0 million outstanding on the revolving credit facility and there remains \$318.9 million available, net of outstanding letters of credit. The credit facility allocates up to \$20 million of the \$500 million revolving credit line for the issuance of letters of credit, including certain existing letters of credit. At September 28, 2019, outstanding letters of credit totaled \$1.1 million.

The maximum permitted leverage ratio of funded debt to Adjusted EBITDA (as defined in the Agreement) is 3.75 to 1, increasing to 4.50 to 1 for up to four fiscal quarters following the closing of an acquisition permitted under the Agreement, subject to limitations. The Company is in compliance with its financial covenant at September 28, 2019. The Company will pay interest on the unpaid principal amount of the facility at a rate equal to one-, three- or six-month LIBOR plus between 1.00% and 1.50% based upon the Company's leverage ratio. The Company will also pay a commitment fee to the Lenders in an amount equal to between 0.10% and 0.20% on the undrawn portion of the credit facility, based upon the Company's leverage ratio.

The Company's obligations under the Credit Agreement as amended are jointly and severally guaranteed by each domestic subsidiary of the Company other than a non-material subsidiary. The obligations are secured by a first priority lien on substantially all of the Company's and the guarantors' assets.

In the event of voluntary or involuntary bankruptcy of the Company or any subsidiary, all unpaid principal and other amounts owing under the Credit Agreement automatically become due and payable. Other events of default, such as failure to make payments as they become due and breach of financial and other covenants, change of control, judgments over a certain amount, and cross default under other agreements give the Agent the option to declare all such amounts immediately due and payable.

8) Product Warranties

In the ordinary course of business, the Company warrants its products against defects in design, materials and workmanship typically over periods ranging from 12 to 60 months. The Company determines warranty reserves needed by product line based on experience and current facts and circumstances. Activity in the warranty accrual is summarized as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Balance at Beginning of Period	\$ 5,027	\$ 5,136	\$ 4,806	\$ 5,180
Warranties Divested or Acquired	(103)	—	20	—
Warranties Issued	2,014	2,102	769	801
Warranties Settled	(1,850)	(2,219)	(670)	(934)
Reassessed Warranty Exposure	138	(77)	301	(105)
Balance at End of Period	<u>\$ 5,226</u>	<u>\$ 4,942</u>	<u>\$ 5,226</u>	<u>\$ 4,942</u>

9) Leases

The Company has operating and finance leases for leased office and manufacturing facilities and equipment leases. At inception of arrangements with vendors, the Company determines whether the contract is or contains a lease based on each party's rights and obligations under the arrangement. At inception, any new additional operating lease liabilities and corresponding ROU assets are based on the present value of the remaining minimum rental payments. If the lease arrangement also contains non-lease components, the Company elected the practical expedient not to separate any combined lease and non-lease components for all lease contracts. For our real estate leases, the remaining fixed minimum rental payments used in the calculation of the new lease liability, include fixed payments and variable payments (if the variable payments are based on an index), over the remaining lease term. While we do have real estate leases with options to purchase the facility at a market value at the date of exercise, these are not included in the calculation of the lease liability, as these options are not expected to be exercised as of the January 1, 2019 transition date.

The present value of the Company's lease liability at transition was calculated using a weighted-average incremental borrowing rate of 8.7%. In determining the incremental borrowing rate, we have considered borrowing data for secured debt obtained from our lending institution as of the transition date. As of September 28, 2019, the Company recognized an operating right-of-use asset and lease liability of approximately \$25.1 million and \$25.4 million, respectively. The Company's operating lease liability increased approximately \$4.1 million and \$9.7 million as a result of acquiring right-of-use-assets from new leases entered into during the three and nine months ended September 28, 2019. As of September 28, 2019, the Company recognized a financing right-of-use asset and lease liability of approximately \$2.7 million and \$5.2 million, respectively. No new financing lease liabilities were entered into during the three and nine months ended September 28, 2019. The right-of-use asset is included within Other assets in the Consolidated Condensed Balance Sheets, while the lease liability is included within Other current liabilities and Other liabilities, as appropriate.

As permitted by ASC 842, leases with expected durations of less than 12 months from inception (i.e. short-term leases) were excluded from the Company's calculation of its lease liability and right-of-use asset. Furthermore, as permitted by ASC 842, the Company elected to apply the package of practical expedients, which allows companies not to reassess: (a) whether its expired or existing contracts are or contain leases, (b) the lease classification for any expired or existing leases, and (c) initial direct costs for any existing leases.

The following is a summary of the Company's total lease costs:

(In thousands)	Nine months ended September 28, 2019	Three months ended September 28, 2019
Finance Lease Cost:		
Amortization of Right-of-use Assets	\$ 765	\$ 255
Interest on Lease Liabilities	243	76
Total Finance Lease Cost	1,008	331
Operating Lease Cost	3,622	1,216
Variable Lease Cost	958	279
Short-term Lease Cost (excluding month-to-month)	118	33
Less Sublease and Rental (Income) Expense	(301)	216
Total Operating Lease Cost	\$ 4,397	\$ 1,744
Total Net Lease Cost	\$ 5,405	\$ 2,075

The following is a summary of cash paid for amounts included in the measurement of lease liabilities:

(In thousands)	Nine months ended September 28, 2019
Operating Cash Flows Used for Finance Leases	\$ 1,008
Operating Cash Flows Used for Operating Leases	\$ 2,767
Financing Cash Flows Used for Finance Leases	\$ 1,284

The weighted-average remaining term for the Company's operating and financing leases are approximately 8 years and 3 years, respectively.

The following is a summary of the Company's maturity of lease liabilities:

(In thousands)	Operating Leases		Financing Leases	
2019	\$	1,192	\$	522
2020		4,142		2,128
2021		4,121		2,181
2022		3,904		743
2023		3,677		—
Thereafter		11,981		—
Total Lease Payments	\$	29,017	\$	5,574
Less: Interest		3,624		380
Total Lease Liability	\$	25,393	\$	5,194

10) Income Taxes

The effective tax rates were approximately 22.9% and 6.5% for the nine months ended and 31.3% and (9.1)% for the three months ended September 28, 2019 and September 29, 2018, respectively. The 2019 tax rate was unfavorably impacted by state income taxes, which was partially offset by the federal research and development tax credit.

11) Earnings Per Share

Basic and diluted weighted-average shares outstanding are as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Weighted Average Shares - Basic	32,427	32,304	31,964	32,317
Net Effect of Dilutive Stock Options	575	731	619	652
Weighted Average Shares - Diluted	33,002	33,035	32,583	32,969

Stock options with exercise prices greater than the average market price of the underlying common shares are excluded from the computation of diluted earnings per share because they are out-of-the-money and the effect of their inclusion would be anti-dilutive. The number of common shares covered by out-of-the-money stock options was approximately 279,000 shares as of September 28, 2019 and 19,000 shares as of September 29, 2018.

12) Shareholders' Equity

Share Buyback Program

On February 24, 2016, the Company's Board of Directors authorized the repurchase of up to \$50 million of common stock (the "Buyback Program"). The Buyback Program allowed the Company to purchase shares of its common stock in accordance with applicable securities laws on the open market or through privately negotiated transactions. The Company has repurchased approximately 1,675,000 shares and has completed that program. On December 12, 2017, the Company's Board of Directors authorized an additional repurchase of up to \$50 million. The Company has repurchased approximately 1,823,000 shares and has completed that program in the third quarter of 2019. On September 17, 2019, the Company's Board of Directors authorized an additional repurchase of up to \$50 million. No amounts have been repurchased under the new program as of September 28, 2019.

