

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

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2019

Commission File No. 001-35419

KAMAN CORPORATION

(Exact name of registrant as specified in its charter)

Connecticut (State or other jurisdiction of incorporation or organization)	06-0613548 (I.R.S. Employer Identification No.)
1332 Blue Hills Avenue, Bloomfield, Connecticut (Address of principal executive offices)	06002 (Zip Code)
Registrant's telephone number, including area code	(860) 743-7100

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 (\$1 par value)	KAMN	New York Stock Exchange LLC

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Yes ☐ No ☒

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

Yes ☒ No ☐

Indicate by checkmark whether the registrant has submitted electronically every Interactive Data File required to be submitted 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 such files).

Yes ☒ No ☐

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

Large accelerated filer <input checked="" type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input type="checkbox"/>
	Smaller reporting company <input type="checkbox"/>	Emerging growth company <input type="checkbox"/>

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 ☒

The aggregate market value on June 28, 2019, (the last business day of the Company’s most recently completed second quarter) of the voting and non-voting common stock held by non-affiliates of the registrant, computed by reference to the closing price of the stock, was approximately \$ 1,743,603,171 .

At January 31, 2020, there were 27,814,888 shares of Common Stock outstanding.

Documents Incorporated Herein By Reference

Portions of our definitive proxy statement for our 2020 Annual Meeting of Shareholders are incorporated by reference into Part III of this Report.

Kaman Corporation
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ITEM 1. BUSINESS**GENERAL**

Kaman Corporation, headquartered in Bloomfield, Connecticut, was incorporated in 1945. We are a diversified company that conducts business in the aerospace, medical and industrial markets. The Company produces and markets proprietary aircraft bearings and components; super precision, miniature ball bearings; proprietary spring energized seals, springs and contacts; complex metallic and composite aerostructures for commercial, military and general aviation fixed and rotary wing aircraft; and safe and arming solutions for missile and bomb systems for the U.S. and allied militaries. The Company also manufactures and supports our K-MAX® manned and unmanned medium-to-heavy lift helicopters and restores, modifies and supports our SH-2G Super Seasprite maritime helicopters.

Principal customers include the U.S. military, foreign allied militaries, Sikorsky Aircraft Corporation, The Boeing Company, Airbus, Lockheed Martin, Rolls-Royce, Raytheon and Bell Helicopter. The SH-2G aircraft is currently in service with the Egyptian Air Force and the New Zealand, Peruvian and Polish navies. Operations are conducted throughout the United States, as well as in facilities located in the United Kingdom, Germany, the Czech Republic, Mexico and Singapore. Additionally, the Company maintains an investment in a joint venture in India. In the year ended December 31, 2019, three individual customers, the U.S. Government, The Boeing Company and a Joint Programmable Fuze ("JPF") direct commercial sales ("DCS") customer, accounted for more than 10% of consolidated net sales.

We report information for ourselves and our subsidiaries (collectively, "we," "us," "our," and "the Company") in a single business segment, Aerospace. In 2019, the Company completed the sale of its Distribution business for total cash consideration of \$700.0 million, excluding certain working capital adjustments and transaction costs. Prior to the sale of the Distribution business, the Company was composed of two segments. As the Company had not made any fundamental changes to its management or organization structure, the Aerospace segment is reflective of how the Company's Chief Executive Officer, who is its Chief Operating Decision Maker, reviews operating results for the purposes of allocating resources and assessing performance.

On January 3, 2020, the Company announced that it had completed the acquisition of Bal Seal Engineering Inc. ("Bal Seal"), at a purchase price of approximately \$331.0 million, subject to working capital adjustments. Bal Seal is a leader in the design, development, and manufacturing of highly engineered products including precision springs, seals and contacts. Bal Seal has an established global presence, with manufacturing facilities across the United States and sales representation in the United States, Europe and Asia. A discussion of 2019 developments is included in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, in this Form 10-K.

WORKING CAPITAL

A discussion of our working capital is included in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources, in this Form 10-K.

Our working capital requirements are dependent on the nature and life cycles of the programs for which work is performed. New programs may initially require higher working capital to complete nonrecurring start-up activities and fund the purchase of inventory and equipment necessary to perform the work. Nonrecurring start-up costs on large and complex programs often take longer to recover, negatively impacting working capital in the short-term and producing a corresponding benefit in future periods. As these programs mature and efficiencies are gained in the production process, working capital requirements generally decrease.

Our credit agreement is a revolving credit facility which is available for additional working capital requirements and investment opportunities. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, and Note 14, *Debt*, of the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K.

PRINCIPAL PRODUCTS AND SERVICES

The following table sets forth the percentage contribution of each major product line to consolidated net sales for each of the three most recently completed years:

	Years Ended December 31,		
	2019	2018	2017
<i>Sales</i>			
Military and Defense, excluding safe and arm devices	23.4%	25.9%	27.8%
Safe and Arm Devices	29.9%	26.6%	25.5%
Commercial Aerospace and Other	46.7%	47.5%	46.7%
Total	100.0%	100.0%	100.0%

AVAILABILITY OF RAW MATERIALS

While we believe we have sufficient sources for the materials, components, services and supplies used in our manufacturing activities, we are highly dependent on the availability of essential materials, parts and subassemblies from our suppliers and subcontractors. The most important raw materials required for our aerospace products are aluminum (sheet, plate, forgings and extrusions), titanium, nickel, steel, copper and composites. Many major components and product equipment items are procured from or subcontracted on a sole-source basis with a number of domestic and non-U.S. companies. Although alternative sources generally exist for these raw materials, qualification of the sources could take a year or more. We are dependent upon the ability of a large number of suppliers and subcontractors to meet performance specifications, quality standards and delivery schedules at anticipated costs. While we maintain an extensive qualification system to control risk associated with such reliance on third parties, failure of suppliers or subcontractors to meet commitments could adversely affect production schedules and contract profitability, while jeopardizing our ability to fulfill commitments to our customers. From time to time, we have experienced shortages in raw materials which have impacted our near term results; however, we do not foresee any near term unavailability of materials, components or supplies that would have an adverse effect on our business. For further discussion of the possible effects of changes in the cost or availability of raw materials on our business, see Item 1A, Risk Factors, in this Form 10-K.

INTELLECTUAL PROPERTY

We use patented and unpatented proprietary information, know-how and trade secrets to develop, maintain and enhance our competitive position, but we believe our continued success depends more on the knowledge, ability, experience and technological expertise of our employees than the legal protection that our patents and other proprietary rights may afford. Moreover, while we rely on a combination of patents, trademarks, copyrights, trade secrets, nondisclosure agreements, physical and information technology security systems, internal controls and compliance systems and other measures to protect our intellectual property, data and technology rights and that of third parties with which we are entrusted, our ability to protect and enforce our intellectual property, data and technology rights may be limited by a variety of factors and may be even more limited in certain countries outside the U.S., as may be our ability to prevent theft or compromise of our intellectual property, data and technology by competitors or third parties.

As of December 31, 2019, we held a total of 71 patents, 7 of which were U.S. patents and 64 of which were foreign patents. We acquired an additional 93 U.S. patents and 149 foreign patents in connection with our acquisition of Bal Seal, increasing our total patent portfolio to 313 as of January 3, 2020. In addition, we have numerous U.S. and foreign patents pending. The Company believes the duration of its patents is adequate relative to the expected lives of its products.

Trademarks are also an important aspect of our business. The availability and duration of trademark registrations vary by country; however, trademarks are generally valid and may be renewed indefinitely as long as they are in use and registrations are maintained. We sell products under a number of registered trademarks that we own. Registered trademarks of the Company include KAflex®, KAron®, and K-MAX®. In all, we maintain 23 U.S. and foreign trademarks as of December 31, 2019.

BACKLOG

We anticipate that approximately 63.4% of our backlog at the end of 2019 will be performed in 2020. Approximately 30.3% of our backlog at the end of 2019 is related to U.S. Government ("USG") contracts or subcontracts.

Total backlog at December 31, 2019, 2018 and 2017, and the portion of the backlog we expect to complete in 2020, is as follows:

	Total Backlog at December 31, 2019	2019 Backlog to be completed in 2020	Total Backlog at December 31, 2018	Total Backlog at December 31, 2017
<i>In thousands</i>				
Backlog	\$ 806,870	\$ 511,765	\$ 851,814	\$ 616,090

Backlog related to uncompleted contracts for which we have recorded a provision for estimated losses was \$2.1 million as of December 31, 2019. At December 31, 2019, there was no backlog related to firm but not yet funded orders. See Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, and Note 1, *Summary of Significant Accounting Policies*, of the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K, for further discussion.

REGULATORY MATTERS

Government Contracts

The USG, and other governments, may terminate any of our government contracts at their convenience or for default if we fail to meet specified performance measurements. If any of our government contracts were to be terminated for convenience, we generally would be entitled to receive payment for work completed and allowable termination or cancellation costs. If any of our government contracts were to be terminated for default, generally the USG would pay only for the work that has been accepted and can require us to pay the difference between the original contract price and the cost to re-procure the contract items, net of the work accepted from the original contract. The USG can also hold us liable for damages resulting from the default.

During 2019, approximately 96.0% of the work performed by the Company directly or indirectly for the USG was performed on a fixed-price basis and the balance was performed on a cost-reimbursement basis. Under a fixed-price contract, the price paid to the contractor is negotiated at the outset of the contract and is not generally subject to adjustment to reflect the actual costs incurred by the contractor in the performance of the contract. Cost reimbursement contracts provide for the reimbursement of allowable costs and an additional negotiated fee.

Compliance with Environmental Protection Laws

Our operations are subject to and affected by a variety of federal, state, local and non-U.S. environmental laws and regulations relating to the discharge, treatment, storage, disposal, investigation and remediation of certain materials, substances and wastes. We continually assess our compliance status and management of environmental matters in an effort to ensure our operations are in substantial compliance with all applicable environmental laws and regulations.

Operating and maintenance costs associated with environmental compliance and management of sites are a normal, recurring part of our operations. These costs often are generally allowable costs under our contracts with the USG. It is reasonably possible that continued environmental compliance could have a material impact on our results of operations, financial condition or cash flows if more stringent clean-up standards are imposed, additional contamination is discovered and/or clean-up costs are higher than estimated.

See Environmental Matters in Item 3, Legal Proceedings, and Critical Accounting Estimates - Environmental Costs in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, and Note 19, *Commitments and Contingencies*, in the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K, for further discussion of our environmental matters.

With respect to all other matters that may currently be pending, in the opinion of management, based on our analysis of relevant facts and circumstances, we do not believe that compliance with relevant environmental protection laws is likely to have a material adverse effect upon our capital expenditures, earnings or competitive position. In arriving at this conclusion, we have taken into consideration site-specific information available regarding total costs of any work to be performed and the extent of work previously performed. If we are identified as a “potentially responsible party” (“PRP”) by environmental authorities at a particular site, we, using information available to us, will also review and consider a number of other factors, including: (i) the financial resources of other PRPs involved in each site and their proportionate share of the total volume of waste at the site; (ii) the existence of insurance, if any, and the financial viability of the insurers; and (iii) the success others have had in receiving reimbursement for similar costs under similar insurance policies issued during the periods applicable to each site.

International Operations

Our international sales are subject to U.S. and non-U.S. governmental regulations and procurement policies and practices, including regulations relating to import-export control, investment, exchange controls and repatriation of earnings. International sales are also subject to varying currency, political and economic risks.

COMPETITION

The Company operates in a highly competitive environment with many other organizations, some of which are substantially larger than us and have greater financial strength and more extensive resources. We compete for composite and metallic aerostructures subcontracts, and helicopter sales and structures, bearings and components business on the basis of price and/or quality; product endurance and special performance characteristics; proprietary knowledge; the quality of our products and services; the availability of facilities, equipment and personnel to perform contracts; and the reputation of our business. Competitors for our business include small machine shops and offshore manufacturing facilities. We compete for advanced technology fuzing business primarily on the basis of technical competence, product quality and price, and also on the basis of our experience as a developer and manufacturer of fuzes for particular weapon types and the availability of our facilities, equipment and personnel. We are also affected by the political and economic circumstances of our potential foreign customers and, in certain situations, the relationships of those foreign customers with the USG, the USG's perceptions of those foreign customers and the ability to obtain necessary export approvals, licenses or authorizations from the U.S. Government.

EMPLOYEES

As of December 31, 2019, we employed 2,935 individuals.

AVAILABLE INFORMATION

We are subject to the reporting requirements of the Exchange Act and its rules and regulations. The Exchange Act requires us to file reports, proxy statements and other information with the SEC.

We make available, free of charge on our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, proxy statements, and current reports on Form 8-K as well as amendments to those reports filed or furnished pursuant to Section 13 or 15(d) of the Exchange Act, together with Section 16 insider beneficial stock ownership reports, as soon as reasonably practicable after we electronically file these documents with, or furnish them to, the SEC. These documents are posted on our website at www.kaman.com — select the “Investors” link, then the “Financial Information” link and then the “SEC Filings” link.

We also make available, free of charge on our website, our Certificate of Incorporation, By-Laws, Governance Principles and all Board of Directors' standing Committee Charters (Audit, Corporate Governance, Compensation and Finance). These documents are posted on our website at www.kaman.com — select the “Investors” link, then the “Corporate Governance” link and then the “Documents and Downloads” link.

The information contained on our website is not intended to be, and shall not be deemed to be, incorporated into this Form 10-K or any other filing under the Exchange Act or the Securities Act of 1933, as amended.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The Company's executive officers as of the date of this report are as follows:

Name	Age	Position	Prior Experience
Neal J. Keating	64	Chairman, President, Chief Executive Officer and Director	Mr. Keating was appointed President and Chief Operating Officer as well as elected a Director of the company effective September 17, 2007. Effective January 1, 2008, he was appointed to the offices of President and Chief Executive Officer and effective March 1, 2008, he was appointed to the additional position of Chairman. Prior to joining the company, Mr. Keating served as Chief Operating Officer at Hughes Supply, a \$5.4 billion industrial distributor that was acquired by Home Depot in 2006. Prior to that, he held senior positions at GKN Aerospace, an aerospace subsidiary of GKN plc, and Rockwell Collins Commercial Systems, and served as a board member of GKN plc and Agusta-Westland.
Richard R. Barnhart	59	President of Kaman Aerospace Group, Inc. and Executive Vice President of Kaman Corporation	Mr. Barnhart joined the company as President of Kaman Aerospace Group, Inc., with overall responsibility for the company's Aerospace business, effective October 1, 2017. Effective November 14, 2017, he was appointed Executive Vice President of Kaman Corporation. He was previously Senior Vice President of Barnes Group, Inc. and President of Barnes Aerospace, effective August 2013, and remained in this role until his retirement in June 2016. Prior to that, Mr. Barnhart served as President of Barnes Aerospace from February 2012 until his appointment in August 2013, following a tenure of divisional leadership and advancement across a number of the company's Aerospace and Distribution divisions. Prior to his service with Barnes Group, Mr. Barnhart was President of Kaman's Aerostructures division. He began his career with Price Waterhouse and spent a decade in increasingly responsible operating roles with United Technologies and Pratt & Whitney.
Robert D. Starr	52	Executive Vice President and Chief Financial Officer	Mr. Starr was appointed Executive Vice President effective July 1, 2015, and has served as the Chief Financial Officer of the company since July 1, 2013. Mr. Starr joined the company in 2009 as Vice President - Treasurer. Prior to joining Kaman, Mr. Starr served as Assistant Treasurer at Crane Co. of Stamford, Connecticut, a then \$2.6 billion diversified manufacturer of highly engineered industrial products. He also previously served as Managing Director, Corporate Finance at Aetna, Inc. of Hartford, Connecticut and as Director, Capital Markets and Risk Management at Fisher Scientific International, Inc. of Hampton, New Hampshire. Mr. Starr was also an associate at both Salomon Smith Barney in New York and Chase Securities, Inc. in New York and Singapore.
James G. Coogan	39	Vice President, Investor Relations & Business Development	Mr. Coogan was appointed Vice President, Investor Relations & Business Development effective January 2020. Mr. Coogan has served in various roles since joining the company in 2008, most recently as Vice President, Investor Relations from April 2017 through December 2019 and prior to that Assistant Vice President, SEC Compliance and External Reporting from January 2013 through April 2017. Previous Kaman positions include: Director, External Reporting and SEC Compliance, and Manager, External Reporting and SEC Compliance. Prior to joining the company, Mr. Coogan held positions at Ann Taylor Stores Corporation, Mohegan Tribal Gaming Authority and PricewaterhouseCoopers.