Comprehensive Income (Loss) and Accumulated Other Comprehensive Loss

The components of accumulated other comprehensive loss are as follows:

(In thousands)	September 28, 2019	December 31, 2018
Foreign Currency Translation Adjustments	\$ (7,878)	\$ (7,156)
Retirement Liability Adjustment – Before Tax	(7,256)	(7,814)
Tax Benefit of Retirement Liability Adjustment	1,524	1,641
Retirement Liability Adjustment – After Tax	(5,732)	(6,173)
Accumulated Other Comprehensive Loss	<u>\$ (13,610)</u>	<u>\$ (13,329)</u>

The components of other comprehensive income (loss) are as follows:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Foreign Currency Translation Adjustments	\$ (722)	\$ (1,346)	\$ (1,336)	\$ 226
Retirement Liability Adjustments:				
Reclassifications to General and Administrative Expense:				
Amortization of Prior Service Cost	302	303	101	101
Amortization of Net Actuarial Losses	256	515	85	172
Tax Benefit	(117)	(172)	(39)	(57)
Retirement Liability Adjustment	<u>441</u>	<u>646</u>	<u>147</u>	<u>216</u>
Other Comprehensive Income (Loss)	<u>\$ (281)</u>	<u>\$ (700)</u>	<u>\$ (1,189)</u>	<u>\$ 442</u>

13) Supplemental Retirement Plan and Related Post Retirement Benefits

The Company has two non-qualified supplemental retirement defined benefit plans (“SERP” and “SERP II”) for certain executive officers. The following table sets forth information regarding the net periodic pension cost for the plans.

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Service Cost	\$ 136	\$ 150	\$ 45	\$ 50
Interest Cost	687	675	229	225
Amortization of Prior Service Cost	290	291	97	97
Amortization of Net Actuarial Losses	224	471	74	157
Net Periodic Cost	<u>\$ 1,337</u>	<u>\$ 1,587</u>	<u>\$ 445</u>	<u>\$ 529</u>

Participants in the SERP are entitled to paid medical, dental and long-term care insurance benefits upon retirement under the plan. The following table sets forth information regarding the net periodic cost recognized for those benefits:

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Service Cost	\$ 10	\$ 12	\$ 3	\$ 4
Interest Cost	35	34	12	11
Amortization of Prior Service Cost	12	12	4	4
Amortization of Net Actuarial Losses	32	44	11	15
Net Periodic Cost	<u>\$ 89</u>	<u>\$ 102</u>	<u>\$ 30</u>	<u>\$ 34</u>

14) Sales to Major Customers

The Company has a significant concentration of business with two major customers, each in excess of 10% of consolidated sales. The loss of either of these customers would significantly, negatively impact our sales and earnings.

Sales to these two customers represented 14% and 13% of consolidated sales for the nine months ended and 14% and 12% for the three months ended September 28, 2019. Sales to these customers were primarily in the Aerospace segment. Accounts receivable from these customers at September 28, 2019 was approximately \$39.7 million. Sales to these two customers represented 15% and 15% of consolidated sales for the nine months ended and 14% and 13% for the three months ended September 29, 2018.

15) Legal Proceedings

The Company is subject to various legal proceedings, claims, and litigation arising in the ordinary course of business. While the outcome of these matters is currently not determinable, we do not expect these matters will have a material adverse effect on our business, financial position, results of operations, or cash flows. However, the results of these matters cannot be predicted with certainty. Should the Company fail to prevail in any legal matter or should several legal matters be resolved against the Company in the same reporting period, then the financial results of that particular reporting period could be materially adversely affected.

On December 29, 2010, Lufthansa Technik AG (“Lufthansa”) filed a Statement of Claim in the Regional State Court of Mannheim, Germany. Lufthansa’s claim asserts that our subsidiary, AES, sold, marketed, and brought into use in Germany a power supply system that infringes upon a German patent held by Lufthansa. Lufthansa sought an order requiring AES to stop selling and marketing the allegedly infringing power supply system, a recall of allegedly infringing products sold to commercial customers in Germany since November 26, 2003, and compensation for damages related to direct sales of the allegedly infringing power supply system in Germany (referred to as “direct sales”). The claim does not specify an estimate of damages and a related damages claim is being pursued by Lufthansa in separate court proceedings in an action filed in July 2017, as further discussed below.

In February 2015, the Regional State Court of Mannheim, Germany rendered its decision that the patent was infringed. The judgment does not require AES to recall products that are already installed in aircraft or have been sold to other end users. On July 15, 2015, Lufthansa advised AES of their intention to enforce the accounting provisions of the decision, which required AES to provide certain financial information regarding direct sales of the infringing product in Germany to enable Lufthansa to make an estimate of requested damages.

The Company appealed to the Higher Regional Court of Karlsruhe. On November 15, 2016, the Court issued its ruling and upheld the lower court’s decision. The Company submitted a petition to grant AES leave for appeal to the German Federal Supreme Court. On April 18, 2018, the German Federal Supreme Court granted Astronics’ petition in part, namely with respect to the part concerning the amount of damages. On January 8, 2019 Federal Supreme Court held the hearing on the appeal. By judgment of March 26, 2019 the Federal Supreme Court dismissed AES’s appeal. With this decision, the above-mentioned proceedings are complete.

In July 2017, Lufthansa filed an action in the Regional State Court of Mannheim for payment of damages caused by the alleged patent infringement of AES, related to direct sales of the allegedly infringing product in Germany (associated with the original December 2010 action discussed above). In this action, which was served on AES on April 11, 2018, Lufthansa claims payment of approximately \$6.2 million plus interest. According to AES’s assessment, this claim is significantly higher than justified. However, based on the results of the oral hearing on September 13, 2019, we estimate AES’s potential exposure to be approximately \$2.7 million to \$6.3 million (including interest). We recorded an incremental reserve of \$1.7 million in the three and nine month periods ended September 28, 2019, for a total reserve of \$2.7 million associated with this matter. A first instance decision in this matter is expected on November 22, 2019.

On December 29, 2017, Lufthansa filed another infringement action against AES in the Regional State Court of Mannheim claiming that sales by AES to its international customers have infringed Lufthansa’s patent if AES’s customers later shipped the products to Germany (referred to as “indirect sales”). This action, therefore, addresses sales other than those covered by the action filed on December 29, 2010, discussed above. In this action, served on April 11, 2018, Lufthansa seeks an injunction, an order obliging AES to provide information and accounting and a finding that AES owes damages for the attacked indirect sales. AES will vigorously defend against the action. No amount of claimed damages has been specified by Lufthansa and such amount is not quantifiable at this time. A first instance decision in this matter is expected on November 22, 2019. As loss exposure is neither probable nor estimable at this time, the Company has not recorded any liability with respect to this litigation as of September 28, 2019.

In December 2017, Lufthansa filed patent infringement cases in the United Kingdom and in France against AES. The Lufthansa patent expired in May 2018. In those cases, Lufthansa accuses AES of having manufactured, used, sold and offered for sale a power supply system, and offered and supplied parts for a power supply system, that infringed upon a Lufthansa patent in those respective countries. In the U.K. matter, a trial has been scheduled for February 2020 to address the issues of infringement and validity. As loss exposure is neither probable nor estimable at this time, in either of these proceedings, the Company has not recorded any liability with respect to these matters as of September 28, 2019.