Name	Age	Position	Prior Experience
Shawn G. Lisle	53	Senior Vice President and General Counsel	Mr. Lisle joined the company in 2011 and was appointed Senior Vice President and General Counsel effective December 1, 2012. Prior to joining the company, Mr. Lisle served as Senior Counsel for International Paper Company in Memphis, Tennessee. Prior to that, he served as legal counsel for Dana Corporation in Toledo, Ohio, and as an attorney at Porter Wright Morris & Arthur LLP in Columbus, Ohio. He also previously worked as a trial attorney at the U.S. Department of Justice, Tax Division in Washington, D.C. and was a Judge Advocate in the U.S. Navy.
John J. Tedone	55	Vice President, Finance and Chief Accounting Officer	Mr. Tedone has served as Vice President, Finance and the company's Chief Accounting Officer since May 2007. From April 2006 to April 2007, Mr. Tedone served as the company's Vice President, Internal Audit and prior to that as Assistant Vice President, Internal Audit.
Gregory T. Troy	64	Senior Vice President – Human Resources and Chief Human Resources Officer	Mr. Troy joined the company as Senior Vice President – Human Resources in March 2012. On February 19, 2013, he was appointed to the position of Chief Human Resources Officer. Prior to joining the company, Mr. Troy served as Chief Human Resources Officer of Force Protection, Inc. from April 2011 to March 2012, where he was a member of the Executive Committee. Prior to joining Force Protection, Mr. Troy served as Vice President and Chief Human Resources Officer at Modine Manufacturing Company from February 2006 to April 2011, providing global human resources leadership in the Americas, Europe and Asia. Mr. Troy also previously worked at OMNOVA Solutions Inc., Bosch Corporation and Mobil Corporation, after serving as a Transportation Officer in the United States Army.

Each executive officer holds office for a term of one year and until his or her successor is duly appointed and qualified, in accordance with the Company's By-Laws.

ITEM 1A. RISK FACTORS

Our business, financial condition, operating results and cash flows can be impacted by the factors set forth below, any one of which could cause our actual results to vary materially from recent results or from our anticipated future results.

RISKS RELATED TO OUR BUSINESS

Our future operating results will be impacted by changes in global economic and political conditions.

Our future operating results and liquidity are expected to be impacted by changes in general economic and political conditions which may affect, among other things, the following:

- The availability of credit and our ability to obtain additional or renewed bank financing, the lack of which could have a material adverse impact on our business, financial condition and results of operations and may limit our ability to invest in capital projects and planned expansions or to fully execute our business strategy;
- Market rates of interest, any increase in which would increase the interest payable on some of our borrowings and adversely impact our cash flow;
- The investment performance of our pension plan, as well as the associated discount rate, any adverse changes in which may result in a deterioration in the funded status of the plan and an increase in required contributions and plan expense;
- The relationship between the U.S. dollar and other currencies, any adverse changes in which could negatively impact our financial results;
- The ability of our customers to pay for products and services on a timely basis, any adverse change in which could negatively impact sales and cash flows and require us to increase our bad debt reserves;
- The volume of orders we receive from our customers, any adverse change in which could result in lower operating profits as well as less absorption of fixed costs due to a decreased business base;
- The ability of our suppliers to meet our demand requirements, maintain the pricing of their products or continue operations, any of which may require us to find and qualify new suppliers;
- The issuance and timely receipt of necessary export approvals, licenses and authorizations from the U.S. Government, the lack or untimely receipt of which could have a material adverse effect on our business, financial condition and results of operations; and
- The political stability and leadership of countries where our customers reside, including military activity, training and threat levels, any adverse changes in which could negatively impact our financial results.

While general economic and political conditions have not impaired our ability to access credit markets and finance our operations to date, there can be no assurance that we will not experience future adverse effects that may be material to our cash flows, competitive position, financial condition, results of operations or our ability to access capital.

We are subject to litigation, tax, environmental and other legal compliance risks that could adversely affect our operating results.

We are subject to a variety of litigation, tax and legal compliance risks. These risks include, among other things, possible liability relating to contract-related claims, government contracts, product liability matters, personal injuries, intellectual property rights, taxes, employment, environmental matters and compliance with U.S. and foreign export laws, competition laws, laws governing improper business practices and data privacy laws, including the EU-wide General Data Protection Regulation (the "GDPR") and the California Consumer Privacy Act. In the event that we or one of our business units engage in wrongdoing in connection with any of these kinds of matters, we could be subject to significant fines, penalties, repayments, other damages (in certain cases, treble damages), or suspension or debarment from government contracts. Moreover, our failure to comply with applicable export and trade practice laws could result in civil or criminal penalties and suspension or termination of export privileges.

As a global business, we are subject to complex laws and regulations in the U.S. and other countries in which we operate. Those laws and regulations may be interpreted in different ways. They may also change from time to time, as may related interpretations and other guidance. Changes in laws or regulations could result in higher expenses and payments, and uncertainty relating to laws or regulations may also affect how we conduct our operations and structure our investments and could limit our ability to enforce our rights. Changes in environmental and climate change laws or regulations, including laws relating to greenhouse gas emissions, could lead to new or additional investment in product designs and could increase environmental compliance expenditures. Changes in climate change concerns, or in the regulation of such concerns, including greenhouse gas emissions, could subject us to additional costs and restrictions, including increased energy and raw material costs.

Our financial results may be adversely affected by the outcome of pending legal proceedings and other contingencies that cannot be predicted. In accordance with GAAP, if a liability is deemed probable and reasonably estimable in light of the facts and circumstances known to us at a particular point in time, we make an estimate of material loss contingencies and establish reserves based on our assessment. Subsequent developments in legal proceedings may affect our assessment. The accrual of a loss contingency adversely affects our results of operations in the period in which a liability is recognized. This could also have an adverse impact on our cash flows in the period during which damages are paid.

For a discussion of these matters, please refer to Note 19, *Commitments and Contingencies*, and Note 13, *Environmental Costs*, in the Notes to Consolidated Financial Statements in this Annual Report on Form 10-K.

Our foreign operations require us to comply with a number of United States and international laws and regulations, violations of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We are required to comply with a number of United States and international laws and regulations, such as the U.S. Foreign Corrupt Practices Act of 1977 (the "FCPA"), the U.K. Bribery Act of 2010 (the "Bribery Act"), and other similar anticorruption laws and regulations. The FCPA generally prohibits United States companies or their agents and employees from providing anything of value to a foreign official for the purposes of influencing any act or decision of these individuals in their official capacity to help obtain or retain business, direct business to any person or corporate entity or obtain any unfair advantage. Although we have internal controls, procedures and compliance programs to train our employees and agents with respect to compliance with the FCPA and other applicable international laws and regulations, there can be no assurance that our policies, procedures and programs will always protect us from reckless or criminal acts committed by our employees or agents. Allegations of violations of applicable international laws and regulations, including the FCPA and the Bribery Act, may result in internal, independent or government investigations. Violations of the FCPA and other international laws and regulations may lead to severe criminal or civil sanctions and could result in liabilities that have a material adverse effect on our business, financial condition, results of operations and cash flows.

Exports of certain of our products are subject to various export control regulations and authorizations, and we may not be successful in obtaining the necessary U.S. Government approvals and resultant export licenses for proposed sales to certain foreign customers.

We must comply with numerous laws and regulations relating to the export of our products and technologies, including, among others, the FMU-152A/B JPF, before we are permitted to sell those products and technologies outside of the United States. Compliance often entails the submission and timely receipt of necessary export approvals, licenses or authorizations from the U.S. Government and, depending on the size and nature of the proposed transaction, may even require the submission of formal notification to the United States Congress, which then has the ability to pass a joint resolution of disapproval blocking or amending the sale. Over the last several years, the U.S. export licensing environment for munitions, such as the JPF, has been adversely affected by a number of factors, including, but not limited to, the changing geopolitical environment and heightened tensions with other countries (which shift and evolve over time). Accordingly, we can give no assurance that we will be successful in obtaining, in a timely manner or at all, the approvals, licenses or authorizations we need to sell our products and technologies outside the United States, which may result in the cancellation of orders, the incurrence of significant penalties payable by the Company and the return of advance payments to our customers if we do not make deliveries and fulfill our contractual commitments. Any significant delay in, or impairment of, our ability to sell products or technologies outside of the United States could have a material adverse effect on our business, financial condition and results of operations.

Additional tax exposure and tax law changes could have a material effect on our financial results.

We are subject to income taxes in the United States and certain foreign jurisdictions. The determination of the Company's provision for income taxes and other tax liabilities requires judgment and is based on legislative and regulatory structures that exist in the jurisdictions in which we operate, and we are periodically under audit by various tax authorities. We regularly assess the potential outcomes of examinations by tax authorities in determining the adequacy of our provision for income taxes. We are currently under audit by various states for the years 2013 through 2017. Although we do not believe that any material adjustments will result from these audits, the outcome of tax audits cannot be predicted with certainty. Any final assessment resulting from tax audits may result in material changes to our past or future taxable income, tax payable or deferred tax assets and may require us to pay penalties and interest that could have a material adverse effect on our results of operations.

Tariffs on certain imports to the United States and other potential changes to U.S. tariff and import/export regulations may have a negative effect on global economic conditions and our business, financial results and financial condition.

In 2018, tariffs were implemented on imports of steel and aluminum into the United States. As the implementation of tariffs is ongoing, more tariffs may be added in the future. While any steel and aluminum we use in our products is produced primarily in North America, the tariffs may provide domestic steel and aluminum producers the flexibility to increase their prices, at least to a level where their products would still be priced below foreign competitors once the tariffs are taken into account. These tariffs could have an adverse impact on our financial results, which include, but are not limited to, the following: products we sell include steel and aluminum and if we are unable to pass such price increases through to our customers, it would likely increase our cost of sales and, as a result, decrease our gross margins, operating income and net income. To date, the impact of the tariffs has not been material to the Company. In addition, in response to the tariffs, a number of other countries are threatening to impose tariffs on U.S. imports, which, if implemented, could increase the price of our products in these countries and may result in our customers looking to alternative sources for our products. This would result in decreased sales, which could have a negative impact on our net income and financial condition. Any of these factors could depress economic activity and restrict our access to suppliers or customers and have a material adverse effect on our business, financial condition and results of operations.

The value of our deferred tax assets could become impaired, which could materially and adversely affect our operating results.

As of December 31, 2019, we had approximately \$28.2 million in net deferred tax assets after valuation allowance. These deferred tax assets can be used to offset taxable income in future periods and reduce income taxes payable in those future periods. Each quarter, we determine the probability of the realization of deferred tax assets, using significant judgments and estimates with respect to, among other things, historical operating results, expectations of future earnings and tax planning strategies. In the event that there is insufficient positive evidence to support the valuation of these assets, we may be required to further adjust the valuation allowance to reduce our deferred tax assets. Such a reduction could result in a material non-cash charge in the period in which the valuation allowance is adjusted and could have a material adverse effect on our results of operations.

Economic conditions and regulatory changes following the United Kingdom's ("UK") exit from the European Union ("EU") could have a material adverse effect on our business, financial condition and results of operations.

We have business operations in both the UK and the broader EU. On January 31, 2020, the UK officially exited the EU ("Brexit") and entered a transition period during which it remains bound by EU rules and trade policy. There is significant uncertainty regarding the terms and the future relationship between the UK and the EU following the transition period. In addition, the UK referendum and withdrawal process have given rise to calls for the governments of other EU member states to consider withdrawal.

During the process leading up to Brexit, global markets and currencies have been adversely impacted, including a decline in the value of the British pound as compared to the U.S. dollar. Because the terms of the UK's future relationship with the EU are still subject to further negotiation, it is unclear what long-term economic, financial, trade and legal implications Brexit will have and how it will affect the regulation applicable to our business globally and in the region. Adverse developments during their negotiations, or the perception that any could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and could significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Asset valuations, currency exchange rates and credit ratings continue to be subject to market volatility. Lack of clarity about future UK laws and regulations as the UK determines which EU laws to replace or replicate following Brexit, including financial laws and regulations, tax and free trade agreements, intellectual property rights, supply chain logistics, environmental, health and safety laws and regulations, immigration laws and employment laws, could decrease foreign direct investment in the UK, increase costs, depress economic activity and restrict our access to capital. If the UK and the EU are unable to negotiate acceptable terms for their future relationship or if other EU member states pursue withdrawal, barrier-free access between the UK and other EU member states or among the European economic area overall could be diminished or eliminated. Any of these factors could have a direct or indirect impact on our business in the UK and EU, our customers and suppliers in the UK and EU and our business outside the UK and EU. Any of these factors could have a material adverse effect on our business, financial condition and results of operations and reduce the price of our common stock.

Our foreign operations present additional risks and uncertainties which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our foreign business operations create additional risks and uncertainties, including the following:

- Longer payment cycles;
- Difficulties in accounts receivable collection, including complexities in documenting letters of credit;
- Changes in regulatory requirements;
- Export restrictions, tariffs and other trade barriers;
- Difficulties in staffing and managing foreign operations;
- Seasonal reductions in business activity during the summer months in Europe and certain other parts of the world;
- Political or economic instability in the markets we serve;
- Potentially adverse tax consequences; and
- Cultural and legal differences impacting the conduct of business.

In addition, our contracts with foreign customers may include terms and reflect legal requirements that create additional risks. These include, among others, industrial cooperation agreements requiring specific in-country purchases, investments, manufacturing agreements or other financial obligations, known as offset requirements, and provide for significant penalties if we fail to meet such requirements. Our foreign customers may also require us to enter into letters of credit, performance or surety bonds, bank guarantees and/or other financial arrangements to secure our performance obligations. All or any of these factors have the potential to have a material adverse effect on our business, financial condition, results of operations and cash flows.

We could be negatively impacted by the loss of key suppliers, the consolidation of suppliers, the lack of product availability or changes in supplier programs.

Our business depends on maintaining a sufficient supply of various products to meet our customers' demands. We have long-standing relationships with key suppliers but these relationships generally are non-exclusive and could be terminated by either party. If we were to lose a key supplier, or were unable to obtain the same levels of deliveries from these suppliers and were unable to supplement those purchases with products obtained from other suppliers, it could have a material adverse effect on our business. Additionally, we rely on foreign and domestic suppliers and commodity markets to secure raw materials used in many of the products we manufacture. Suppliers have consolidated and formed alliances to broaden their product and integrated system offerings, and achieve critical mass. Supplier consolidation could cause us to compete against certain competitors with greater financial resources, market penetration and purchasing power. This exposes us to volatility in the price and availability of raw materials. In some instances, we depend upon a single source of supply. Supply interruptions could arise from shortages of raw materials, labor disputes, weather conditions or pandemics, such as the novel strain of coronavirus, affecting suppliers' production, transportation disruptions or other reasons beyond our control. Even if we continue with our current supplier relationships, high demand for certain products may result in us being unable to meet our customers' demands, which could put us at a competitive disadvantage. Additionally, our key suppliers could also increase the pricing of their products, which would negatively affect our operating results if we were not able to pass these price increases through to our customers. We base our supply management process on an appropriate balancing of the foreseeable risks and the costs of alternative practices. To protect ourselves against such risks, we may engage in strategic inventory purchases during the year, negotiate long-term vendor supply agreements, monitor our inventory levels and obtain second sources when applicable to ensure that we have the appropriate inventory on hand to meet our customers' requirements.

We depend on our intellectual property, and have access to certain intellectual property and information of our customers and suppliers and any infringement or failure to protect such intellectual property could have a material adverse effect on our business, financial condition results of operations and cash flows.

We rely on a combination of patents, trademarks, copyrights, trade secrets, nondisclosure agreements, physical and information technology security systems, internal controls and compliance systems and other measures to protect our intellectual property, data, and technology rights, both domestically and internationally, as well as the intellectual property, data and technology rights of our customers and suppliers that we have in our possession or to which we have access. Our efforts to protect such intellectual property, data and technology rights may not be sufficient. There can be no assurance that our pending patent applications will result in the issuance of patents to us, that patents issued to or licensed by us in the past or in the future will not be challenged or circumvented by competitors, or that these patents will be found to be valid or sufficiently broad to preclude our competitors from introducing technologies similar to those covered by our patents and patent applications. Our ability to protect and enforce our intellectual property, data and technology rights may be limited in certain countries outside the U.S. as may be our ability to prevent theft or compromise of our intellectual property, data and technology rights by competitors, state actors or third parties. In addition, we may be the target of competitor or other third-party patent enforcement actions seeking substantial monetary damages or seeking to prevent our sale and marketing of certain of our products or services. Our competitive position also may be adversely impacted by limitations on our ability to obtain possession of, and ownership or necessary licenses concerning, data important to the development or provision of our products or service offerings, or by limitations on our ability to restrict the use by others of data related to our products or services. Any of these events or factors could have a material adverse effect on our competitive position, subject us to judgments, penalties and significant litigation costs or temporarily or permanently disrupt our sales and marketing of the affected products or services. Any of the foregoing could have a material adverse effect on our competitive position, results of operations, cash flows or financial condition.

Our financial results of operations could be adversely affected by impairment of our goodwill or other intangible assets.

When we acquire a business, we record goodwill equal to the excess of the amount we pay for the business, including liabilities assumed, over the fair value of the tangible and identifiable intangible assets of the business we acquire. Goodwill and other intangible assets that have indefinite useful lives must be evaluated at least annually for impairment. The specific guidance for testing goodwill and other non-amortized intangible assets for impairment requires management to make certain estimates and assumptions when allocating goodwill to reporting units and determining the fair value of reporting unit net assets and liabilities, including, among other things, an assessment of market conditions, projected cash flows, investment rates, cost of capital and growth rates, which could significantly impact the reported value of goodwill and other intangible assets. Changes in our estimates and assumptions could adversely impact projected cash flows and the fair value of reporting units. Fair value is generally determined using a combination of the discounted cash flow, market multiple and market capitalization valuation approaches. Absent any impairment indicators, we generally perform our evaluations annually in the fourth quarter, using available forecast information. If at any time we determine an impairment has occurred, we are required to reflect the reduction in value as an expense within operating income, resulting in a reduction of earnings and a corresponding reduction in our net asset value in the period such impairment is identified.

A failure to maintain effective internal controls could adversely affect our ability to accurately report our financial results or prevent fraud.

Our ability to provide assurance with respect to our financial reports and to effectively prevent fraud depends on effective internal controls. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements; therefore, even effective controls can only provide reasonable assurance with respect to the preparation and fair presentation of financial statements. If our internal controls were to be compromised, our financial statements could become materially misleading, which could adversely affect the trading price of our common stock. Any material weakness could adversely impact investor confidence in the accuracy of our financial statements, affecting our ability to obtain additional financing. This would likely have an adverse effect on our business, financial condition and the market value of our stock. Additionally, we would be required to incur costs to make the necessary improvements to our internal control systems.

Although management has assessed our internal control over financial reporting as effective based on criteria set forth by the Committee of Sponsoring Organizations - Integrated Framework, we can give no assurance that material weaknesses will not occur in the future nor that existing controls will continue to be adequate to prevent or identify irregularities or ensure fair presentation of our financial statements in the future.

The adoption of new accounting guidance or changes in the interpretations of existing guidance could affect our financial results.

We prepare our financial statements in conformity with accounting principles generally accepted in the United States. These accounting principles are subject to interpretation by the Financial Accounting Standards Board ("FASB") and the Securities and Exchange Commission ("SEC"). A change in these principles or interpretations could have a significant effect on our reported financial results, may retroactively affect previously reported results, could cause unexpected financial reporting fluctuations and may require us to make costly changes to our operational processes and accounting systems. In the first quarter of 2019, we implemented Accounting Standard Update ("ASU") 2016-02, *Leases (Topic 842)*, which superseded nearly all existing generally accepted accounting principles ("GAAP") lease guidance. For additional information on the impact of this standard, please refer to Note 1, *Summary of Significant Accounting Policies* in the Notes to Consolidated Financial Statements in this Annual Report on Form 10-K. Additionally, during the first quarter of 2018, we implemented ASU 2014-09, *Revenue from Contracts with Customers*, which superseded nearly all GAAP revenue recognition guidance. For additional information on the impact of this standard, please refer to Note 2, *Accounting Changes*, in the Notes to Consolidated Financial Statements in this Annual Report on Form 10-K.

Our failure to comply with the covenants contained in our credit facility could trigger an event of default, which could materially and adversely affect our operating results and our financial condition.

Our credit facility requires us to maintain certain financial ratios and comply with various operational and other covenants. If we were unable to maintain these ratios and comply with such covenants, we would need to seek relief from our lenders in order to avoid, cure or have waived an event of default under the facility. There can be no assurance that we would be able to obtain such relief on commercially reasonable terms or otherwise. If an event of default occurs and is not cured or waived, we may not be able to make further borrowings under the credit facility and our lenders could, among other things, cause all outstanding indebtedness under the credit facility to be due and payable immediately. There can be no assurance that our assets or cash flows would be sufficient to provide us with sufficient liquidity to fund outstanding commitments or meet other business requirements or to enable us to fully repay those amounts or that we would be able to refinance or restructure the indebtedness. If, as or when required, we are unable to repay, refinance or restructure the indebtedness outstanding under our senior credit facility, or amend the financial ratios and covenants contained therein, the lenders under our credit facility could elect to terminate their commitments thereunder, cease making further loans and institute foreclosure proceedings against our assets. This, in turn, could result in an event of default under one or more of our other financing agreements, including our convertible notes.

In addition, in the ordinary course of business, certain of our customers require us to deliver standby letters of credit to guarantee our performance under our contractual obligations with them, which are currently issued by certain of our lenders pursuant to our credit facility. If we are unable to obtain letters of credit as needed to operate our business as a result of any of the circumstances described above or otherwise, our ability to enter into certain contracts may be adversely affected. Moreover, by their nature, standby letters of credit may be drawn upon by the beneficiaries thereof, which could affect our financial ratios and ability to make additional borrowings. The occurrence of any of these events could have a material adverse effect on our liquidity, financial position or results of operations.

Changes affecting the availability of the London Interbank Offered Rate (“LIBOR”) could affect our financial results.

The Company has outstanding debt and receivable transactions with variable interest rates based on LIBOR. The LIBOR benchmark has been the subject of national, international, and other regulatory guidance and proposals for reform. In July 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit rates for calculation of LIBOR after 2021. These reforms may cause LIBOR to perform differently than in the past and LIBOR may ultimately cease to exist after 2021. Alternative benchmark rate(s) may replace LIBOR and could affect the Company's debt securities, derivative instruments, receivables, debt payments and receipts. At this time, it is not possible to predict the effect of any changes to LIBOR, any phase out of LIBOR or any establishment of alternative benchmark rates. Any new benchmark rate will likely not replicate LIBOR exactly, which could impact our contracts which terminate after 2021. There is uncertainty about how applicable law, the courts or the Company will address the replacement of LIBOR with alternative rates on variable rate retail loan contracts and other contracts that do not include alternative rate fallback provisions. In addition, any changes to benchmark rates may have an uncertain impact on our cost of funds and our access to the capital markets, which could impact our liquidity, financial position or results of operations.

Business disruptions could seriously affect our sales and financial condition or increase our costs and expenses.

Our business may be impacted by disruptions including, but not limited to, threats to physical security, information technology attacks or failures, damaging weather or other acts of nature and pandemics or other public health crises, such as the novel strain of coronavirus first identified in Wuhan, China. Any of these disruptions could affect our internal operations or services provided to customers, and could impact our sales, increase our expenses or adversely affect our reputation or our stock price. We have developed and are implementing business continuity plans for each of our businesses, in order to mitigate the effects disruptions may have on our financial results.

Our insurance coverage may be inadequate to cover all significant risk exposures.

We are exposed to risks that are unique to the products and services we provide. While we believe that we maintain adequate insurance for certain risks, insurance cannot be obtained to protect against all risks and liabilities. It is therefore possible that our insurance coverage may not cover all claims or liabilities, and we may be forced to bear substantial unanticipated costs.

Cybersecurity requirements, vulnerabilities, threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, products and data.

Our information technology systems provide critical data connectivity, information and services for internal and external users. These interactions include, but are not limited to, ordering and managing materials from suppliers, inventory management, shipping products to customers, processing transactions, summarizing and reporting results of operations, complying with regulatory, legal or tax requirements and other processes necessary to manage our business. Our computer systems face the threat of unauthorized access, computer hackers, computer viruses, malicious code, organized cyber-attacks and other security problems and system disruptions.

Cyber-attacks are evolving and include, but are not limited to, malicious software, destructive malware, attempts to gain unauthorized access to data, manipulation of data, disruption or denial of service attacks and other electronic security breaches that could lead to disruptions in critical systems, unauthorized release of confidential, personal or otherwise protected information, including trade secrets, and corruption of data, networks or systems. We provide products and services to customers who also face cyber threats. Our products and services may be subject to cyber threats and we may not be able to detect or deter such threats, which could result in losses that could adversely affect our customers and our company. Additionally, we could be impacted by cyber threats in products that we use in our partners' and customers' systems that are used in connection with our business. Any such breach could compromise our networks and the information there could be accessed, publicly disclosed, lost or stolen. These events, if not prevented or mitigated, could damage our reputation, require remedial action and lead to loss of business, regulatory actions, potential liability and other financial losses. To address the risks to our information technology systems and data, we manage an information security program, maintain strong incident report capabilities and perform daily off-site backups. Additionally, we have put in place business continuity plans and security precautions for our critical systems, including a back-up data center. Updates on cyber security are provided to the Board of Directors at least annually.

Our information technology systems, processes and sites may suffer interruptions or failures which may affect our ability to conduct our business.

In the event our information technology systems are damaged or cease to function properly due to any number of causes, such as catastrophic events, power outages and security breaches resulting in unauthorized access or cyber-attacks, and our information security program, incident report capabilities, business continuity plans and security precautions do not function effectively on a timely basis, we may suffer interruptions in our operations or the misappropriation of proprietary information, which may adversely impact our business, financial condition, results of operations and cash flows.

We rely on the experience and expertise of our skilled employees, and must continue to attract and retain qualified technical, marketing and managerial personnel in order to succeed.

Our future success will depend largely upon our ability to attract and retain highly skilled technical, operational and financial managers and marketing personnel. There is significant competition for such personnel in the aerospace industry. We try to ensure that we offer competitive compensation and benefits as well as opportunities for continued development, and we continually strive to recruit and train qualified personnel and retain key employees. There can be no assurance, however, that we will continue to be successful in attracting and retaining the personnel we require to develop new and enhanced products and to continue to grow and operate profitably.

The freezing of our defined benefit pension plan could trigger a material curtailment adjustment in favor of the USG.

Our defined benefit pension plan was frozen with respect to future benefit accruals effective December 31, 2015. U.S. Government Cost Accounting Standard 413 ("CAS 413") requires the Company to determine the USG's share of any resulting pension curtailment adjustment attributable to pension expense charged to Company contracts with the USG, which could result in an amount due to the USG if the plan is determined to be in a surplus position or an amount due to the Company if the plan is determined to be in a deficit position. During the fourth quarter of 2016, the Company accrued a \$0.3 million liability representing our estimate of the amount due to the USG based on our pension curtailment adjustment calculation, which was submitted to the USG for review in December 2016. The Company has maintained its accrual at \$0.3 million as of December 31, 2019. There can be no assurance that the ultimate resolution of this matter will not have a material adverse effect on our results of operations, financial position and cash flows.

Our business could be impacted as a result of actions by activist shareholders or others.

We may be subject, from time to time, to legal and business challenges in the operation of our company due to actions instituted by activist shareholders or others. Responding to such actions could be costly and time-consuming, may not align with our business strategies and could divert the attention of our Board of Directors and senior management from the pursuit of our business strategies. Perceived uncertainties as to our future direction as a result of shareholder activism may lead to the perception of a change in the direction of the business or other instability and may make it more difficult to attract and retain qualified personnel and business partners and may affect our relationships with vendors, customers and other third parties.

Our revenue, cash flows and quarterly results may fluctuate, which could adversely affect our stock price.

We may in the future experience significant fluctuations in our quarterly operating results attributable to a variety of factors. Such factors include but are not limited to:

- Changes in demand for our products;
- Introduction, enhancement or announcement of products by us or our competitors;
- Market acceptance of our new products;
- The growth rates of certain market segments in which we compete;
- Size, timing and shipment terms of significant orders;
- Difficulties with our technical programs;
- Budgeting cycles of customers;
- Pricing pressures from customers;
- Customer advances;
- Longer payment terms required by our customers;
- Mix of distribution channels;
- Mix of products and services sold;
- Mix of domestic and international revenues;
- Fluctuations in currency exchange rates;
- Changes in the level of operating expenses;
- Changes in our sales and management incentive plans;
- Changes in tax laws in the jurisdictions in which we conduct business;
- Timing of tax payments, assessments and settlements;
- Inventory obsolescence;
- Accrual of contract losses;
- Fluctuations in oil and utility costs;
- Health care reform;
- Completion or announcement of acquisitions or divestitures; and
- General economic conditions in regions in which we conduct business.

Most of our expenses are relatively fixed in the short-term, including costs of personnel and facilities, and are not easily reduced. Thus, an unexpected reduction in our revenue, or failure to achieve an anticipated rate of growth, could have a material adverse effect on our profitability. If our operating results do not meet the expectations of investors, our stock price may decline.

RISKS RELATED TO THE INDUSTRIES IN WHICH WE OPERATE, OUR PROGRAMS AND OUR CONTRACTS

Our financial performance is significantly influenced by conditions within the aerospace and defense industries.

The financial performance of our business is directly tied to economic conditions in the commercial aviation and defense industries. The commercial aviation industry tends to be cyclical, and capital spending by airlines and aircraft manufacturers may be influenced by a variety of global factors including current and future traffic levels, aircraft fuel pricing, labor issues, competition, the retirement of older aircraft, regulatory changes, terrorism and related safety concerns, general economic conditions, worldwide airline profits and backlog levels. The defense industry may be influenced by a changing global political environment, changes in U.S. and global defense spending, U.S. foreign policy and the activity level of military flight operations. Changes to the aerospace and defense industries and any reductions in U.S. defense spending could have a material impact on our current and proposed aerospace programs, which could adversely affect our operating results and future prospects. In addition, changes in economic conditions may cause customers to request that firm orders be rescheduled or canceled, which could put a portion of our backlog at risk.

Furthermore, because of the lengthy research and development cycle involved in bringing new products to market, we cannot predict the economic conditions that will exist when a new product is introduced. A reduction in capital spending in the aviation or defense industries could have a significant effect on the demand for our products, which could have an adverse effect on our financial performance or results of operations.

Our USG programs are subject to unique risks.

We have several significant long-term contracts either directly with the USG or where the USG is the ultimate customer, including the Sikorsky BLACK HAWK cockpit program, the Joint Programmable Fuze (“JPF”) program and the AH-1Z program. These contracts are subject to unique risks, some of which are beyond our control. Examples of such risks include:

- The USG may modify, curtail or terminate its contracts and subcontracts at its convenience without prior notice, upon payment for work done and commitments made at the time of termination. Modification, curtailment or termination of our major programs or contracts could have a material adverse effect on our business, financial condition, results of operations and cash flows.
- Our USG business is subject to specific procurement regulations and other requirements. These requirements, although customary in USG contracts, increase our performance and compliance costs. These costs might increase in the future, reducing our margins, which could have a negative effect on our financial condition. Although we have procedures designed to assure compliance with these regulations and requirements, failure to do so under certain circumstances could lead to suspension or debarment, for cause, from USG contracting or subcontracting for a period of time and could have a material adverse effect on our business, financial condition, results of operations and cash flows and could adversely impact our reputation and our ability to receive other USG contract awards in the future.
- The costs we incur on our USG contracts, including allocated indirect costs, may be audited by USG representatives. Any costs found to be improperly allocated to a specific contract would not be reimbursed, and such costs already reimbursed would have to be refunded, which could have a material adverse effect on our business, financial condition, results of operations and cash flows. Moreover, if any audit were to reveal the existence of improper or illegal activities, we may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the USG.
- We are from time to time subject to governmental inquiries and investigations of our business practices due to our participation in domestic and foreign government contracts and programs and our transaction of business domestically and internationally. Adverse findings associated with any such inquiry or investigation could also result in civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with domestic and foreign governments.

Our business may be adversely affected by changes in budgetary priorities of the USG.