On November 26, 2014, Lufthansa filed a complaint in the United States District for the Western District of Washington. Lufthansa's complaint in that action alleges that AES manufactures, uses, sells and offers for sale a power supply system that infringes upon a U.S. patent held by Lufthansa. The patent at issue in the U.S. action is based on technology similar to that involved in the German action. On April 25, 2016, the Court issued its ruling on claim construction, holding that the sole independent claim in the patent is indefinite, rendering all claims in the patent indefinite. Based on this ruling, AES filed a motion for summary judgment on the grounds that the Court's ruling that the patent is indefinite renders the patent invalid and unenforceable. On July 20, 2016, the U.S. District Court granted the motion for summary judgment and issued an order dismissing all claims against AES with prejudice.

Lufthansa appealed the District Court's decision to the United States Court of Appeals for the Federal Circuit. On October 19, 2017, the Federal Circuit affirmed the district court's decision, holding that the sole independent claim of the patent is indefinite, rendering all claims on the patent indefinite. Lufthansa did not file a petition for en banc rehearing or petition the U.S. Supreme Court for a writ of certiorari. Therefore, there is no longer a risk of exposure from that lawsuit.

16) Segment Information

Below are the sales and operating profit by segment for the three and nine months ended September 28, 2019 and September 29, 2018 and a reconciliation of segment operating profit to income before income taxes. Operating profit is net sales less cost of products sold and other operating expenses excluding interest and corporate expenses. Cost of products sold and other operating expenses are directly identifiable to the respective segment.

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Sales				
Aerospace	\$ 520,495	\$ 500,445	\$ 157,702	\$ 169,588
Less Intersegment Sales	(5)	(62)	—	(9)
Total Aerospace Sales	520,490	500,383	157,702	169,579
Test Systems	53,995	99,956	19,346	43,095
Less Intersegment Sales	(195)	—	(30)	—
Total Test Systems Sales	53,800	99,956	19,316	43,095
Total Consolidated Sales	\$ 574,290	\$ 600,339	\$ 177,018	\$ 212,674
Operating Profit and Margins				
Aerospace	\$ 48,949	\$ 47,525	\$ 8,789	\$ 16,210
	9.4 %	9.5 %	5.6 %	9.6 %
Test Systems	4,166	10,151	2,075	5,833
	7.7 %	10.2 %	10.7 %	13.5 %
Total Operating Profit	53,115	57,676	10,864	22,043
	9.2 %	9.6 %	6.1 %	10.4 %
Additions/Deductions from Operating Profit				
Net (Gain) Loss on Sale of Businesses	(78,801)	—	1,332	—
Interest Expense, Net of Interest Income	4,576	7,326	1,547	2,511
Corporate Expenses and Other	15,755	13,662	6,225	3,952
Income Before Income Taxes	\$ 111,585	\$ 36,688	\$ 1,760	\$ 15,580

Total Assets:

(In thousands)	September 28, 2019	December 31, 2018
Aerospace	\$ 657,169	\$ 647,870
Test Systems	88,662	97,056
Corporate	32,137	29,714
Total Assets	\$ 777,968	\$ 774,640

17) Fair Value

A fair value measurement assumes that the transaction to sell an asset or transfer a liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. Fair value is based upon an exit price model. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and involves consideration of factors specific to the asset or liability.

The Company follows a valuation hierarchy for disclosure of the inputs to valuation used to measure fair value. This hierarchy prioritizes the inputs into three broad levels as follows:

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 inputs are unobservable inputs based on our own assumptions used to measure assets and liabilities at fair value.

On a Recurring Basis:

A financial asset or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement. There were no financial assets or liabilities carried at fair value measured on a recurring basis at December 31, 2018 or September 28, 2019.

On a Non-recurring Basis:

The Company estimates the fair value of reporting units, utilizing unobservable Level 3 inputs. Level 3 inputs require significant management judgment due to the absence of quoted market prices or observable inputs for assets of a similar nature. The Company utilizes a discounted cash flow analysis to estimate the fair value of reporting units utilizing unobservable inputs. The fair value measurement of the reporting unit under the step-one analysis of the quantitative goodwill impairment test are classified as Level 3 inputs.

Intangible assets that are amortized are evaluated for recoverability whenever adverse effects or changes in circumstances indicate that the carrying value may not be recoverable. The recoverability test consists of comparing the undiscounted projected cash flows with the carrying amount. Should the carrying amount exceed undiscounted projected cash flows, an impairment loss would be recognized to the extent the carrying amount exceeds fair value. For the Company's indefinite-lived intangible asset, the impairment test consists of comparing the fair value, determined using the relief from royalty method, with its carrying amount. An impairment loss would be recognized for the carrying amount in excess of its fair value.

Due to their short-term nature, the carrying value of cash and equivalents, accounts receivable, accounts payable, and notes payable approximate fair value. The carrying value of the Company's variable rate long-term debt instruments also approximates fair value due to the variable rate feature of these instruments. As of September 28, 2019, the Company concluded that no indicators of impairment relating to intangible assets or goodwill existed and an interim test was not performed.

18) Acquisition and Divestiture Activities**Acquisition**

On July 1, 2019, the Company acquired all of the issued and outstanding capital stock of FCT. FCT, located in Kilgore, Texas, is a leader in wireless communication testing, primarily for the civil land mobile radio market. FCT is included in our Test

Systems segment. The total consideration for the transaction was \$21.8 million, net of \$0.6 million in cash acquired. The purchase price allocation for this acquisition has not yet been finalized. Purchased intangible assets and goodwill are not expected to be deductible for tax purpose. This transaction was not considered material to the Company's financial position or results of operations.

Divestitures

On July 12, 2019, the Company sold intellectual property and certain assets associated with its Airfield Lighting product line for \$1.0 million in cash. The Airfield Lighting product line, part of the Aerospace segment, represented less than 1% of 2018 revenue. The Company recorded a pre-tax loss on the sale of approximately \$1.3 million. This amount is reported in the Consolidated Condensed Statement of Operations in Net (Gain) Loss on Sale of Businesses in the three and nine month periods ended September 28, 2019.

As of September 28, 2019, the Company has agreed to sell certain facilities within the Aerospace segment. Accordingly, the property, plant and equipment assets associated with these facilities of \$3.2 million have been classified as held for sale in the consolidated Balance Sheet at September 28, 2019.

As of December 31, 2018, the Company's Board of Directors had approved a plan to sell the semiconductor test business within the Test Systems segment. Accordingly, the assets and liabilities associated with these operations had been classified as held for sale in the consolidated Balance Sheet at December 31, 2018. The carrying value of the disposal group was lower than its fair value, less costs to sell, and accordingly, no impairment loss was required at December 31, 2018.

The following is a summary of the assets and liabilities held for sale as of December 31, 2018:

(In thousands)	December 31, 2018
Assets Held for Sale	
Inventories	\$ 14,385
Prepaid Expenses and Other Current Assets	87
Net Property, Plant and Equipment	3,521
Other Assets	714
Intangible Assets, Net of Accumulated Amortization	651
Total Assets Held for Sale	\$ 19,358
Liabilities Held for Sale	
Deferred Income Taxes	\$ 906

On February 13, 2019, the Company completed the divestiture. The total proceeds of the divestiture amounted to \$103.8 million. The Company recorded a pre-tax gain on the sale of \$80.1 million in the first quarter of 2019. The income tax expense relating to the gain is expected to be \$1.3 million.