Because a significant percentage of our revenue is derived either directly or indirectly from contracts with the USG, changes in federal government budgetary priorities could directly affect our financial performance. A significant decline in government expenditures, a shift of expenditures away from programs that we support or a change in federal government contracting policies could cause federal government agencies to reduce their purchases under contracts, to exercise their right to terminate contracts at any time without penalty or not to exercise options to renew contracts.

The ability to obtain and retain product approvals issued by the Federal Aviation Administration ("FAA") and any intellectual property claims could adversely affect our operating results and profits.

Our business may be impacted by regulations set forth by the FAA to obtain Parts Manufacturer Approvals ("PMAs") to design or produce a modification or replacement aircraft part. The loss or suspension of the Company's product and design approvals could negatively impact our operating results and profits. We believe our current design and production processes that are subject to such regulations by the FAA are in compliance; however, there can be no assurance that we will not lose approvals for our products in the future. Additionally, we may be subject to claims of intellectual property infringement by third parties, including in connection with our PMA business, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Competition from domestic and foreign manufacturers may result in the loss of potential contracts and opportunities.

The aerospace markets in which we participate are highly competitive, and we often compete for work not only with large OEMs but also sometimes with our own customers and suppliers. Many of our large customers may choose not to outsource production due to, among other things, their own direct labor and overhead considerations and capacity utilization objectives. This could result in these customers supplying their own products or services and competing directly with us for sales of these products or services, all of which could significantly reduce our revenues.

Our competitors may have more extensive or more specialized engineering, manufacturing and marketing capabilities than we do in some areas, and we may not have the technology, cost structure, or available resources to effectively compete with them. We believe that developing and maintaining a competitive advantage requires continued investment in product development; engineering; supply chain management; production capabilities, including technology, equipment and facilities; and sales and marketing, and we may not have enough resources to make the necessary investments to do so. Further, our significant customers may attempt to use their position to negotiate price or other concessions for a particular product or service without regard to the terms of an existing contract or the underlying cost of production.

We believe our strategies for our business will allow us to continue to effectively compete for key contracts and customers, but there can be no assurance that we will be able to compete successfully in this market or against such competitors.

The cost and effort to start up new programs and introduce new products and technologies could negatively impact our operating results and profits.

The time required and costs incurred to ramp up a new program can be significant and include nonrecurring costs for tooling, first article testing, finalizing drawings and engineering specifications and hiring new employees able to perform the technical work required. New programs can typically involve a greater volume of scrap, higher costs due to inefficiencies, delays in production and learning curves that are often more extended than anticipated, all of which could have a material effect on our business, financial condition, results of operations and cash flows.

We also seek to achieve growth through the design, development, production, sale and support of innovative products that incorporate advanced technologies. The product, program and service needs of our customers change and evolve regularly and we invest in research and development efforts to pursue advances in technologies, products and services. We are currently developing the next generation K-MAX® unmanned aircraft system that will allow operators to have the ability to fly either manned or unmanned missions. We have received five orders as of December 31, 2019, which allow for a short time frame to develop and manufacture the unmanned aircraft systems. If any of our development and/or production efforts are delayed, if suppliers cannot deliver timely or perform to our standards and/or if we identify or experience any other issues, we may not meet delivery schedules agreed upon with our customers, which could result in material additional costs, including liquidated damages or other liabilities that could be assessed.

Our ability to realize the anticipated benefits of our technological advancements depends on a variety of factors, including meeting development, production, certification and regulatory approval schedules; execution of internal and external performance plans; availability of supplier and internal facility capacity to perform maintenance, repair, and overhaul services on our products; hiring and training of qualified personnel; achieving cost and production efficiencies, identification of emerging technological trends in our target end markets; validation of innovative technologies; the level of customer interest in new technologies and products; and customer acceptance of products we manufacture. Development efforts divert resources from potential resources in our businesses, and these efforts may not lead to the development of new technologies on a timely basis or meet the needs of our customers as fully as competitive offerings. Additionally, the markets for our products or products that incorporate our technologies may not develop or grow as we anticipate. We may encounter difficulties in developing and/or producing new products or services and may not realize the degree or timing of benefits initially anticipated or may otherwise suffer significant adverse financial consequences. Due to the design complexity of our products, we may experience delays in completing the development and introduction of new products. Delays could result in increased development costs or deflect resources from other projects. Furthermore, our competitors or customers may develop competing technologies which gain market acceptance in advance or instead of our products. Additionally, our competitors may develop new technologies or offerings that may cause our existing technologies or offerings to become obsolete. These risks associated with efforts to start up new programs and introduce new products and technologies could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Estimates of future costs for long-term contracts impact our current and future operating results and profits.

We generally recognize sales and gross margin on long-term contracts based on the over time method of accounting. This method allows for revenue recognition as our work progresses on a contract and requires that we estimate future revenues and costs over the life of a contract. Revenues are estimated based upon the negotiated contract price, with consideration being given to exercised contract options, change orders and, in some cases, projected customer requirements. Contract costs may be incurred over a period of several years, and the estimation of these costs requires significant judgment based upon the acquired knowledge and experience of program managers, engineers and financial professionals.

Estimated costs are based primarily on anticipated purchase contract terms, historical performance trends, business base and other economic projections. The complexity of certain programs as well as technical risks and the availability of materials and labor resources could affect our ability to accurately estimate future contract costs. Additional factors that could affect recognition of revenue and gross margin under this method include:

- Accounting for initial program costs;
- The effect of nonrecurring work;
- Delayed contract start-up or changes to production schedules;
- Transition of work to or from the customer or other vendors;
- Claims or unapproved change orders;
- Product warranty issues;
- Delayed completion of certain programs for which inventory has been built up;
- Our ability to estimate or control scrap level;
- Accrual of contract losses; and
- Changes in our overhead rates.

Because of the significance of the judgments and estimation processes, it is likely that materially different sales and profit amounts could be recorded if we used different assumptions or if the underlying circumstances were to change. Changes in underlying assumptions, circumstances or estimates may adversely affect current and future financial performance. While we perform quarterly reviews of our long-term contracts to address and lessen the effects of these risks, there can be no assurance that we will not make material adjustments to underlying assumptions or estimates relating to one or more long-term contracts that have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may lose money or generate lower than expected profits on our fixed-price contracts.

Our customers set demanding specifications for product performance, reliability and cost. Most of our government contracts and subcontracts provide for a predetermined, fixed price for the products we make regardless of the costs we incur. Therefore, we must absorb cost overruns, notwithstanding the difficulty of estimating all of the costs we will incur in performing these contracts and in projecting the ultimate level of sales that we may achieve. Our failure to anticipate technical problems, estimate costs accurately, integrate technical processes effectively or control costs during performance of a fixed-price contract may reduce the profitability of a fixed-price contract or cause a loss. While we believe that we have recorded adequate provisions in our financial statements for losses on our fixed-price contracts as required under GAAP, there can be no assurance that our contract loss provisions will be adequate to cover all actual future losses.

We face significant pressure to lower our pricing notwithstanding our own internal costs.

There is substantial and continuing pressure from original equipment manufacturers in the commercial aerospace industry to reduce the prices they pay to suppliers, such as Kaman. We attempt to manage such downward pricing pressure, while trying to preserve our business relationships with our customers, by seeking to reduce our production and procurement costs through various measures, including implementing cost-effective process improvements and partnering with our own suppliers to reduce our cost of raw materials and components. Our suppliers have periodically resisted, and in the future may resist, pressure to lower their prices and may seek to impose price increases. If we are unable to offset price reductions to our OEM customers, this could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may not realize all of the sales expected from our existing backlog or anticipated orders.

At December 31, 2019, we had \$806.9 million of order backlog. There can be no assurance that the revenues included in our backlog will be realized or, if realized will result in profits. We consider backlog to be firm customer orders. OEM customers may provide projections of components and assemblies that they anticipate purchasing in the future under existing programs. These projections may represent orders that are beyond lead time and are included in backlog when supported by a long term agreement. Our customers have the right under certain circumstances or with certain penalties or consequences to terminate, reduce or defer firm orders that we have in backlog. If our customers terminate, reduce or defer firm orders, we may be protected from certain costs and losses, but our sales would be adversely affected. Although we strive to maintain ongoing relationships with our customers, there is an ongoing risk that orders may be canceled or rescheduled due to fluctuations in our customers' business needs or purchasing budgets.

The 737 MAX fleet is currently grounded, and we are subject to a number of risks and uncertainties related to the timing and conditions surrounding the aircraft's return to service.

On March 13, 2019, the FAA issued an order to suspend operations of all 737 MAX aircraft in the U.S. and by U.S. aircraft operators following two fatal 737 MAX accidents. Non-U.S. civil aviation authorities have issued directives to the same effect. Boeing has suspended deliveries until the FAA and other civil aviation authorities worldwide grant the clearance to return the aircraft to service. On April 5, 2019, Boeing announced plans to reduce the 737 production rate from 52 aircraft per month to 42 per month effective April 15, 2019. On December 16, 2019, Boeing announced that it would temporarily suspend production of the 737 MAX beginning in January 2020 as a result of the ongoing evaluation. On January 21, 2020, Boeing announced that it is currently estimating the ungrounding of the 737 MAX during mid-2020. There can be no assurance that the production rate will return to the production rate prior to the grounding of the 737 MAX fleet. We have recognized \$19.9 million and \$19.5 million in revenue associated with the 737 MAX fleet in the years ended December 31, 2019 and 2018, respectively. Any delays in the aircraft being returned to service and/or future reductions to the production rate could have an adverse effect on our financial position, results of operations, and/or cash flows.

The U.S. Navy contract award for the FMU-139 D/B bomb fuze could jeopardize the continued viability and profitability of the Company's FMU-152 A/B bomb fuze program with the U.S. Air Force ("USAF").

The Company currently provides the FMU-152 A/B bomb fuze (also referred to as the JPF) to the USAF and forty other nations, but the U.S. Navy currently utilizes a different fuze - the FMU-139. During 2015, the U.S. Naval Air Systems Command ("NAVAIR") solicited proposals for a firm, fixed-price production contract to implement improvements to the performance characteristics of the FMU-139 (such improved fuze having been designated the FMU-139 D/B). The USAF has stated that, if and when a contract is awarded and production begins, the funds associated with the FMU-152 A/B will be redirected to the FMU-139 D/B. During the third quarter of 2015, the U.S. Navy awarded the FMU-139 D/B contract to a competitor. In the event that the FMU-139 D/B program proceeds as planned and the USAF redirects the funds associated with the FMU-152 A/B to the FMU-139 D/B, our business, financial condition, results of operations and cash flows is expected to be materially adversely impacted. During the third quarter of 2019, our competitor announced that it received its first production order from the U.S. Navy to manufacture the FMU-139 D/B. Due to the complexity of this program and the pending status of the USAF's final decision to redirect funds to the FMU-139 D/B, the timing and magnitude of the impact on the Company's financial statements is not certain.

RISKS RELATING TO ACQUISITIONS, JOINT VENTURES, DIVESTITURES AND RESTRUCTURING

We may make acquisitions or investments in new businesses, products or technologies that involve additional risks, which could disrupt our business or harm our financial condition or results of operations.

As part of our business strategy, we have made, and expect to continue to make, acquisitions of businesses or investments in companies that offer complementary products, services and technologies. Such acquisitions or investments involve a number of risks, including:

- Assimilating operations and products may be unexpectedly difficult;
- Management's attention may be diverted from other business concerns;
- We may enter markets in which we have limited or no direct experience;
- We may lose key employees, customers or vendors of an acquired business;
- We may not be able to achieve the synergies or cost savings we anticipated;
- We may not realize the assigned value of the acquired assets;
- We may experience quality control failures or encounter other customer relationship issues; and
- We may become subject to preexisting liabilities and obligations of the acquired businesses.

These factors could have a material adverse effect on our business, financial condition, results of operations and cash flows. In addition, the consideration paid for any future acquisitions could include our stock or require that we incur additional debt and contingent liabilities. As a result, future acquisitions could cause dilution of existing equity interests and earnings per share.

Our business following the sale of our Distribution business is materially different.

For the year ended December 31, 2018, our former Distribution business generated approximately 60.8% of the Company's total net sales and represented approximately 38.6% of the Company's total assets. Our continuing businesses are less diversified and our exposure to the risks inherent in those businesses will increase. Our shareholders have no ongoing interest in our former Distribution businesses and have ceased to participate in the future earnings and cash flows of those businesses on and after the closing date. Instead, the Company will seek to grow our aerospace and engineered products businesses through internal investments and strategic acquisitions. We may be unable to retain the existing employees of our aerospace and engineered products businesses or to attract additional qualified employees to meet current and future needs. Our results of operations and financial condition may be materially adversely affected if we fail to implement our strategic growth initiatives as planned, and the ultimate value of the sale of our Distribution business may be unfavorably affected to the extent we are unable to realize the expected accounting and tax benefits of the sale.

The performance of required transition services may disrupt our continuing businesses, divert our resources and distract our management.

In connection with the sale of our former Distribution business, we entered into a transition services agreement, pursuant to which we agreed to provide various transition services to the purchasers of the Distribution business for specified periods beginning as of the closing date. In order to perform our obligations under the transition services agreement, we will allocate certain of our resources, including Company assets, facilities, equipment and the time and attention of our senior management team, to ensure a smooth transition of the businesses sold, which may negatively impact our own business, results of operations, financial condition and cash flows. Difficulties in separating the operations, technologies and IT infrastructure of the Distribution business from those of our aerospace and engineered products businesses may require substantially more time and funds than we anticipated in negotiating the terms of the transition services agreement. Although the transition services agreement generally entitles us to compensation for services rendered under the agreement, the compensation specified in the transition services agreement may not be sufficient to cover the costs incurred in providing the services, which could result in unrecoverable costs that could be material. If we are unable to effectively manage these risks, our business, results of operations, financial condition and cash flows may be adversely affected.

We have broad discretion in how we use the net proceeds from the sale of our former Distribution business, and we may not use those proceeds effectively.

The net proceeds from the sale of our former Distribution business were received by the Company, not the Company's shareholders. The Company used a portion of the net proceeds for the acquisition of Bal Seal, to pay off outstanding indebtedness, and to pay the taxes related to the gain on the sale of the Distribution business. We cannot, however, specify with any certainty the particular uses of the remaining net proceeds, and our Board of Directors and management will have broad discretion in applying those net proceeds. Those remaining proceeds may be used for, among other things, effectuating unspecified acquisitions, investing in the Company's remaining businesses, returning capital to our shareholders and funding general corporate purposes. We may spend or invest these proceeds in a way with which our shareholders disagree. The failure to utilize the net proceeds of the sale of our Distribution business effectively could affect our ability to grow our remaining businesses, which could adversely affect our business, results of operations, financial position and cash flows and cause the value of our common stock to decline. Pending their use, the net proceeds from the sale of the Distribution business may be invested in a way that does not produce income or that loses value.

Certain of our operations are conducted through joint ventures, which entail special risks.

The Company has a 49% equity interest in Kineco-Kaman Composites - India Private Limited, a composites manufacturing joint venture located in Goa, India. The Company relies significantly on the services and skills of its joint venture partner to manage and conduct the local business operations of the joint venture and ensure compliance with all applicable laws and regulations. If our joint venture partner fails to perform these functions adequately, it may adversely affect our business, financial condition, results of operations and cash flows. Moreover, if our joint venture partner fails to honor its financial obligations to commit capital, equity or credit support to the joint venture as a result of financial or other difficulties or for any other reason, the joint venture may be unable to perform contracted services or deliver contracted products unless we provide the necessary capital, equity or credit support.

We may be unable to realize expected benefits from our sales initiatives and cost reduction and restructuring efforts and our profitability may be hurt or business otherwise might be adversely affected.

We have a number of initiatives to grow sales and win new programs. Additionally, in order to operate more efficiently and control costs, from time to time, we announce restructuring plans or other cost savings initiatives, which include workforce reductions as well as facility consolidations and other cost reduction initiatives, such as streamlining our processes. These plans are intended to generate operating expense savings through direct cost and indirect overhead expense reductions, as well as other savings. We may undertake further sales growth initiatives, workforce reductions or restructuring actions in the future. These types of sales growth initiatives and cost reduction and restructuring activities are complex. If we do not successfully manage our current initiatives and restructuring activities or any other similar activities that we may undertake in the future, expected efficiencies and benefits might be delayed or not realized, and our operations and business could be disrupted. Risks associated with these initiatives, actions and other workforce management issues include political responses to such actions, unforeseen delays in the implementation of anticipated workforce reductions, additional unexpected costs, changes in responsibilities, business and information technology systems disruptions, changes in internal controls, potential impacts on financial reporting, adverse effects on employee morale and the failure to meet operational targets, whether due to the loss of employees, work stoppages or otherwise, any of which may impair our ability to achieve anticipated sales or cost reductions and could have a material adverse effect on our business, financial condition, results of operations and cash flows.