The transaction also included two elements of contingent earnouts. The "First Earnout" is calculated based on a multiple of all future sales of existing and certain future derivative products to existing and future customers in each annual period from 2019 through 2022. The First Earnout may not exceed \$35.0 million in total. The "Second Earnout" is calculated based on a multiple of future sales related to an existing product and program with an existing customer exceeding an annual threshold for each annual period from 2019 through 2022. The Second Earnout is not capped. For the Second Earnout, if the applicable sales in an annual period do not exceed the annual threshold, no amounts will be paid relative to such annual period; the sales in such annual period do not carry over to the next annual period. Due to the degree of uncertainty associated with estimating the future sales levels of the divested business and its underlying programs, and the lack of reliable predictive market information, the Company will recognize such earnout proceeds, if received, as additional gain on sale when such proceeds are realized or realizable.

19) Subsequent Events

On October 4, 2019, the Company acquired the stock of the primary operating subsidiaries as well as certain other assets from mass transit and defense market test solution provider, Diagnosys for \$7.0 million in cash. Diagnosys is a developer and manufacturer of comprehensive automated test equipment providing test, support, and repair of high value electronics, electro-mechanical, pneumatic and printed circuit boards focused on the global mass transit and defense markets.

The terms of the acquisition allow for a potential earn-out of up to an additional \$13.0 million over the next three years based on achievement of new order levels of over \$72.0 million during that period. The acquired business has operations in Westford, Massachusetts as well as Ferndown, England, and an engineering center of excellence in Bangalore, India. The Company expects to complete a preliminary allocation during the fourth quarter of 2019. The Company is currently evaluating whether any of the goodwill and purchased intangible assets will be deductible for tax purposes.

AeroSat has incurred delays and losses related to certain projects in the period ended September 28, 2019. In our third-quarter earnings release on November 5, 2019, we announced initiatives that the Company is undertaking commencing in the fourth quarter of 2019 to reduce losses and minimize costs at our AeroSat reporting unit, which is a component of our Aerospace segment. As part of these initiatives, we are evaluating if we should continue with some of those projects. We expect to formulate a restructuring plan out of these initiatives which will result in restructuring charges which may include severance, relocation costs, inventory writedowns, long-lived asset impairment charges, contract cancellation charges and other expenses. The amount and timing of these charges will not be determinable until the restructuring plan has been determined, but it is possible they will be material.

The CCC reporting unit, a component of our Aerospace segment, has also incurred delays and losses related to a significant development project in the period ended September 28, 2019. Contract completion is expected to occur in the fourth quarter. If there are further delays, it is possible that additional losses may be incurred in future periods.

As of September 28, 2019, the AeroSat and CCC reporting units had goodwill of \$1.6 million and \$2.3 million, respectively, and intangible and long-lived assets totaling \$8.9 million and \$4.9 million, respectively. The percentage by which the AeroSat and CCC reporting units' fair values exceeded their carrying values in the last annual goodwill impairment test (as of September 30, 2018) was 35% and 43%, respectively. Based on the Company's evaluation, no significant events occurred or circumstances changed during the period ended September 28, 2019 that would suggest it is more likely than not that the fair values of these reporting unit have declined below their carrying values or that there were indicators of impairment for our long-lived assets in these reporting units, however, as we formulate our restructuring plan and reassess the long-range prospects for these businesses, factors could arise that result in a decline in the fair value of these reporting units and the indicators of impairment and the Company may be required to perform the applicable impairment tests and record impairment charges.

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

(The following should be read in conjunction with Management's Discussion and Analysis of Financial Condition and Results of Operations contained in the Company's Form 10-K for the year ended December 31, 2018.)

OVERVIEW

Astronics Corporation ("Astronics" or the "Company") is a leading supplier of advanced technologies and products to the global aerospace and defense industries. Our products and services include advanced, high-performance electrical power generation and distribution systems, seat motion solutions, lighting and safety systems, avionics products, aircraft structures, systems certification, and automated test systems.

Our Aerospace segment designs and manufactures products for the global aerospace industry. Product lines include lighting and safety systems, electrical power generation and distribution systems, seat motion solutions, aircraft structures, avionics products, systems certification, connectivity and other products. Our Aerospace customers are the airframe manufacturers ("OEM") that build aircraft for the commercial, military and general aviation markets, suppliers to those OEM's, aircraft operators such as airlines and branches of the U.S. Department of Defense as well as the Federal Aviation Administration and airport operators. Our Test Systems segment designs, develops, manufactures and maintains automated test systems that support the aerospace, communications and weapons test systems as well as training and simulation devices for both commercial and military applications. In the Test Systems segment, Astronics' products are sold to a global customer base including OEM's and prime government contractors for both electronics and military products.

Our strategy is to increase our value by developing technologies and capabilities, either internally or through acquisition, and using those capabilities to provide innovative solutions to our targeted markets where our technology can be beneficial.

Important factors affecting our growth and profitability are the rate at which new aircraft are produced, government funding of military programs, our ability to have our products designed into new aircraft and the rates at which aircraft owners, including commercial airlines, refurbish or install upgrades to their aircraft. New aircraft build rates and aircraft owners spending on upgrades and refurbishments is cyclical and dependent on the strength of the global economy. Once designed into a new aircraft, the spare parts business is frequently retained by the Company. Future growth and profitability of the test business is dependent on developing and procuring new and follow-on business. The nature of our Test Systems business is such that it pursues large multi-year projects. There can be significant periods of time between orders in this business which may result in large fluctuations of sales and profit levels and backlog from period to period.

On February 13, 2019, the Company completed a divestiture of its semiconductor test business within the Test Systems segment. The total proceeds of the divestiture amounted to \$103.8 million. The Company recorded a pre-tax gain on the sale of \$80.1 million in the first quarter of 2019. The income tax expense relating to the gain is expected to be \$21.3 million.

On July 1, 2019, the Company acquired all of the issued and outstanding capital stock of Freedom Communication Technologies, Inc. ("FCT"). FCT, located in Kilgore, Texas, is a leader in wireless communication testing, primarily for the civil land mobile radio market. FCT is included in our Test Systems segment. The total consideration for the transaction was \$21.8 million, net of \$0.6 million in cash acquired.

On July 12, 2019, the Company sold intellectual property and certain assets associated with its Airfield Lighting product line for \$1.0 million in cash. The Airfield Lighting product line, part of the Aerospace segment, represented less than 1% of 2018 revenue. The Company recorded a pre-tax loss on the sale of approximately \$1.3 million.

On October 4, 2019, the Company acquired the stock of the primary operating subsidiaries as well as certain other assets from mass transit and defense market test solution provider, Diagnosys, for \$7.0 million in cash. Diagnosys is a developer and manufacturer of comprehensive automated test equipment providing test, support, and repair of high value electronics, electro-mechanical, pneumatic and printed circuit boards focused on the global mass transit and defense markets. The terms of the acquisition allow for a potential earn-out of up to an additional \$13.0 million over the next three years based on achievement of new order levels of over \$72.0 million during that period. The acquired business has operations in Westford, Massachusetts as well as Ferndown, England, and an engineering center of excellence in Bangalore, India.

CONSOLIDATED RESULTS OF OPERATIONS AND OUTLOOK

(Dollars in thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Sales	\$ 574,290	\$ 600,339	\$ 177,018	\$ 212,674
Gross Profit (sales less cost of products sold)	\$ 129,234	\$ 133,024	\$ 36,794	\$ 46,320
Gross Margin	22.5 %	22.2 %	20.8 %	21.8 %
Selling, General and Administrative Expenses	\$ 90,677	\$ 87,919	\$ 31,691	\$ 27,976
SG&A Expenses as a Percentage of Sales	15.8 %	14.6 %	17.9 %	13.2 %
Net (Gain) Loss on Sale of Businesses	\$ (78,801)	\$ —	\$ 1,332	\$ —
Interest Expense, Net of Interest Income	\$ 4,576	\$ 7,326	\$ 1,547	\$ 2,511
Effective Tax Rate	22.9 %	6.5 %	31.3 %	(9.1)%
Net Income	\$ 86,082	\$ 34,318	\$ 1,210	\$ 16,999

A discussion by segment can be found at “Segment Results of Operations and Outlook” in this MD&A.