FORWARD-LOOKING STATEMENTS

This report contains "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements also may be included in other publicly available documents issued by the Company and in oral statements made by our officers and representatives from time to time. These forward-looking statements are intended to provide management's current expectations or plans for our future operating and financial performance, based on assumptions currently believed to be valid. They can be identified by the use of words such as "anticipate," "intend," "plan," "goal," "seek," "believe," "project," "estimate," "expect," "strategy," "future," "likely," "may," "should," "would," "could," "will" and other words of similar meaning in connection with a discussion of future operating or financial performance. Examples of forward looking statements include, among others, statements relating to future sales, earnings, cash flows, results of operations, uses of cash and other measures of financial performance.

Because forward-looking statements relate to the future, they are subject to inherent risks, uncertainties and other factors that may cause the Company's actual results and financial condition to differ materially from those expressed or implied in the forward-looking statements. Such risks, uncertainties and other factors include, among others: (i) the possibility that we may be unable to find appropriate reinvestment opportunities for the proceeds from the sale of our former Distribution business; (ii) risks related to Kaman's performance of its obligations under the transition services agreement entered into in connection with the sale of our former Distribution business and disruption of management time from ongoing business operations relating thereto; (iii) changes in domestic and foreign economic and competitive conditions in markets served by the Company, particularly the defense, commercial aviation and industrial production markets; (iv) changes in government and customer priorities and requirements (including cost-cutting initiatives, government and customer shut-downs, the potential deferral of awards, terminations or reductions of expenditures to respond to the priorities of Congress and the Administration, or budgetary cuts resulting from Congressional actions or automatic sequestration); (v) changes in geopolitical conditions in countries where the Company does or intends to do business; (vi) the successful conclusion of competitions for government programs (including new, follow-on and successor programs) and thereafter successful contract negotiations with government authorities (both foreign and domestic) for the terms and conditions of the programs; (vii) the timely receipt of any necessary export approvals and/or other licenses or authorizations from the USG; (viii) timely satisfaction or fulfillment of material contractual conditions precedents in customer purchase orders, contracts, or similar arrangements; (ix) the existence of standard government contract provisions permitting renegotiation of terms and termination for the convenience of the government; (x) the successful resolution of government inquiries or investigations relating to our businesses and programs; (xi) risks and uncertainties associated with the successful implementation and ramp up of significant new programs, including the ability to manufacture the products to the detailed specifications required and recover start-up costs and other investments in the programs; (xii) potential difficulties associated with variable acceptance test results, given sensitive production materials and extreme test parameters; (xiii) the receipt and successful execution of production orders under the Company's existing USG JPF contract, including the exercise of all contract options and receipt of orders from allied militaries, but excluding any next generation programmable fuze programs, as all have been assumed in connection with goodwill impairment evaluations; (xiv) the continued support of the existing K-MAX® helicopter fleet, including sale of existing K-MAX® spare parts inventory and the receipt of orders for new aircraft sufficient to recover our investments in the K-MAX® production line; (xv) the accuracy of current cost estimates associated with environmental remediation activities; (xvi) the profitable integration of acquired businesses into the Company's operations; (xvii) the ability to recover from cyber-based or other security attacks, information technology failures or other disruptions; (xviii) changes in supplier sales or vendor incentive policies; (xix) the ability of our suppliers to satisfy their performance obligations; (xx) the effects of price increases or decreases; (xxi) the effects of pension regulations, pension plan assumptions, pension plan asset performance, future contributions and the pension freeze, including the ultimate determination of the USG's share of any pension curtailment adjustment calculated in accordance with CAS 413; (xxii) future levels of indebtedness and capital expenditures; (xxiii) the continued availability of raw materials and other commodities in adequate supplies and the effect of increased costs for such items; (xxiv) the effects of currency exchange rates and foreign competition on future operations; (xxv) changes in laws and regulations, taxes, interest rates, inflation rates and general business conditions; (xxvi) the effects, if any, of the United Kingdom's exit from the European Union; (xxvii) future repurchases and/or issuances of common stock; (xxviii) the occurrence of unanticipated restructuring costs or the failure to realize anticipated savings or benefits from past or future expense reduction actions; (xxix) the ability to recruit and retain skilled employees; and (xxx) other risks and uncertainties set forth herein.

Any forward-looking information provided in this report should be considered with these factors in mind. We assume no obligation to update any forward-looking statements contained in this report.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our facilities are generally suitable for, and adequate to serve, their intended uses. At December 31, 2019, we occupied major facilities at the following principal locations:

Segment	Location	Property Type ⁽¹⁾
Aerospace	Jacksonville, Florida	Leased - Manufacturing & Office
	Chihuahua, Mexico	Leased - Manufacturing & Office
	Rimpar, Germany	Owned - Manufacturing & Office
	Prachatice, Czech Republic	Owned - Assembly & Office
	Wichita, Kansas	Leased - Manufacturing & Office
	Darwen, Lancashire, United Kingdom	Leased - Manufacturing & Office
	Orlando, Florida	Owned - Manufacturing & Office
	Höchstadt, Germany	Owned - Manufacturing & Office
	Middletown, Connecticut	Owned - Manufacturing & Office
	Bloomfield, Connecticut	Owned - Manufacturing, Office & Service Center
	Bennington, Vermont	Owned - Manufacturing & Office
	Gilbert, Arizona	Leased - Office & Service Center
Corporate	Bloomfield, Connecticut	Owned - Office & Information Technology Back-Up Data Center
		Square Feet
Aerospace		1,985,374
Corporate ⁽²⁾		105,432
Total		2,090,806

(1) Owned facilities are unencumbered.

(2) We occupy a 40,000 square foot corporate headquarters building, 38,000 square foot mixed use building, and 8,000 square foot data center in Bloomfield, Connecticut.

ITEM 3. LEGAL PROCEEDINGS

General

From time to time, as a normal incident of the nature and kinds of businesses in which the Company and its subsidiaries are, and were, engaged, various claims or charges are asserted and legal proceedings are commenced by or against the Company and/or one or more of its subsidiaries. Claimed amounts may be substantial but may not bear any reasonable relationship to the merits of the claim or the extent of any real risk of court or arbitral awards. We record accruals related to those matters for which we consider a loss to be both probable and reasonably estimable. Gain contingencies, if any, are not recognized until they are realized. Legal costs are generally expensed when incurred.

We evaluate, on a quarterly basis, developments in legal proceedings that could affect the amount of any accrual and developments that would make a loss contingency both probable and reasonably estimable. Our loss contingencies are subject to substantial uncertainties, however, including for each such contingency the following, among other factors: (i) the procedural status of the case; (ii) whether the case has or may be certified as a class action suit; (iii) the outcome of preliminary motions; (iv) the impact of discovery; (v) whether there are significant factual issues to be determined or resolved; (vi) whether the proceedings involve a large number of parties and/or claims in multiple jurisdictions or jurisdictions in which the relevant laws are complex or unclear; (vii) the extent of potential damages, which are often unspecified or indeterminate; and (viii) the status of settlement discussions, if any, and the settlement postures of the parties. Because of these uncertainties, management has determined that, except as otherwise noted below, the amount of loss or range of loss that is reasonably possible in respect of each matter described below (including any reasonably possible losses in excess of amounts already accrued), is not reasonably estimable.

While it is not possible to predict the outcome of these matters with certainty, based upon available information, management believes that all settlements, arbitration awards and final judgments, if any, which are considered probable of being rendered against us in legal proceedings and that can be reasonably estimated are accrued for at December 31, 2019. Despite this analysis, there can be no assurance that the final outcome of these matters will not have a material adverse effect on our business, financial condition, results of operations or cash flows.

Except as set forth below, as of December 31, 2019, neither the Company nor any of its subsidiaries is a party, nor is any of its or their property subject, to any material pending legal proceedings, other than ordinary routine litigation incidental to the business of the Company and its subsidiaries. Additional information relating to certain of these matters is set forth in Note 19, *Commitments and Contingencies*, and Note 13, *Environmental Costs*, of the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K.

Environmental Matters

The Company and its subsidiaries are subject to numerous U.S. Federal, state and international environmental laws and regulatory requirements and are involved from time to time in investigations or litigation of various potential environmental issues concerning activities at our facilities or former facilities or remediation as a result of past activities (including past activities of companies we have acquired). From time to time, we receive notices from the U.S. Environmental Protection Agency or equivalent state or international environmental agencies that we are a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act (commonly known as the “Superfund Act”) and/or equivalent laws. Such notices assert potential liability for cleanup costs at various sites, which may include sites owned by us, sites we previously owned and treatment or disposal sites not owned by us, allegedly containing hazardous substances attributable to us from past operations. While it is not possible to predict the outcome of these proceedings, in the opinion of management, any payments we may be required to make as a result of all such claims in existence at December 31, 2019, will not have a material adverse effect on our business, financial condition and results of operations or cash flows. Additional information relating to certain of these matters is set forth in Note 19, *Commitments and Contingencies*, and Note 13, *Environmental Costs*, of the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Annual Report on Form 10-K.

Asbestos Litigation

Like many other industrial companies, the Company and/or one of its subsidiaries may be named as a defendant in lawsuits alleging personal injury as a result of exposure to asbestos integrated into certain products sold or distributed by the Company and/or the named subsidiary. A substantial majority of these asbestos-related claims have been covered by insurance or other forms of indemnity or have been dismissed without payment. The rest have been resolved for amounts that are not material to the Company, either individually or in the aggregate. Based on information currently available, we do not believe that the resolution of any currently pending asbestos-related matters will have a material adverse effect on our business, financial condition, results of operations or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Information concerning mine safety violations required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act") and Item 104 of Regulation S-K was not required for this Annual Report on Form 10-K as there were no reportable violations during 2019.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET, DIVIDEND AND SHAREHOLDER INFORMATION

Our Common Stock is traded on the New York Stock Exchange under the symbol "KAMN". As of January 31, 2020, there were 3,517 registered holders of our Common Stock. Holders of the Company's Common Stock are eligible to participate in the Computershare CIP program, which offers a variety of services including dividend reinvestment and direct stock purchase. The plan brochure describing the program may be obtained by contacting Computershare at (800) 227-0291 or via the web at www.computershare.com/investor.

ISSUER PURCHASES OF EQUITY SECURITIES

The following table provides information about purchases of Common Stock by the Company during the three months ended December 31, 2019:

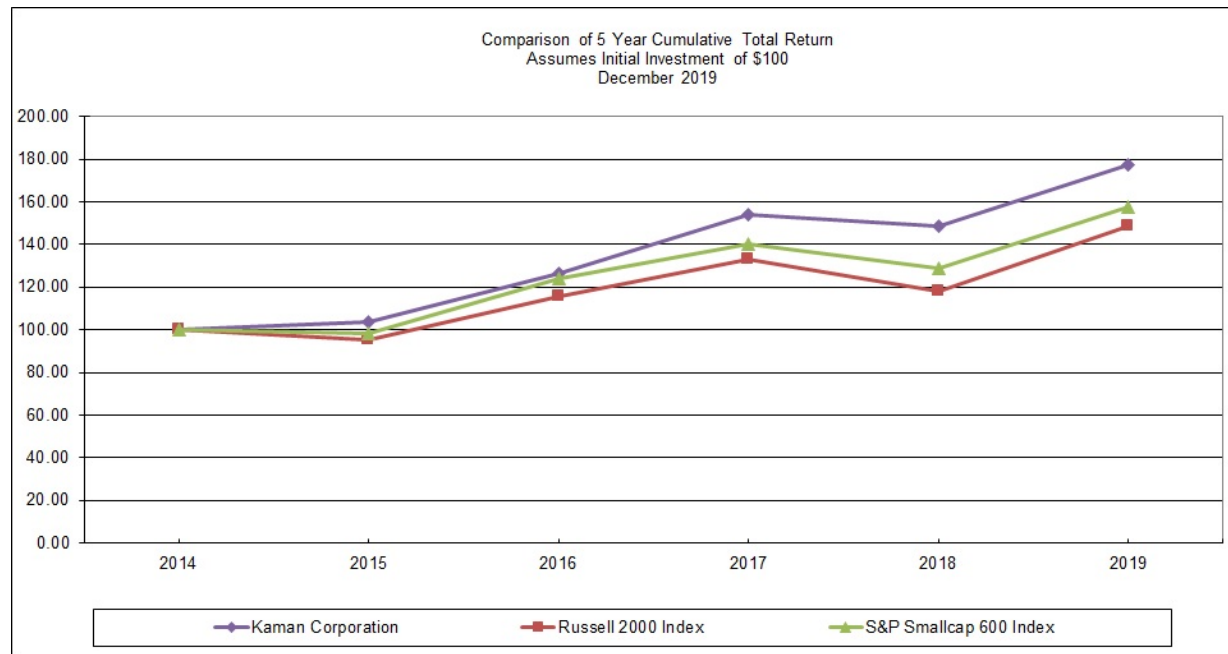
Period	Total Number of Shares Purchased (a)	Average Price Paid per Share	Total Number of Shares Purchased as Part of a Publicly Announced Plan (b)	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plan (in thousands)
September 28, 2019 – October 25, 2019	99,000	\$ 58.51	99,000	\$ 29,579
October 26, 2019 – November 22, 2019	64,676	\$ 60.15	63,000	\$ 25,797
November 23, 2019 – December 31, 2019	150,569	\$ 67.05	150,569	\$ 15,701
Total	314,245		312,569	

(a) During the quarter the Company purchased 1,676 shares in connection with employee tax withholding obligations as permitted by our equity compensation plans; these purchases were made in compliance with SEC Rule 16b-3. These are not purchases under our publicly announced program.

(b) On April 29, 2015, the Company announced that its Board of Directors approved a \$100.0 million share repurchase program ("2015 Share Repurchase Program").

PERFORMANCE GRAPH

Following is a comparison of our total shareholder return for the period 2014 – 2019 compared to the S&P 600 Small Cap Index and the Russell 2000 Small Cap Index. The performance graph does not include a published industry or line-of-business index or peer group of similar issuers because during the performance period the Company was conducting operations in diverse lines of business and we do not believe a meaningful industry index or peer group can be reasonably identified. Accordingly, as permitted by regulation, the graph includes the S&P 600 Small Cap Index and the Russell 2000 Small Cap Index, both of which are comprised of issuers with market capitalizations generally similar to that of the Company.



	2014	2015	2016	2017	2018	2019
Kaman Corporation	100.00	103.62	126.29	154.21	148.89	177.26
S&P Small Cap 600	100.00	98.03	124.06	140.48	128.56	157.85
Russell 2000	100.00	95.59	115.95	132.94	118.30	148.49

ITEM 6. SELECTED FINANCIAL DATA
FIVE-YEAR SELECTED FINANCIAL DATA

(in thousands, except per share amounts, shareholders and employees)

	2019 ^{1,6,8,9}	2018 ^{2,6,7,8,9}	2017 ^{3,6,7,8,9}	2016 ^{4,6,7,8,9}	2015 ^{5,6,7,8,9}
OPERATIONS					
Net sales from continuing operations	\$ 761,608	\$ 735,994	\$ 724,944	\$ 702,054	\$ 597,586
Operating income from continuing operations	53,411	32,963	61,716	64,955	50,342
Earnings from continuing operations before income taxes	40,587	25,136	44,922	51,921	40,103
Income tax (benefit) expense	(15,859)	9,259	25,214	15,294	9,612
Earnings from continuing operations	56,446	15,877	19,708	36,627	30,491
Earnings from discontinued operations, net of taxes	29,027	38,292	30,118	22,227	29,947
Gain on disposal of discontinued operations, net of taxes	124,356	—	—	—	—
Net earnings	\$ 209,829	\$ 54,169	\$ 49,826	\$ 58,854	\$ 60,438
FINANCIAL POSITION					
Current assets	\$ 936,488	\$ 773,105	\$ 747,869	\$ 698,553	\$ 676,035
Current liabilities	203,992	298,476	246,299	353,886	236,689
Working capital	732,496	474,629	501,570	344,667	439,346
Property, plant and equipment, net	140,450	137,112	139,313	131,705	131,563
Total assets	1,418,943	1,474,062	1,466,396	1,439,476	1,451,186
Long-term debt, excluding current portion	181,622	284,256	391,651	296,598	434,227
Shareholders' equity	823,202	633,157	635,656	565,787	543,077
PER SHARE AMOUNTS					
Basic earnings per share from continuing operations	\$ 2.02	\$ 0.57	\$ 0.71	\$ 1.35	\$ 1.12
Basic earnings per share from discontinued operations	5.49	1.37	1.09	0.82	1.10
Basic earnings per share	\$ 7.51	\$ 1.94	\$ 1.80	\$ 2.17	\$ 2.22
Diluted earnings per share from continuing operations	\$ 2.01	\$ 0.56	\$ 0.69	\$ 1.31	\$ 1.09
Diluted earnings per share from discontinued operations	5.46	1.36	1.06	0.79	1.08
Diluted earnings per share	\$ 7.47	\$ 1.92	\$ 1.75	\$ 2.10	\$ 2.17
Dividends declared	\$ 0.80	\$ 0.80	\$ 0.80	\$ 0.72	\$ 0.72
Shareholders' equity	29.57	22.72	22.85	20.87	20.09
AVERAGE SHARES OUTSTANDING					
Basic	27,936	27,945	27,611	27,107	27,177
Diluted	28,092	28,223	28,418	28,072	27,868
GENERAL STATISTICS					
Registered shareholders	3,528	3,085	3,142	3,261	3,402
Employees	2,935	2,900	3,095	3,072	2,991

(See Footnotes below)

Included within certain annual results are a variety of unusual or significant items that may affect comparability. The most significant of such items are described below.

1. Results from continuing operations for 2019 include a tax benefit of \$25.7 million associated with an entity classification election for the investment in the Company's U.K. business, which had the effect of treating the subsidiary as a disregarded entity for U.S. tax purposes, \$10.1 million in expense related to corporate development activities, a \$3.7 million write-off of note receivables recorded in 2018 for the remaining amounts to be collected on the sale of the U.K. Tooling business as this balance was deemed not likely to be collected and \$1.6 million in restructuring and severance costs. Additionally, the Company sold its Distribution business in 2019 (Refer to Item 9 below for further information). Upon closing, the Company entered into a transition services agreement ("TSA") with the buyer, pursuant to which the Company agreed to support the information technology, human resources and benefits, tax and treasury functions of the Distribution business for six to twelve months. Results from continuing operations for 2019 include \$4.7 million in costs associated with the TSA, partially offset by income earned from the TSA of \$3.7 million.
2. Results from continuing operations for 2018 include a \$10.0 million write-off of other intangibles and \$0.7 million write-off of inventory associated with the impairment for a certain asset group at our U.K. business, \$6.0 million in expense related to the announced restructuring activities in the Aerospace business, a \$5.7 million loss on the sale of our U.K. Tooling business, \$3.0 million in costs incurred for employee-tax related matters, a \$1.5 million gain on the sale of land, \$1.4 million in costs associated with the termination of certain distributor agreements and separation costs for certain employees not covered by the restructuring activities, \$1.1 million in costs associated with corporate development activities and a \$0.7 million loss on the sale of substantially all the assets and liabilities of our Engineering Services business.
3. Results from continuing operations for 2017 include \$9.7 million in tax expense associated with the revaluation of the Company's existing U.S. deferred tax assets resulting from Tax Reform, \$2.7 million in expense related to restructuring activities and \$1.6 million in separation costs associated with a senior executive. Additionally, we issued convertible senior unsecured notes in the aggregate principal amount of \$200.0 million ("2024 Notes"). The Company used the proceeds from the issuance of the 2024 Notes, along with cash received in connection with the termination of existing convertible note hedge transactions, to repurchase a portion of the existing convertible senior unsecured notes due in November 2017 ("2017 Notes") at a cost of \$106.7 million, purchase a capped call related to the 2024 Notes and pay down a portion of our revolving credit facility. The remaining portion of the 2017 Notes was settled in November 2017. The Company incurred \$7.4 million of debt issuance costs in connection with the issuance of the 2024 Notes. Of the total amount, \$0.7 million was recorded as an offset to additional paid-in capital and the remaining balance of \$6.7 million was recorded as a contra-debt balance and is being amortized over the term of the 2024 Notes.
4. Results for 2016 include \$5.1 million of acquisition transaction and integration costs related to our 2015 acquisitions and \$2.5 million of severance costs, of which \$1.1 million was included in acquisition transaction and integration costs. Additionally, the carrying amount of the 2017 Notes was reclassified to current liabilities, as these 2017 Notes were convertible through April 3, 2017. Upon closure of the conversion period, the Notes remained in current liabilities due to their scheduled maturity.
5. Results for 2015 include \$4.9 million in acquisition costs, \$4.0 million in expense associated with the resolution of the matters related to our AH-1Z program and \$3.0 million of expenses related to foreign currency transactions associated with the purchase of GRW Bearing GmbH ("GRW").
6. On January 1, 2018, we adopted new revenue recognition guidance ("ASC 606") using the modified retrospective method. As a result, we applied the new revenue recognition guidance only to contracts that were not completed as of January 1, 2018; therefore, results from 2019 and 2018 are presented under the new revenue recognition guidance and results prior to 2018 are presented in accordance with previous revenue recognition guidance ("ASC 605"). The adoption of this standard resulted in an additional \$59.7 million in net sales and \$15.9 million in operating income in 2018, which otherwise would not have been recorded in 2018 under previous guidance.
7. On January 1, 2018, we adopted the new accounting standard that resulted in the net periodic pension cost and net post retirement cost other than service costs to no longer be presented in cost of sales and selling, general and administrative expenses, but instead be presented within non-service pension and post retirement benefit cost. This ASU was applied retrospectively for the presentation of the service cost component and the other components of net

benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component and the other components of net benefit cost in assets.

8. On January 1, 2019, we adopted the new leasing standard ("ASC 842") using the modified retrospective method. As a result, the Company applied ASC 842 only to leases that existed as of January 1, 2019 and did not restate prior periods. Under this standard, lessees are required to recognize the following for all leases at the commencement date: (i) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (ii) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. The adoption of ASC 842 resulted in a net increase of approximately \$18.5 million to its assets and liabilities as of January 1, 2019 due to the addition of right-of-use assets and liabilities for operating leases on the balance sheet.
9. On August 26, 2019, we completed the sale of our Distribution business for total cash consideration of \$700.0 million, excluding certain working capital adjustments. The sale of the Distribution business was a result of the Company's shift in strategy to be a highly focused, technologically differentiated aerospace and engineered products company. As a result of the sale, the Distribution segment met the criteria set forth in ASC 205-20, *Presentation of Financial Statements - Discontinued Operations* for discontinued operations. The related assets and liabilities of the Company's former Distribution business were reclassified to assets held for sale and liabilities held for sale, respectively, for the periods prior to 2019 on the Company's Consolidated Balance Sheets.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is intended to provide readers of our consolidated financial statements with the perspectives of management. MD&A presents in narrative form information regarding our financial condition, results of operations, liquidity and certain other factors that may affect our future results. This should allow the readers of this report to obtain a comprehensive understanding of our businesses, strategies, current trends and future prospects. MD&A should be read in conjunction with the Consolidated Financial Statements and related Notes included in this Form 10-K.

OVERVIEW OF BUSINESS

Kaman Corporation ("The Company") currently operates as a single Aerospace segment that conducts business in the aerospace and defense, industrial and medical markets. The Company produces and markets proprietary aircraft bearings and components; super precision, miniature ball bearings; proprietary spring energized seals, springs and contacts; complex metallic and composite aerostructures for commercial, military and general aviation fixed and rotary wing aircraft; and safe and arming solutions for missile and bomb systems for the U.S. and allied militaries. The Company also manufactures and supports our K-MAX® manned and unmanned medium-to-heavy lift helicopters and restores, modifies and supports our SH-2G Super Seasprite maritime helicopters.

Our strategic goals are built upon our objectives of differentiating our value proposition by utilizing engineering, innovation, automation and process expertise to develop unique products and manufacturing processes within our global manufacturing facilities, increasing scale in our core competencies, diversifying our customer portfolio across multiple end markets and investing in our people, technologies and infrastructure. In order to achieve these objectives, we focus our efforts on improving balance between commercial and defense program content and customers, leveraging our broad capabilities to expand market positions, executing strategic acquisitions and increasing focused investments in our people, research and development, manufacturing technologies, capital equipment and infrastructure to increase capabilities and drive continuous improvement.

Company financial performance

- Net sales from continuing operations increased 3.5% compared to the prior year driven by an increase in net sales under our safe and arm device product programs.
- Earnings from continuing operations, net of tax increased 255.5% compared to the prior year. This increase reflects the tax benefits realized in the current period and the absence of the \$10.0 million other intangible assets impairment charge incurred in 2018.
- Diluted earnings per share from continuing operations increased to \$2.01 in 2019 compared to \$0.56 in the prior year.
- Cash flows provided by operating activities of continuing operations were \$42.5 million for 2019, a decrease of \$76.2 million. This change was largely driven by the absence of advance payments received in the prior year in connection with a Joint Programmable Fuze ("JPF") direct commercial sales ("DCS") contract.
- Total unfulfilled performance obligations ("backlog") decreased 5.3% to \$806.9 million, mostly driven by deliveries under our JPF program.

Acquisitions and divestitures

- In January 2020, we completed the acquisition of Bal Seal Engineering, Inc. ("Bal Seal") for \$331.0 million in cash, subject to customer adjustments for net debt and working capital.
- In August 2019, we completed the sale of our Distribution segment for total cash consideration of \$700.0 million, excluding certain working capital adjustments.

Awards and recognition

- In May 2019, our Vermont division was recognized by Rolls-Royce as the "Best New Supplier 2018" for its support for Rolls-Royce on various compressor components and composite assemblies.
- In April 2019, our joint venture was honored with a gold tier supplier award by BAE Systems for exceptional performance and contributions to supply chain success.
- In the first quarter of 2019, our integrated structures and metallics business was named supplier of the year by Sikorsky for the Sikorsky BLACK HAWK program.

Other key events

- In 2019, four K-MAX® aircraft were accepted by our customers. We received three new orders for the K-MAX® medium-to-heavy lift helicopter in the period.
- In 2019, we received two significant JPF DCS orders with an expected total value of \$90.6 million.
- In December 2019, we closed on a five-year amended and restated credit agreement. In addition to extending the maturity of the credit agreement to December 2024, the aggregate amount of revolving commitments available under the facility increased from \$600.0 million to \$800.0 million.
- In November 2019, we announced that Boeing awarded us the manufacture and supply of wing control surfaces and structural assemblies in support of the U.S. Air Force's A-10 program.
- In July 2019, we received the export license for the \$324.0 million JPF DCS contract.
- In July 2019, we announced that we opened a new customer service center in Bloomfield, Connecticut to support both the K-MAX® and SH-2 Super Seasprite customers and inaugurated a K-MAX® Flight Training Device.
- In July 2019, we announced that we entered into an agreement to purchase land to allow for expansion of our German based engineered products business.
- In May 2019, we announced that we had been awarded a contract to return two United States Marine Corps K-MAX® aircraft to flight operations.
- In April 2019, we announced that we were awarded the manufacture and supply of composite skin to core assembly structural components for Bell's AH-1Z helicopter blades.
- In March 2019, we announced that we are developing the next generation K-MAX® unmanned aircraft system that will allow operators to have the capability to fly either manned or unmanned missions. We expect to offer unmanned system kits for new production and existing aircraft in 2020 and have received five orders for K-MAX® unmanned system kit in 2019.
- In March 2019, we announced that we launched a composite blade development program for the K-MAX® helicopter.

RESULTS FROM CONTINUING OPERATIONS

During the third quarter of 2019, we completed the sale of our Distribution business for total cash consideration of \$700.0 million, excluding certain working capital adjustments. As a result of the sale, the Distribution business results met the criteria for the presentation of discontinued operations. The results presented below represent the results of continuing operations, which include the Aerospace segment and our Corporate office. See Note 3, *Discontinued Operations*, in the Notes to Consolidated Financial Statements included in this Form 10-K for further details.

On January 1, 2018, we adopted new revenue recognition guidance ("ASC 606") using the modified retrospective method. As a result, we applied the new revenue recognition guidance only to contracts that were not completed as of January 1, 2018; therefore, results for 2019 and 2018 are presented under the new revenue recognition guidance and results for 2017 are presented in accordance with previous revenue recognition guidance ("ASC 605"). See Note 1, *Summary of Significant Accounting Policies*, and Note 2, *Accounting Changes*, in the Notes to Consolidated Financial Statements included in this Form 10-K for further details.

Net Sales from Continuing Operations

	2019		2018		2017
In thousands					
Net sales	\$	761,608	\$	735,994	\$ 724,944
\$ change		25,614		11,050	22,890
% change		3.5%		1.5%	3.3%

Net sales for 2019 increased when compared to 2018, primarily due to increases of \$32.1 million and \$5.5 million in our safe and arm devices and commercial product programs, respectively. These increases were partially offset by a decrease in sales of \$12.0 million on our military and defense product programs, excluding safe and arm devices. Foreign currency exchange rates relative to the U.S. dollar had an unfavorable impact of \$6.5 million on net sales.

The increase in sales under our safe and arm device product programs was primarily attributable to higher direct commercial sales of our JPF to foreign militaries, partially offset by lower sales under our JPF program with the USG and the FMU-139 program.

Higher sales under our commercial product programs were primarily driven by an increase in sales on our Sikorsky s70 program and Bell Helicopter composite blade program and higher sales volume of our commercial bearings products. These increases, totaling \$16.0 million, were partially offset by lower sales under the K-MAX® program and the absence of sales from our former engineering services business.

The decrease in sales under our military and defense, excluding safe and arm device product programs was primarily attributable to lower sales under our SH-2G program for Peru, the Sikorsky BLACK HAWK helicopter program and the AH-1Z program, and the absence of sales from our former U.K. Tooling business. These decreases, totaling \$25.6 million, were partially offset by higher sales on the Boeing 7P Door Surround program and an increase in sales of spares for the SH-2 program with New Zealand.

The following table details the components of ASC 606 changes as a percentage of consolidated net sales from continuing operations in 2018 as compared to the corresponding period in 2017:

	2018
Increase in sales associated with ASC 606	8.2 %
Decrease in sales absent the adoption impact of ASC 606	(6.7)%
% change in net sales	1.5 %

Net sales for 2018 increased when compared to 2017, due to an increase in net sales of \$59.7 million resulting from the adoption of the new revenue recognition guidance, as discussed below, partially offset by a decrease in net sales of \$48.6 million absent the adoption of ASC 606. The decrease in net sales absent the adoption of the new revenue recognition guidance was primarily attributable to lower direct commercial sales of our JPF to foreign militaries, decreases in sales under the K-

MAX® program and certain metallic structures programs and lower sales volume of our composite structures products from foreign operations. These decreases, totaling \$70.8 million, were partially offset by higher sales volume of our bearings products, an increase in sales under the AH-1Z program and higher sales under the Sikorsky Combat Rescue Helicopter program. Foreign currency exchange rates relative to the U.S. dollar had a favorable impact of \$5.0 million on net sales.

The increase in sales resulting from the adoption of the new revenue recognition guidance was primarily related to recognizing sales under our JPF program with the USG on an over time method using the cost-to-cost basis in the current period compared to percentage-of-completion using units-of-delivery in 2017 and the recognition of sales for our K-MAX® program at a point in time in the current period compared to a percentage-of-completion on a cost-to-cost basis in 2017.

Gross Profit from Continuing Operations

	2019	2018	2017
<i>In thousands</i>			
Gross profit	\$ 240,805	\$ 227,317	\$ 234,029
\$ change	13,488	(6,712)	6,962
% change	5.9%	(2.9)%	3.1%
% of net sales	31.6%	30.9 %	32.3%

Gross profit for 2019 increased when compared to 2018. This was primarily attributable to higher direct commercial sales of our JPF to foreign militaries, an increase in sales and associated gross profit on the Boeing 7P Door Surround program and spares for the SH-2 program with New Zealand, and an increase in gross profit on the AH-1Z program. These increases, totaling \$28.7 million, were partially offset by lower sales and associated gross profit under the SH-2G program for Peru, our JPF program with the USG and the K-MAX® program, and a decrease in gross profit on certain legacy fuzing programs.