CONSOLIDATED THIRD QUARTER RESULTS

Consolidated sales were down 16.8%, or \$35.7 million, compared to the prior-year period. Aerospace segment sales decreased \$11.9 million, or 7.0%, while Test Systems segment sales decreased \$23.8 million due primarily to the divestiture of the semiconductor business.

Consolidated cost of products sold in the third quarter of 2019 decreased \$26.1 million to \$140.2 million compared with \$166.4 million in the prior-year period. The decline was due to lower sales, primarily due to the divestiture of the semiconductor business, partially offset with \$2.4 million in incremental tariff expenses and a \$2.2 million program charge related to a CCC long-term contract.

Selling, general and administrative (“SG&A”) expenses were \$31.7 million, or 17.9% of sales, in the third quarter of 2019 compared with \$28.0 million, or 13.2% of sales, in the same period last year. The increase was primarily due to a \$1.7 million legal reserve for a long-term patent dispute, coupled with incremental SG&A expense related to FCT, acquired in July 2019.

The third quarter of 2019 also included a loss of \$1.3 million related to the sale of intellectual property and certain assets associated with the Airfield Lighting product line.

The effective tax rate for the quarter was 31.3%, compared with a tax benefit recorded in the third quarter of 2018. The 2019 third quarter tax rate was unfavorably impacted by the gain on the sale of the semiconductor business while the third quarter 2018 tax rate was favorably impacted by a net tax benefit recorded associated with a revised state filing position.

Net income was \$1.2 million, or \$0.04 per diluted share, compared with \$17.0 million, or \$0.52 per diluted share in the prior year.

Bookings were \$176.6 million, for a book-to-bill ratio of 1.00:1. Backlog at the end of the quarter was \$379.4 million. Approximately \$175.0 million of backlog is expected to ship in the remainder of 2019.

CONSOLIDATED YEAR-TO-DATE RESULTS

Consolidated sales were down 4.3%, or \$26.0 million, driven primarily from lower sales in the Test systems segment due to the sale of the semiconductor business in the first quarter of 2019, partially offset by growth in the Aerospace segment.

Consolidated cost of products sold was \$445.1 million compared with \$467.3 million in the prior-year period. The decrease was due primarily to the cost associated with lower sales volume. Consolidated Cost of Products Sold in the first nine months of 2019 included tariffs of \$6.8 million, inventory charges of \$3.6 million, and program charges of \$3.9 million. Consolidated costs of products sold recorded in the first nine months of the prior year included a fair value inventory step-up expense of \$1.3 million and \$7.5 million of programs charges related to a CCC long-term contract.

Selling, general and administrative (“SG&A”) expenses were \$90.7 million in the third quarter of 2019 compared with \$87.9 million in the same period last year. The increase was primarily due to increased legal fees and reserves related to a long-term patent dispute, \$2.2 million of severance charges and the SG&A expenses of the acquired FCT business, partially offset by the \$2.3 million lower amortization expense related to acquired intangible assets.

The effective tax rate for the first nine months of 2019 was 22.9%, compared with 6.5% in the same period of 2018. The 2019 tax rate was unfavorably impacted by the gain on the sale of the semiconductor business while the 2018 tax rate was favorably impacted by a net tax benefit recorded associated with a revised state filing position.

Net income was \$86.1 million, or \$2.61 per diluted share, compared with \$34.3 million, or \$1.04 per diluted share in the prior year. The \$80.1 million gain on the sale of the semiconductor test business is expected to contribute \$58.8 million to net income after taxes.

CONSOLIDATED OUTLOOK

Consolidated sales are expected to be in the range of \$750 million to \$770 million, of which \$680 million to \$690 million is expected from the Aerospace segment and \$70 million to \$80 million is expected from the Test segment.

Consolidated backlog at September 28, 2019 was \$379.4 million. Approximately 46% of the backlog is expected to ship in 2019.

The effective tax rate for 2019, excluding the impact of the gain on the sale of the semiconductor business, is expected to be in the range of 21% to 25%.

Capital equipment spending in 2019 is expected to be between \$14 million to \$19 million.

AeroSat has incurred delays and losses related to certain projects in the period ended September 28, 2019. In our third-quarter earnings release on November 5, 2019, we announced initiatives that the Company is undertaking commencing in the fourth quarter of 2019 to reduce losses and minimize costs at our AeroSat reporting unit, which is a component of our Aerospace segment. As part of these initiatives, we are evaluating if we should continue with some of those projects. We expect to formulate a restructuring plan out of these initiatives which will result in restructuring charges which may include severance, relocation costs, inventory writedowns, long-lived asset impairment charges, contract cancellation charges and other expenses. The amount and timing of these charges will not be determinable until the restructuring plan has been determined, but it is possible they will be material.

The CCC reporting unit, a component of our Aerospace segment, has also incurred delays and losses related to a significant development project in the period ended September 28, 2019. Contract completion is expected to occur in the fourth quarter. If there are further delays, it is possible that additional losses may be incurred in future periods.

As of September 28, 2019, the AeroSat and CCC reporting units had goodwill of \$1.6 million and \$2.3 million, respectively, and intangible and long-lived assets totaling \$8.9 million and \$4.9 million, respectively. The percentage by which the AeroSat and CCC reporting units' fair values exceeded their carrying values in the last annual goodwill impairment test (as of September 30, 2018) was 35% and 43%, respectively. Based on the Company's evaluation, no significant events occurred or circumstances changed during the period ended September 28, 2019 that would suggest it is more likely than not that the fair values of these reporting unit have declined below their carrying values or that there were indicators of impairment for our long-lived assets in these reporting units, however, as we formulate our restructuring plan and reassess the long-range prospects for these businesses, factors could arise that result in a decline in the fair value of these reporting units and the indicators of impairment and the Company may be required to perform the applicable impairment tests and record impairment charges.

The Company is initiating revenue guidance for 2020, expecting consolidated sales in the range of \$770 million to \$820 million. The Aerospace segment is expected to generate \$690 million to \$730 million, and the Test segment is expected to see sales of \$80 million to \$90 million. The midpoint of revenue guidance for 2020 is \$795 million, a 5% increase over the midpoint of revenue guidance for 2019.

The effective tax rate for 2020 is expected to be in the range of 18% to 22%.

SEGMENT RESULTS OF OPERATIONS AND OUTLOOK

Operating profit, as presented below, is sales less cost of products sold and other operating expenses, excluding interest expense and other corporate expenses. Cost of products sold and other operating expenses are directly identifiable to the respective segment. Operating profit is reconciled to earnings before income taxes in Note 16 of the Notes to Consolidated Condensed Financial Statements included in this report.

AEROSPACE SEGMENT

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Sales	\$ 520,495	\$ 500,445	\$ 157,702	\$ 169,588
Less Intersegment Sales	(5)	(62)	—	(9)
Total Aerospace Sales	\$ 520,490	\$ 500,383	\$ 157,702	\$ 169,579
Operating Profit	\$ 48,949	\$ 47,525	\$ 8,789	\$ 16,210
Operating Margin	9.4 %	9.5 %	5.6 %	9.6 %

Aerospace Sales by Market

(In thousands)	September 28, 2019		September 29, 2018	
Commercial Transport	\$ 393,721	\$ 402,539	\$ 122,212	\$ 136,692
Military	57,753	46,410	17,255	16,125
Business Jet	49,555	30,291	12,432	9,289
Other	19,461	21,143	5,803	7,473
	\$ 520,490	\$ 500,383	\$ 157,702	\$ 169,579

Aerospace Sales by Product Line

(In thousands)	September 28, 2019		September 29, 2018	
Electrical Power & Motion	\$ 255,007	\$ 218,931	\$ 78,428	\$ 78,610
Lighting & Safety	139,502	129,244	44,127	43,481
Avionics	79,414	100,354	19,871	31,059
Systems Certification	9,050	12,028	3,384	2,373
Structures	18,056	18,683	6,089	6,583
Other	19,461	21,143	5,803	7,473
	\$ 520,490	\$ 500,383	\$ 157,702	\$ 169,579

(In thousands)	September 28, 2019	December 31, 2018
Total Assets	\$ 657,169	\$ 647,870
Backlog	\$ 308,223	\$ 326,047

AEROSPACE THIRD QUARTER RESULTS

Aerospace segment sales decreased \$11.9 million, or 7.0%, to \$157.7 million when compared with the prior-year period.

Avionics sales were down \$11.2 million compared with the prior-year period due to a lower demand in the quarter for inflight entertainment and connectivity (“IFEC”) products and lower antenna sales. System Certification sales increased \$1.0 million, or 42.6%.

Aerospace operating profit was \$8.8 million, or 5.6% of sales, compared with \$16.2 million, or 9.6% of sales, in the same period last year. Aerospace operating profit was lower on lower volume, and included \$3.2 million in tariffs. Certain challenged Aerospace businesses had \$9.2 million of operating losses, including a \$2.2 million program charge. Operating losses related to those businesses were \$11.2 million in the third quarter of 2018.

Aerospace bookings in the third quarter of 2019 were \$155.3 million, for a book-to-bill ratio of 0.98:1. Backlog was \$308.2 million at the end of the third quarter of 2019.

AEROSPACE YEAR-TO-DATE RESULTS

Aerospace segment sales increased by \$20.1 million, or 4.0%, to \$520.5 million when compared with the prior year’s first nine months.

Electrical Power & Motion sales increased \$36.1 million, or 16.5%, and Lighting & Safety sales increased \$10.3 million. Sales of Avionics products were down \$20.9 million to \$79.4 million for similar reasons as in the quarter. Systems Certification sales decreased \$3.0 million compared with the first nine months of 2018.

Aerospace operating profit was \$48.9 million, or 9.4% of sales, compared with \$47.5 million, or 9.5% of sales, in the same period last year. Aerospace operating profit in the first nine months of 2019 benefited from higher volume and \$2.3 million lower amortization expense related to acquired intangible assets. These benefits were offset by \$6.8 million in tariffs and \$27.6 million in operating losses related to the three challenged Aerospace businesses which include \$3.6 million in inventory reserves and \$3.9 million in program charges. Operating profit in the first nine months of 2018 was negatively impacted by \$28.3 million in operating loss from challenged Aerospace businesses and \$1.4 million in acquisition-related inventory step-up expense.

AEROSPACE OUTLOOK

We expect 2019 sales for our Aerospace segment to be in the range of \$680 million to \$690 million. The Aerospace segment's backlog at the end of the third quarter of 2019 was \$308.2 million with approximately \$161.5 million expected to be shipped over the remaining part of 2019 and \$283.8 million is expected to ship over the next 12 months.

We expect 2020 sales for our Aerospace segment to generate \$690 million to \$730 million.

TEST SYSTEMS SEGMENT

(In thousands)	Nine Months Ended		Three Months Ended	
	September 28, 2019	September 29, 2018	September 28, 2019	September 29, 2018
Sales	\$ 53,995	\$ 99,956	\$ 19,346	\$ 43,095
Less Intersegment Sales	(195)	—	(30)	—
Net Sales	\$ 53,800	\$ 99,956	\$ 19,316	\$ 43,095
Operating profit	\$ 4,166	\$ 10,151	\$ 2,075	\$ 5,833
Operating Margin	7.7 %	10.2 %	10.7 %	13.5 %

Test Systems Sales by Market

(In thousands)	September 28, 2019		September 29, 2018	
Semiconductor	\$ 7,815	\$ 72,061	\$ 2,219	\$ 33,596
Aerospace & Defense	45,985	27,895	17,097	9,499
	\$ 53,800	\$ 99,956	\$ 19,316	\$ 43,095

(In thousands)	September 28, 2019	December 31, 2018
Total Assets	\$ 88,662	\$ 97,056
Backlog (1)	\$ 71,137	\$ 89,470

(1) - \$89.5 million backlog at December 31, 2018 includes \$12.2 million related to the divested semiconductor business

TEST SYSTEMS THIRD QUARTER RESULTS

Test Segment sales decreased \$23.8 million to \$19.3 million compared with the prior-year period. A \$7.6 million increase in sales to the Aerospace & Defense market was offset by a \$31.4 million decrease in sales to the Semiconductor market as a result of the divestiture of the semiconductor business, partially offset by the acquisition of FCT, which contributed \$3.0 million in sales.

Test Segment operating profit was \$2.1 million, or 10.7% of sales compared with operating profit of \$5.8 million in last year's third quarter. The decrease was due to the divestiture of the semiconductor business and \$0.4 million in acquisition-related inventory step-up expense.

Bookings for the Test Systems segment in the quarter were \$21.2 million, for a book-to-bill ratio of 1.10:1 for the quarter. Backlog was \$71.1 million at the end of the third quarter of 2019.

TEST SYSTEMS YEAR-TO-DATE RESULTS

Test Segment sales decreased \$46.2 million to \$53.8 million compared with \$100.0 million in the prior-year period. An \$18.1 million increase in sales to the Aerospace & Defense market was offset by a \$64.2 million decrease in sales to the Semiconductor market as a result of the divestiture of the semiconductor business.

Operating profit for the segment was \$4.2 million, or 7.7% of sales, compared with operating income of \$10.2 million, or 10.2% of sales, in the prior-year period. The decrease is due largely to the sale of the semiconductor business as well as \$2.0 million in severance charges in 2019 related to restructuring initiatives, which are expected to provide savings of \$5 million to \$6 million annually.

TEST SYSTEMS OUTLOOK

We expect sales for the Test Systems segment for 2019 to be in the range of \$70 million to \$80 million. The Test Systems segment's backlog at the end of the third quarter of 2019 was \$71.1 million, with approximately \$13.5 million expected to be shipped over the remaining part of 2019 and approximately \$48.6 million scheduled to ship over the next 12 months.

We expect 2020 sales for our Aerospace segment to generate \$80 million to \$90 million.

LIQUIDITY AND CAPITAL RESOURCES

Operating Activities:

Cash provided by operating activities totaled \$30.2 million for the first nine months of 2019, as compared with \$15.4 million cash provided by operating activities during the same period in 2018. Cash flow from operating activities increased compared with the same period of 2018 primarily due to net operating assets increasing less in the first nine months of 2019 when compared with the first nine months of 2018, partially offset by a decrease in depreciation and amortization.

Investing Activities:

Cash provided by investing activities was \$74.2 million for the first nine months of 2019 compared with \$15.8 million used in the same period of 2018. The increase in the current year was a result of the \$103.8 million in proceeds from the divestiture of the semiconductor business, coupled with a decrease in capital expenditures, partially offset by the purchase of FCT for \$21.8 million. The Company expects capital spending in 2019 to be in the range of \$14 million to \$19 million.