Gross profit for 2018 decreased when compared to 2017. This was attributable to a decrease in gross profit of \$24.3 million absent the adoption of the new revenue recognition guidance, primarily driven by lower direct commercial sales of our JPF to foreign militaries, lower sales and associated gross profit on the K-MAX® program, and decreases in gross profit under the AH-1Z program and our composite structures products from foreign operations. These decreases were partially offset by higher gross profit of \$17.6 million resulting from the adoption of the new revenue recognition guidance.

Selling, General & Administrative Expenses (S,G&A) from Continuing Operations

	2019	2018	2017
<i>In thousands</i>			
S,G&A	\$ 177,187	\$ 172,271	\$ 169,683
\$ change	4,916	2,588	7,572
% change	2.9%	1.5%	4.7%
% of net sales	23.3%	23.4%	23.4%

S,G&A increased for the year ended December 31, 2019, as compared to 2018. The following table details the components of this change:

	2019	2018	2017
Organic S,G&A:			
Aerospace	(4.1)%	1.3%	(0.3)%
Corporate	7.0 %	0.2%	5.0 %
Total Organic S,G&A	2.9 %	1.5%	4.7 %

The increase in S,G&A expenses for 2019 as compared to 2018 was attributable to higher corporate expenses, partially offset by a decrease in expenses in our Aerospace business. Corporate expenses increased primarily due to \$9.0 million in higher costs associated with corporate development activities and higher incentive compensation costs. The decrease in expenses at the Aerospace business was primarily attributable to the absence of \$3.0 million in costs incurred in the prior year for employee tax-related matters and lower depreciation expense as a result of our restructuring efforts in the prior year.

The increase in S,G&A expenses for 2018 as compared to 2017 was primarily attributable to higher expenses in the Aerospace business. S,G&A expenses at our Aerospace business increased when compared to prior year, primarily due to \$3.0 million in costs incurred for employee-tax related matters. Corporate expenses in 2018 remained relatively flat when compared to 2017. This was primarily attributable to \$1.1 million in corporate development activities, which includes costs associated with the due diligence for an acquisition we elected not to complete, and higher consulting fees mostly offset by the absence of \$1.6 million in separation costs associated with a senior executive incurred in the prior year.

Costs from Transition Services Agreement

	2019	2018	2017
<i>In thousands</i>			
Costs from transition services agreement	\$ 4,673	\$ —	\$ —

Upon closing the sale of the Distribution business, the Company entered into a transition services agreement ("TSA") with the buyer, pursuant to which the Company agreed to support the information technology, human resources and benefits, tax and treasury functions of the Distribution business for six to twelve months. The buyer has the option to extend the support period for up to an additional year for certain services. The Company incurred \$4.7 million in costs associated with the TSA in 2019. These costs are partially offset by \$3.7 million in income earned from the TSA included in income from transition services agreement, which is below operating income on the Company's Consolidated Statements of Operations.

Other Intangible Assets Impairment

	2019	2018	2017
<i>In thousands</i>			
Other intangible assets impairment	\$ —	\$ 10,039	\$ —

In 2018, we identified a triggering event for possible impairment of long-lived intangible assets at a certain asset group within the Company's U.K. business based on an analysis of historical performance, the current forecast for the remainder of the year and the loss of future orders from one of its customers. We performed a recoverability test by comparing the undiscounted cash flows of the asset group to its carrying value, and the estimated future cash flows of the business did not exceed the carrying value of the assets. Based on these results, we calculated the fair value of the asset group using an income approach, which resulted in an impairment charge of \$10.0 million, or the remaining balance of the customer lists/relationships at a certain asset group within the U.K. business. This charge has been included in the operating results of the Aerospace business.

Restructuring Costs

	2019	2018	2017
<i>In thousands</i>			
Restructuring costs	\$ 1,558	\$ 7,353	\$ 2,661

During the third quarter 2017, we announced restructuring activities at certain businesses to support the ongoing effort of improving capacity utilization and operating efficiency to better position the Company for increased profitability and growth. Such actions included workforce reductions and the consolidation of operations, which continued through the planned completion in 2019. In the years ended December 31, 2019, 2018 and 2017, we recorded \$0.6 million, \$6.0 million and \$2.7 million, respectively, in costs associated with the restructuring activities. In addition to these costs, in 2019, the Company's corporate office incurred \$0.9 million in severance expense and, in 2018, we incurred \$1.4 million in other non-related restructuring costs associated with the termination of certain distributor agreements and separation costs associated with certain employees not included in restructuring activities discussed above.

Loss on Sale of Business

	2019	2018	2017
In thousands			
Loss on sale of business	\$ 3,739	\$ 5,722	\$ —

During 2018, we sold our U.K. Tooling business to better position the Company for increased profitability. This sale did not qualify for the reporting of discontinued operations within the consolidated financial statements. In the year ended December 31, 2018, we incurred a loss of \$5.7 million associated with the sale. Of this amount, \$1.7 million related to the foreign currency translation reclassified from accumulated other comprehensive income (loss) to net income. In the year ended December 31, 2019, the Company incurred an additional loss of \$3.7 million associated with the write-off of note receivables recorded for the remaining amounts to be collected on the sale of the U.K. Tooling business as this balance was deemed not likely to be collected.

Operating Income

	2019	2018	2017
In thousands			
Aerospace	\$ 130,393	\$ 94,357	\$ 117,654
Loss on sale of business	(3,739)	(5,722)	—
Net (loss) gain on sale of assets	(237)	1,031	31
Corporate expense	(73,006)	(56,703)	(55,969)
Operating income	\$ 53,411	\$ 32,963	\$ 61,716
\$ change	20,448	(28,753)	(3,239)
% change	62.0%	(46.6)%	(5.0)%
% of net sales	7.0%	4.5 %	8.5 %

The increase in operating income for 2019 as compared to 2018 was primarily attributable to an increase in gross profit on certain programs as discussed above, the absences of the \$10.0 million other intangibles assets impairment at our U.K. business and the \$3.0 million in costs for employee tax-related matters incurred in the prior year, lower restructuring costs and lower depreciation costs. These changes, totaling \$35.0 million, were partially offset by higher corporate expenses, as discussed above, and \$4.7 million in costs from the TSA associated with the sale of our Distribution business.

The decrease in operating income for 2018 as compared to 2017 was primarily attributable to lower operating income at our Aerospace business, driven by the \$10.0 million other intangible assets impairment at our U.K. business, the loss incurred for the sale of the U.K. Tooling business, higher restructuring costs, the costs incurred for employee-tax related matters and the loss on the sale of substantially all of the assets and liabilities of our Engineering Services business. These changes were partially offset by an increase in operating income of \$15.9 million resulting from the adoption of the new revenue recognition guidance.

Interest Expense, Net

	2019	2018	2017
In thousands			
Interest expense, net	\$ 17,202	\$ 20,046	\$ 20,578

Interest expense, net generally consists of interest charged on our Credit Agreement, which includes a revolving credit facility and a term loan under our previously existing credit facility, and our convertible notes and the amortization of debt issuance costs, offset by interest income. The decrease in interest expense, net for 2019 as compared to 2018 was primarily due to interest income earned on marketable securities and lower average borrowings in the current period. The decrease in interest expense, net for 2018 as compared to 2017 was primarily due to lower average borrowings, partially offset by an increase in letter of credit fees. At December 31, 2018, the interest rate for outstanding amounts on both the revolving credit facility and term loan agreement was 3.74% compared to 2.84% at December 31, 2017.

	2019	2018	2017
Effective income tax rate	(39.1)%	36.8%	56.1%

The effective tax rate represents the combined federal, state and foreign tax effects attributable to pretax earnings for the year. The decrease in the effective tax rate for 2019 compared to 2018 was primarily due to a 2019 entity classification election related to the Company's U.K. business, which had the effect of treating the subsidiary as a disregarded entity for U.S. tax purposes. This election resulted in a significant loss for U.S. tax purposes and a tax benefit of \$25.7 million recognized by the Company in 2019. Additionally, in 2019, the Company recognized additional benefits from research and development credits, relating to research completed in the three prior years. The decrease in the effective tax rate for 2018 compared to 2017 was primarily due to the rate reduction resulting from Tax Reform, partially offset by foreign losses for which no tax benefit was recorded. Tax reform was enacted by the federal government during the fourth quarter of 2017 and provided for the reduction in the applicable U.S. corporate tax rate from 35% to 21%, effective January 1, 2018. See Note 16, *Income Taxes*, in the Notes to Consolidated Financial Statements included in this Form 10-K for further details.

Backlog

	2019	2018	2017
<i>In thousands</i>			
Backlog	\$ 806,870	\$ 851,814	\$ 616,090

Backlog decreased from 2018 to 2019, primarily driven by revenue recognized for deliveries of direct commercial JPF orders, K-MAX® aircraft and bearings products, and work performed on the JPF program with the USG, the Sikorsky BLACK HAWK program and the AH-1Z program. These decreases were partially offset by orders of our JPF and bearings products and orders under the Boeing 767/777 program and the A-10 program.

Other Matters

Information regarding our various environmental remediation activities and associated accruals can be found in Note 19, *Commitments and Contingencies*, and Note 13, *Environmental Costs*, in the Notes to Consolidated Financial Statements included in this Form 10-K.

Long-Term Contracts

For long-term contracts, we generally recognize sales and cost of sales over time because of continuous transfer of control to the customer, which allows for recognition of revenue as work on a contract progresses. For those programs for which there is a continuous transfer of control to the customer, we recognize sales and profit on a cost-to-cost basis, in which case sales and profit are recorded based upon the ratio of costs incurred to date to the total estimated costs to complete the contract. Conversely, revenue on certain programs, such as the K-MAX® program and on direct commercial sales under our JPF program, is recognized at a point in time, with revenue being recognized upon transfer to the end customer. See Note 1, *Summary of Significant Accounting Policies*, in the Notes to the Consolidated Financial Statements included in this Form 10-K for additional information regarding the effects of adjustments in profit estimates on long-term contracts for which revenue is recognized over time.

Major Programs/Product Lines

Defense Markets

A-10

In 2019, the USAF awarded Boeing a contract to provide up to 112 new wing assemblies and up to 15 wing kits through 2030 and we announced that we had been awarded a contract by Boeing to manufacture wing control surfaces and structural assemblies in support of the USAF's A-10 Thunderbolt Advanced Wing Continuation Kitting ("ATTACK") program. We were previously under contract with Boeing to produce the wing control surfaces (inboard and outboard flaps, slats and deceleron assemblies) for the USAF's A-10 fleet. Final production and deliveries under the initial contract were completed during 2018. At December 31, 2019, our program backlog was \$36.5 million. At December 31, 2018, our program backlog was not material.

Bearings

Our bearings products are included on numerous military platforms manufactured in North America, South America, Asia and Europe. These products are used as original equipment and/or specified as replacement parts by the manufacturers. The most significant portion of our military bearings sales is derived from U.S. military platforms, such as the AH-64 helicopter, Virginia Class submarine and Joint Strike Fighter aircraft, and sales in Europe for the Typhoon program. These products are primarily proprietary self-lubricating, ball and roller bearings for aircraft flight controls, turbine engines and landing gear, and helicopter driveline couplings.

BLACK HAWK

The Sikorsky BLACK HAWK helicopter cockpit program involves the manufacture of cockpits, including the installation of all wiring harnesses, hydraulic assemblies, control pedals and sticks, seat tracks, pneumatic lines and the composite structure that holds the windscreen for most models of the BLACK HAWK helicopter. We delivered 66 cockpits in 2019 as compared to the 61 cockpits delivered in 2018. In July 2017, we announced that we had entered into a new multi-year contract with Sikorsky to manufacture H-60 cockpits under the Department of Defense MY IX H-60 procurement authorization. The term of the agreement is five years, beginning in 2018 and ending in 2022. Included in backlog at December 31, 2019 and 2018, was \$53.0 million and \$81.0 million, respectively, for orders on this program. We anticipate cockpit deliveries to total 47 in 2020.

AH-1Z

The segment manufactures sheet metal details and subassemblies for the increased capability AH-1Z attack helicopter, which is produced by Bell Helicopter for the U.S. Marine Corps. We are currently on contract through Lot 16. As of December 31, 2019 and 2018, our backlog for this program was \$17.6 million and \$46.6 million, respectively.

SH-2G Peru

During 2016, we were awarded a contract for \$41.0 million with General Dynamics Mission Systems - Canada to commence work on the implementation phase of the previously announced Peruvian Navy's SH-2G Super Seasprite aircraft program. This contract was for the remanufacture and upgrade of four Kaman SH-2G Super Seasprite aircraft and support for the operation of a fifth aircraft for the Peruvian Navy. The total expected value to Kaman for the combined program, including this contract and previously issued contracts, totaled \$50.5 million. Total backlog at December 31, 2018, was \$4.3 million. At December 31, 2019, there was no remaining backlog as the program has completed.

FMU-152 A/B – Joint Programmable Fuze

We manufacture the JPF, an electro-mechanical bomb safe and arming device, which allows the settings of a weapon to be programmed in flight. The Company currently provides the FMU-152 A/B to the USAF and forty other nations. Sales of these fuzes can be direct to the USAF, Foreign Military Sales ("FMS") through the USG and DCS to foreign militaries that, although not funded by the USG, require regulatory approvals from the USG.

We occasionally experience lot acceptance test failures due to the complexity of the product and the extreme parameters of the acceptance test. Given the maturity of the product, we now generally experience isolated failures, rather than systemic ones. As a result, identifying a root cause can take longer and result in inconsistent delivery quantities from quarter to quarter.

A total of 41,429 fuzes were delivered in 2019. We expect to deliver 45,000 to 50,000 fuzes in 2020.

Total JPF backlog at December 31, 2019 was \$356.8 million, all of which has received required export approvals, licenses or authorizations from the USG, allowing for the sale of these products outside of the United States. The receipt of export approvals, licenses or authorizations are subject to political and geopolitical conditions which could impact the timing and/or our ability to sell these products outside of the United States. Total JPF backlog at December 31, 2018 was \$454.1 million.

JPF - USG

Revenue for JPF USG programs is recognized over time when costs are incurred as work progresses on the program. The Company currently provides the FMU-152 A/B to the USAF, but the U.S. Navy currently utilizes a different fuze - the FMU-139. In 2015, NAVAIR solicited proposals for a firm fixed price production contract to implement improvements to the performance characteristics of the FMU-139 (such improved fuze having been designated the FMU-139 D/B), and, the USAF had stated that, if and when a contract is awarded and production begins, the funds associated with the FMU-152 A/B will be

redirected to the FMU-139 D/B. During the third quarter of 2015, the U.S. Navy announced that a competitor was awarded the contract for the FMU-139 D/B. In the event the FMU-139 D/B program proceeds as planned and the USAF redirects the funds associated with the FMU-152 A/B to the FMU-139 D/B, our business, financial condition, results of operations and cash flows may be materially adversely impacted. During the third quarter of 2019, our competitor announced that it received its first production order from the U.S. Navy to manufacture the FMU-139 D/B. Due to the complexity of this program and the pending status of the USAF's final decision to redirect funds to the FMU-139 D/B, the timing and magnitude of the impact on the Company's financial statements are not certain; however, the Company continues to see strong demand for the FMU-152 A/B. In 2017, we were awarded Options 13 and 14 with the USG. The USAF has exercised two orders under Option 13, which have a total value of more than \$102.0 million, and two orders under Option 14 which have a total value of approximately \$121.4 million. Additionally, the USAF issued a Notice of Contract Action announcing its intent to award us Options 15 and 16, which, if and when awarded, would extend FMU-152 A/B deliveries into 2023.