Financing Activities:

The primary financing activities in the first nine months of 2019 related to a repurchase of approximately 1,824,000 shares at an aggregate cost of \$50.0 million under our share purchase program, coupled with net payments on our senior credit facility of \$47.0 million. The primary financing activities in the first nine months of 2018 related to net payments on our senior credit facility of \$10.0 million. The Company's cash needs for working capital, debt service and capital equipment during the remainder of 2019 is expected to be met by cash flows from operations and cash balances and, if necessary, utilization of the revolving credit facility.

The Company's Fourth Amended and Restated Credit Agreement (the "Original Facility") provided for a \$350 million revolving credit line with the option to increase the line by up to \$150 million. The maturity date of the Original Facility was January 13, 2021. On February 16, 2018, the Company modified and extended the Original Facility by entering into the Fifth Amended and Restated Credit Agreement (the "Agreement"), which provides for a \$500 million revolving credit line with the option to increase the line by up to \$150 million. A new lender was added to the facility as well. The outstanding balance of the Original Facility was rolled into the Agreement on the date of closing. The maturity date of the loans under the Agreement is February 16, 2023. At September 28, 2019, there was \$180.0 million outstanding on the revolving credit facility and there remains \$318.9 million available, net of outstanding letters of credit. The credit facility allocates up to \$20 million of the \$500 million revolving credit line for the issuance of letters of credit, including certain existing letters of credit. At September 28, 2019, outstanding letters of credit totaled \$1.1 million.

The maximum permitted leverage ratio of funded debt to Adjusted EBITDA (as defined in the Agreement) is 3.75 to 1, increasing to 4.50 to 1 for up to four fiscal quarters following the closing of an acquisition permitted under the Agreement, subject to limitations. The Company is in compliance with its financial covenant at September 28, 2019. The Company will pay interest on the unpaid principal amount of the facility at a rate equal to one-, three- or six-month LIBOR plus between 1.00% and 1.50% based upon the Company's leverage ratio. The Company will also pay a commitment fee to the Lenders in an amount equal to between 0.10% and 0.20% on the undrawn portion of the credit facility, based upon the Company's leverage ratio.

The Company's obligations under the Credit Agreement as amended are jointly and severally guaranteed by each domestic subsidiary of the Company other than a non-material subsidiary. The obligations are secured by a first priority lien on substantially all of the Company's and the guarantors' assets.

In the event of voluntary or involuntary bankruptcy of the Company or any subsidiary, all unpaid principal and other amounts owing under the Credit Agreement automatically become due and payable. Other events of default, such as failure to make payments as they become due and breach of financial and other covenants, change of control, judgments over a certain amount, and cross default under other agreements give the Agent the option to declare all such amounts immediately due and payable.

BACKLOG

The Company's backlog at September 28, 2019 was \$379.4 million compared with \$415.5 million at December 31, 2018 (\$403.3 million excluding backlog related to the divested semiconductor business) and \$398.1 million at September 29, 2018.

CONTRACTUAL OBLIGATIONS AND COMMITMENTS

The following table represents contractual obligations as of September 28, 2019:

(In thousands)	Payments Due by Period				
	Total	2019	2020-2021	2022-2023	After 2023
Long-term Debt	\$ 180,246	\$ 27	\$ 219	\$ 180,000	\$ —
Interest on Long-term Debt	19,489	1,448	11,582	6,459	—
Purchase Obligations	136,051	83,995	51,700	326	30
Supplemental Retirement Plan and Post Retirement Obligations	22,793	104	827	798	21,064
Lease Obligations	36,318	1,755	12,827	8,985	12,751
Interest on Finance Lease Obligations	380	67	305	8	—
Other Long-term Liabilities	108	3	25	32	48
Total Contractual Obligations	\$ 395,385	\$ 87,399	\$ 77,485	\$ 196,608	\$ 33,893

Notes to Contractual Obligations Table

Purchase Obligations — Purchase obligations are comprised of the Company's commitments for goods and services in the normal course of business.

Long-Term Debt — See Part 1 Financial Information, Item 1 Financial Statements, Note 7, Long-Term Debt and Notes Payable included in this report.

Lease Obligations — Financing and Operating lease obligations are primarily related to the Company's facility leases.

MARKET RISK

The Company believes that there have been no material changes in the current year regarding the market risk information for its exposure to interest rate fluctuations. Although the majority of our sales, expenses and cash flows are transacted in U.S. dollars, we have exposure to changes in foreign currency exchange rates related to the Euro and the Canadian dollar. The Company believes that the impact of changes in foreign currency exchange rates in 2019 have not been significant.

CRITICAL ACCOUNTING POLICIES

Refer to Note 2 of the Notes to Consolidated Condensed Financial Statements included in this report for the Company's critical accounting policies with respect to revenue recognition. For a complete discussion of the Company's other critical accounting policies, refer to the Company's annual report on Form 10-K for the year ended December 31, 2018.

RECENT ACCOUNTING PRONOUNCEMENTS

Refer to Note 1 of the Notes to Consolidated Condensed Financial Statements included in this report.

FORWARD-LOOKING STATEMENTS

Information included in this report that does not consist of historical facts, including statements accompanied by or containing words such as "may," "will," "should," "believes," "expects," "expected," "intends," "plans," "projects," "approximate,"

“estimates,” “predicts,” “potential,” “outlook,” “forecast,” “anticipates,” “presume” and “assume,” are forward-looking statements. Such forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements are not guarantees of future performance and are subject to several factors, risks and uncertainties, the impact or occurrence of which could cause actual results to differ materially from the expected results described in the forward-looking statements. Certain of these factors, risks and uncertainties are discussed in the sections of this report entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” New factors, risks and uncertainties may emerge from time to time that may affect the forward-looking statements made herein. Given these factors, risks and uncertainties, investors should not place undue reliance on forward-looking statements as predictive of future results. We disclaim any obligation to update the forward-looking statements made in this report.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

See Market Risk in Item 2, above.

Item 4. Controls and Procedures

a. Evaluation of Disclosure Controls and Procedures

The Company’s management, with the participation of the Company’s Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company’s disclosure controls and procedures as of September 28, 2019. Based on that evaluation, the Company’s Chief Executive Officer and Chief Financial Officer concluded that the Company’s disclosure controls and procedures were effective as of September 28, 2019.

b. Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the most recent fiscal quarter 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

The Company is subject to various legal proceedings, claims, and litigation arising in the ordinary course of business. While the outcome of these matters is currently not determinable, we do not expect these matters will have a material adverse effect on our business, financial position, results of operations, or cash flows. However, the results of these matters cannot be predicted with certainty. Should the Company fail to prevail in any legal matter or should several legal matters be resolved against the Company in the same reporting period, then the financial results of that particular reporting period could be materially adversely affected.

On December 29, 2010, Lufthansa Technik AG (“Lufthansa”) filed a Statement of Claim in the Regional State Court of Mannheim, Germany. Lufthansa’s claim asserts that our subsidiary, AES, sold, marketed, and brought into use in Germany a power supply system that infringes upon a German patent held by Lufthansa. Lufthansa sought an order requiring AES to stop selling and marketing the allegedly infringing power supply system, a recall of allegedly infringing products sold to commercial customers in Germany since November 26, 2003, and compensation for damages related to direct sales of the allegedly infringing power supply system in Germany (referred to as “direct sales”). The claim does not specify an estimate of damages and a related damages claim is being pursued by Lufthansa in separate court proceedings in an action filed in July 2017, as further discussed below.

In February 2015, the Regional State Court of Mannheim, Germany rendered its decision that the patent was infringed. The judgment does not require AES to recall products that are already installed in aircraft or have been sold to other end users. On July 15, 2015, Lufthansa advised AES of their intention to enforce the accounting provisions of the decision, which required AES to provide certain financial information regarding direct sales of the infringing product in Germany to enable Lufthansa to make an estimate of requested damages.

The Company appealed to the Higher Regional Court of Karlsruhe. On November 15, 2016, the Court issued its ruling and upheld the lower court’s decision. The Company submitted a petition to grant AES leave for appeal to the German Federal Supreme Court. On April 18, 2018, the German Federal Supreme Court granted Astronics’ petition in part, namely with respect to the part concerning the amount of damages. On January 8, 2019 Federal Supreme Court held the hearing on the appeal. By judgment of March 26, 2019 the Federal Supreme Court dismissed AES’s appeal. With this decision, the above-mentioned proceedings are complete.

In July 2017, Lufthansa filed an action in the Regional State Court of Mannheim for payment of damages caused by the alleged patent infringement of AES, related to direct sales of the allegedly infringing product in Germany (associated with the original December 2010 action discussed above). In this action, which was served on AES on April 11, 2018, Lufthansa claims payment of approximately \$6.2 million plus interest. According to AES’s assessment, this claim is significantly higher than justified. However, based on the results of the oral hearing on September 13, 2019, we estimate AES’s potential exposure to be approximately \$2.7 million to \$6.3 million (including interest). We recorded an incremental reserve of \$1.7 million in the three and nine month periods ended September 28, 2019, for a total reserve of \$2.7 million associated with this matter. A first instance decision in this matter is expected on November 22, 2019.

On December 29, 2017, Lufthansa filed another infringement action against AES in the Regional State Court of Mannheim claiming that sales by AES to its international customers have infringed Lufthansa’s patent if AES’s customers later shipped the products to Germany (referred to as “indirect sales”). This action, therefore, addresses sales other than those covered by the action filed on December 29, 2010, discussed above. In this action, served on April 11, 2018, Lufthansa seeks an injunction, an order obliging AES to provide information and accounting and a finding that AES owes damages for the attacked indirect sales. AES will vigorously defend against the action. No amount of claimed damages has been specified by Lufthansa and such amount is not quantifiable at this time. A first instance decision in this matter is expected on November 22, 2019. As loss exposure is neither probable nor estimable at this time, the Company has not recorded any liability with respect to this litigation as of September 28, 2019.

In December 2017, Lufthansa filed patent infringement cases in the United Kingdom and in France against AES. The Lufthansa patent expired in May 2018. In those cases, Lufthansa accuses AES of having manufactured, used, sold and offered for sale a power supply system, and offered and supplied parts for a power supply system, that infringed upon a Lufthansa patent in those respective countries. In the U.K. matter, a trial has been scheduled for February 2020 to address the issues of infringement and validity. As loss exposure is neither probable nor estimable at this time, in either of these proceedings, the Company has not recorded any liability with respect to these matters as of September 28, 2019.

On November 26, 2014, Lufthansa filed a complaint in the United States District for the Western District of Washington. Lufthansa's complaint in that action alleges that AES manufactures, uses, sells and offers for sale a power supply system that infringes upon a U.S. patent held by Lufthansa. The patent at issue in the U.S. action is based on technology similar to that involved in the German action. On April 25, 2016, the Court issued its ruling on claim construction, holding that the sole independent claim in the patent is indefinite, rendering all claims in the patent indefinite. Based on this ruling, AES filed a motion for summary judgment on the grounds that the Court's ruling that the patent is indefinite renders the patent invalid and unenforceable. On July 20, 2016, the U.S. District Court granted the motion for summary judgment and issued an order dismissing all claims against AES with prejudice.

Lufthansa appealed the District Court's decision to the United States Court of Appeals for the Federal Circuit. On October 19, 2017, the Federal Circuit affirmed the district court's decision, holding that the sole independent claim of the patent is indefinite, rendering all claims on the patent indefinite. Lufthansa did not file a petition for en banc rehearing or petition the U.S. Supreme Court for a writ of certiorari. Therefore, there is no longer a risk of exposure from that lawsuit.

Item 1a. Risk Factors

In addition to other information set forth in this report, you should carefully consider the factors discussed in Part 1, Item 1A. "Risk Factors," in our Annual Report on Form 10-K for the year ended December 31, 2018, which could materially affect our business, financial condition or results of operations. The risks described in our Annual Report on Form 10-K are not the only risks facing us. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or results of operations.

Item 2. Unregistered sales of equity securities and use of proceeds

c. The following table summarizes our purchases of our common stock for the quarter ended September 28, 2019.

Period	(a) Total Number of Shares Purchased	(b) Average Price Paid Per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Dollar Value of Shares that may yet be Purchased Under the Program (1)
June 30, 2019 - July 27, 2019	—	—	—	\$50,000,000
July 28, 2019 - August 24, 2019 (2)	985,564	\$27.19	983,994	\$23,243,987
August 25, 2019 - September 28, 2019	839,300	\$27.69	839,300	\$50,000,000

In connection with the exercise of stock options, we accept, from time to time, delivery of shares to pay the exercise price of stock options.

(1) On December 12, 2017, the Company's Board of Directors authorized an additional repurchase of up to \$50 million in connection with the Buyback Program. The Company repurchased approximately 1,823,000 shares and completed that program in the third quarter of 2019. On September 17, 2019, the Company's Board of Directors authorized an additional repurchase of up to \$50 million. No amounts have been repurchased under the new program as of September 28, 2019.

(2) On August 15, 2019, we accepted delivery of 1,570 shares at \$26.08 in connection with the exercise of stock options.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit 31.1	Section 302 Certification - Chief Executive Officer
Exhibit 31.2	Section 302 Certification - Chief Financial Officer
Exhibit 32	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
Exhibit 101.1*	Instance Document
Exhibit 101.2*	Schema Document
Exhibit 101.3*	Calculation Linkbase Document
Exhibit 101.4*	Labels Linkbase Document
Exhibit 101.5*	Presentation Linkbase Document
Exhibit 101.6*	Definition Linkbase Document

* Submitted electronically herewith.

SIGNATURES

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

Date: November 7, 2019

ASTRONICS CORPORATION

(Registrant)

By: /s/ David C. Burney
David C. Burney
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

SECTION 302 CERTIFICATION

Certification of Chief Executive Officer pursuant to Exchange Act rule 13a-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Peter J. Gundermann, President and Chief Executive Officer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Astronics Corporation;
1. 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;
1. 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;
1. 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;
 - a. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - a. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - a. 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
1. 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 equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - a. 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: 11/7/2019

/s/ Peter J. Gundermann

Peter J. Gundermann
President and Chief Executive Officer

SECTION 302 CERTIFICATION

Certification of Chief Financial Officer pursuant to Exchange Act Rule 13a-14(a) as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, David C. Burney, Chief Financial Officer, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Astronics Corporation;
1. 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;
1. 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;
1. 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;
 - a. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - a. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - a. 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
1. 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 equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - a. 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: 11/7/2019

/s/ David C. Burney

David C. Burney
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**

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officers of Astronics Corporation (the "Company") hereby certify that:

The Company's Quarterly Report on Form 10-Q for the quarter ended September 28, 2019 fully complies with the requirements of section 13(a) or 15(d) of the Securities and Exchange Act of 1934 and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

November 7, 2019

/s/ Peter J. Gundermann

Peter J. Gundermann

Title: Chief Executive Officer

November 7, 2019

/s/ David C. Burney

David C. Burney

Title: Chief Financial Officer

This certification shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section. This certification shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent specifically incorporated by the Company into such filing.