JPF - DCS

Revenue for DCS programs is generally recognized at the point in time when control is transferred to the customer under the new revenue recognition guidance. The Company continues to see strong demand for DCS fuzes. During 2019, we were awarded two DCS contracts totaling approximately \$90.0 million. During the first quarter of 2018, we were awarded a DCS contract totaling approximately \$324.0 million, of which \$307.5 million was included in backlog as of December 31, 2018. The remaining \$16.5 million relates to potential penalties payable to the customer in the event the offset requirements of the contract are not met, which remained excluded from backlog at December 31, 2019. This agreement is designed to return economic value to the foreign country by requiring us to engage in activities supporting local defense or commercial industries, promoting a balance of trade, developing in-country technology capabilities or addressing other local development priorities. The offset agreement may be satisfied through activities that do not require a direct cash payment, including transferring technology, providing manufacturing, training and other consulting support to in-country projects and the purchase by third parties of supplies from in-country vendors. This agreement may also be satisfied through the Company's use of cash for activities, such as subcontracting with local partners, purchasing supplies from in-country vendors, providing financial support for in-country projects and making investments in local ventures. The offset requirements associated with this contract could extend for several years and have a notional value of approximately \$194.0 million, which is equal to sixty percent of the total contract value as defined by the agreement with the customer. The amount ultimately applied against the offset agreement is based on negotiations with the customer and may require cash outlays that represent only a fraction of the notional value in the offset agreement. The Company continues to work with the customer to further define the requirements to satisfy the offset agreement. The satisfaction of the offset requirements will be determined by the customer and is expected to occur over a seven-year period. Additionally, this contract provides for potential penalties payable to the customer of up to 10% of the total contract value in the event that we default on the contract and we are unable to fulfill our contractual commitments.

Commercial Markets

K-MAX®

During 2015, we announced that we were resuming production of commercial K-MAX® aircraft. The aircraft are being manufactured at our Jacksonville, Florida and Bloomfield, Connecticut facilities. The first thirteen helicopters from the newly reopened commercial production line were accepted by our customers through December 2019. During the fourth quarter of 2018, we announced that we will continue production of the commercial K-MAX® aircraft into 2020 at a minimum due to continued interest in the capabilities of the K-MAX®. During the first quarter of 2019, we announced that we are developing the next generation K-MAX® unmanned aircraft system that will allow operators to have the capability to fly either manned or unmanned missions. We expect to offer unmanned system kits for new production and existing aircraft in 2020. As of December 31, 2019 and 2018, our backlog for this program was \$13.1 million and \$14.9 million, respectively.

777 / 767

In 2019, we signed a multi-year follow-on contract with Boeing for the production of fixed trailing edge ("FTE") assemblies for the Boeing 777 and 767 commercial aircraft. Annual quantities will vary, as they are dependent upon the orders Boeing receives from its customers. To date, Kaman has provided approximately 1,375 FTE kits and assemblies for each of the 777 and 767 programs since 1995 and 1986, respectively. During 2019, on average, we delivered four shipsets per month on the Boeing 777 platform and two and one-half shipsets per month on the Boeing 767 platform, which includes one shipset per month associated with a military tanker derivative of the 767. For 2020, we estimate deliveries on the 777 program to be two and one-half shipsets per month and on the 767 program to be three shipsets per month which includes one shipset per month associated with a military tanker derivative of the 767. As of December 31, 2019 and 2018, our backlog for these programs was \$25.8 million and \$9.3 million, respectively.

Airbus

Our U.K. Composites operations provide composite components for many Airbus platforms. The most significant of these are the A320, A330 and A350. Orders for all of these platforms are dependent on the customer's build rate.

Bearings

Our bearings products are included on commercial airliners and regional/business jets manufactured in North and South America, Europe and Asia and are used as original equipment and/or specified as replacement parts by airlines and aircraft manufacturers. These products are primarily proprietary self-lubricating, ball and roller bearings for aircraft flight controls, turbine engines, landing gear and helicopter driveline couplings. The most significant portion of our commercial sales is derived from Boeing, Airbus and Bombardier platforms, such as the Boeing 737, 747, 777 and 787, the Airbus A320, A330, A350 and A380, and the Bombardier Global 7500. Additionally, our bearings offerings include super precision miniature ball bearings used primarily in aerospace applications, dental products, surgical power tools, analytical devices and various industrial applications.

In the first quarter of 2019, the Federal Aviation Administration ("FAA") issued an order to suspend all 737 MAX aircraft in the U.S. and by U.S. aircraft operators following two fatal 737 MAX accidents. Boeing has suspended deliveries until the FAA and other civil aviation authorities worldwide grant the clearance to return the aircraft to service. In 2019, Boeing announced its plan to reduce the 737 production rate from 52 aircraft per month to 42 per month beginning in April 2019 and that it would temporarily suspend production of the 737 MAX beginning in January 2020. On January 21, 2020, Boeing announced that it is currently estimating the ungrounding of the 737 MAX during mid-2020. In the years ended December 31, 2019 and 2018, we recognized \$19.9 million and \$19.5 million in revenue associated with the 737 MAX fleet. Any delays in aircraft being returned to service and/or future reductions in the production rate could have an adverse impact on our financial position, results of operations and/or cash flows.

Other Matters

Learjet 85

In 2010, our U.K. Composites operation was awarded a contract to manufacture composite passenger entry and over-wing exit doors for the Learjet 85, a mid-sized business jet built primarily from composites and featuring advances in aerodynamics, structures and efficiency; however, in October 2015, Bombardier Inc. announced the cancellation of its Learjet 85 business aircraft program. At December 31, 2019, we had total accounts receivable and contract assets related to the program of \$3.8 million. During 2016, we filed suit against our customer to recover this amount. Although we expect to recover the full amount of our claim, there can be no assurance that we will prevail in the litigation.

For a discussion of other matters, see Note 19, *Commitments and Contingencies*, in the Notes to Consolidated Financial Statements included in this Form 10-K.

LIQUIDITY AND CAPITAL RESOURCES

Discussion and Analysis of Cash Flows

We assess liquidity in terms of our ability to generate cash to fund working capital requirements and investing and financing activities. Significant factors affecting liquidity include: cash flows generated from or used by operating activities, capital expenditures, investments in our business and its programs, acquisitions, divestitures, dividends, availability of future credit, adequacy of available bank lines of credit and factors that might otherwise affect the Company's business and operations generally, as described under the heading "Risk Factors" and "Forward-Looking Statements" in Item 1A of Part I of this Form 10-K.

We continue to rely upon bank financing as an important source of liquidity for our business activities including acquisitions. We believe this, when combined with cash generated from operating activities, will be sufficient to support our anticipated cash requirements for the foreseeable future. However, we may decide to raise additional debt or equity capital to support other business activities including potential future acquisitions.

In addition to our working capital requirements, one or more of the following items could have an impact on our liquidity during the next 12 months:

- the matters described in Note 19, *Commitments and Contingencies*, in the Notes to Consolidated Financial Statements, including the cost of existing environmental remediation matters discussed in Note 13, *Environmental Costs*;
- contributions to our qualified pension plan and Supplemental Employees' Retirement Plan ("SERP");
- deferred compensation payments to officers;
- interest payments on outstanding debt;
- income tax payments;
- costs associated with acquisitions and corporate development activities;
- finance and operating lease payments;
- capital expenditures;
- research and development expenditures;
- repurchase of common stock under the 2015 Share Repurchase Program;
- payment of dividends;
- costs associated with the start-up of new programs; and
- the extension of payment terms by our customers.

In addition to the items listed above, we received \$97.2 million in advance payments in 2018, which relate to \$146.2 million in letters of credit for a JPF DCS contract, including the offset agreement. In the event that we default on the contract and we are unable to fulfill our contractual commitments, our customer has the ability to draw on the letters of credit.

Additionally, we received approximately \$655.0 million in proceeds, net of transaction costs, upon closing the sale of the Distribution business, subject to any working capital adjustments. During 2019, we allocated \$164.3 million of the proceeds to pay down debt and \$47.8 million of the proceeds for payments of income taxes, net of refunds. In the first quarter of 2020, we used approximately \$331.0 million of the proceeds for the acquisition of Bal Seal Engineering Inc. We expect to use the remaining portion for acquisition priorities, new product development and organic growth initiatives.

We regularly monitor credit market conditions to identify potential issues that may adversely affect, or provide opportunities for, the securing and/or pricing of additional financing, if any, that may be necessary to continue with our growth strategy and finance working capital requirements.

Management regularly monitors its pension plan asset performance and the assumptions used in the determination of our benefit obligation, comparing them to actual experience. We continue to believe the assumptions selected are valid due to the long-term nature of our benefit obligation.

Effective December 31, 2015, the qualified pension plan was frozen with respect to future benefit accruals. Under U.S. Government Cost Accounting Standard ("CAS") 413 we must calculate the USG's share of any pension curtailment adjustment resulting from the freeze. Such adjustments can result in an amount due to the USG for pension plans that are in a surplus position or an amount due to the contractor for plans that are in a deficit position. During the fourth quarter of 2016, we accrued a \$0.3 million liability representing our estimate of the amount due to the USG based on our pension curtailment adjustment calculation which was submitted to the USG for review in December 2016. We have maintained our accrual at \$0.3 million as of December 31, 2019. There can be no assurance that the ultimate resolution of this matter will not have a material adverse effect on our results of operations, financial position and cash flows.

A summary of our consolidated cash flows is as follows:

	2019	2018	2017	19 vs. 18	18 vs. 17
<i>(in thousands)</i>					
Total cash provided by (used in):					
Operating activities	\$ 42,488	\$ 118,714	\$ 38,272	\$ (76,226)	\$ 80,442
Investing activities	628,316	(22,538)	(22,840)	650,854	302
Financing activities	(152,713)	(141,145)	(53,627)	(11,568)	(87,518)
Free Cash Flow ⁽¹⁾ :					
Net cash provided by operating activities	\$ 42,488	\$ 118,714	\$ 38,272	\$ (76,226)	\$ 80,442
Expenditures for property, plant and equipment	(22,447)	(21,504)	(18,010)	(943)	(3,494)
Free cash flow	<u>\$ 20,041</u>	<u>\$ 97,210</u>	<u>\$ 20,262</u>	<u>\$ (77,169)</u>	<u>\$ 76,948</u>

⁽¹⁾ Free Cash Flow, a non-GAAP financial measure, is defined as net cash provided by operating activities less expenditures for property plant and equipment, both of which are presented in our Consolidated Statements of Cash Flows. See Management's Discussion and Analysis of Financial Condition and Results of Operations-Non-GAAP Financial Measures, in this Form 10-K.

2019 vs. 2018

Net cash provided by operating activities decreased in 2019 compared to 2018. This change was primarily due to the absence of advance payments received under a JPF DCS contract in the prior period and work performed on the JPF DCS program and K-MAX® program in the current period, partially offset by the absence of \$30.0 million in contributions made to the pension plan in the prior period and higher net earnings.

Net cash provided by investing activities was \$628.3 million in 2019, compared to net cash used by investing activities of \$22.5 million in 2018. This change was primarily attributable to the proceeds received from the sale of the Distribution business in the current period.

Net cash used in financing activities increased in 2019 compared to 2018, primarily due to higher net repayments of our credit facility and an increase in purchases of treasury shares, partially offset by higher proceeds from the exercise of employee stock awards.

2018 vs. 2017

Net cash provided by operating activities increased \$80.4 million in 2018 compared to 2017, primarily due to advance payments received under a JPF DCS contract, partially offset by higher pension contributions in 2018.

Net cash used in investing activities remained relatively flat in 2018 compared to 2017, primarily due to proceeds received from the sale of assets in 2018 and the absence of an earnout payment associated with a previous acquisition incurred in 2017, mostly offset by higher expenditures for property, plant and equipment.

Net cash used in financing activities increased in 2018 by \$87.5 million compared to 2017, primarily due to the absence of the convertible notes transactions and higher net repayments of our revolving credit facility in 2018. In 2017, convertible notes transactions consisted of \$200.0 million in proceeds received from the issuance of our 2024 Notes and \$58.6 million in proceeds related to the unwind of a portion of the convertible note hedge transactions related to our 2017 Notes, which were partially offset by the cost to repurchase a portion of the 2017 Notes, the purchase of the capped call transactions related to our 2024 Notes and higher debt issuance costs associated with the issuance of our 2024 Notes.

Financing Arrangements

Refer to Note 14, *Debt*, in the Notes to the Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Form 10-K for further information on our Financing Arrangements.

Convertible Notes

2024 Notes

During May 2017, we issued \$200.0 million aggregate principal amount of convertible senior unsecured notes due May 2024 (the "2024 Notes") pursuant to an indenture (the "Indenture"), dated May 12, 2017, between the Company and U.S. Bank National Association, as trustee. In connection therewith, we entered into certain capped call transactions that cover, collectively, the number of shares of the Company's common stock underlying the 2024 Notes. The 2024 Notes bear 3.25% interest per annum on the principal amount, payable semiannually in arrears on May 1 and November 1 of each year, beginning on November 1, 2017. The 2024 Notes will mature on May 1, 2024, unless earlier repurchased by the Company or converted. We will settle any conversions of the 2024 Notes in cash, shares of the Company's common stock or a combination of cash and shares of common stock, at the Company's election.

The sale of the Distribution business in the third quarter of 2019 was deemed to be a "Fundamental Change" and a "Make-Whole Fundamental Change" pursuant to the terms and conditions of the indenture governing the 2024 Notes. As a result, the sale triggered the right of the holders of our 2024 Notes to require us to repurchase all of the 2024 Notes, or any portion thereof that is a multiple of \$1,000 principal amount on September 27, 2019. The aggregate principal amount of the 2024 Notes validly tendered and not validly withdrawn was \$0.5 million, representing 0.25% of all outstanding notes. Holders of such notes receive the purchase price equal to 100% of the principal amount of the 2024 Notes being purchased, plus accrued and unpaid interest.

The following table illustrates the dilutive effect of securities issued under the 2024 Notes at various theoretical average share prices for our stock as of December 31, 2019:

	Theoretical Average Share Price of Kaman Stock				
	\$65.26	\$70.00	\$75.00	\$80.00	\$84.84
<i>Dilutive Shares associated with:</i>					
Convertible Debt	—	206,879	396,879	563,129	705,394

Credit Agreement

On December 13, 2019, the Company closed an amended and restated \$800.0 million Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A., as Administrative Agent and as Collateral Agent. The Credit Agreement amends and restates the Company's previously existing credit facility in its entirety to, among other things: (i) extend the maturity date to December 13, 2024; (ii) increase the aggregate amount of revolving commitments from \$600.0 million to \$800.0 million; (iii) remove the existing term loan credit facility; (iv) modify the affirmative and negative covenants set forth in the facility; and (v) effectuate a number of additional modifications to the terms and provision of the facility, including its pricing. Capitalized terms used but not defined within this discussion of the Credit Agreement have the meanings ascribed thereto in the Credit Agreement.

Interest rates on amounts outstanding under the Credit Agreement are variable based on LIBOR. The LIBOR benchmark has been the subject of national, international, and other regulatory guidance and proposals for reform. In July 2017, the U.K. Financial Conduct Authority announced that it intends to stop persuading or compelling banks to submit rates for calculation of LIBOR after 2021. These reforms may cause LIBOR to perform differently than in the past and LIBOR may ultimately cease to exist after 2021. Alternative benchmark rate(s) may replace LIBOR and could affect the Company's debt securities, derivative instruments, receivables, debt payments and receipts. At this time, it is not possible to predict the effect of any changes to LIBOR, any phase out of LIBOR or any establishment of alternative benchmark rates. Any new benchmark rate will likely not replicate LIBOR exactly, which could impact our contracts which terminate after 2021. There is uncertainty about how applicable law, the courts or the Company will address the replacement of LIBOR with alternative rates on variable rate retail loan contracts and other contracts that do not include alternative rate fallback provisions. In addition, any changes to benchmark rates may have an uncertain impact on our cost of funds and our access to the capital markets, which could impact our liquidity, financial position or results of operations.

At December 31, 2019, there were no amounts outstanding on the Credit Agreement. At December 31, 2018, the interest rate for the outstanding amounts on the Credit Agreement was 3.74%. In addition, we are required to pay a quarterly commitment fee on the unused revolving loan commitment amount at a rate ranging from 0.150% to 0.250% per annum, based on the Senior Secured Net Leverage Ratio. Fees for outstanding letters of credit range from 1.125% to 1.625%, based on the Senior Secured Net Leverage Ratio. Total average bank borrowings under our revolving credit facility and previously existing term loan facility during the year ended December 31, 2019, were \$70.6 million compared to \$151.6 million for the year ended December 31, 2018. As of December 31, 2019 and 2018, there was \$647.4 million and \$408.9 million available for borrowing, respectively, net of letters of credit. However, based on EBITDA levels, amounts available for borrowings, net of outstanding letters of credit were at least \$322.9 million at December 31, 2019 and amounts available for borrowings, net of outstanding letters of credit were limited to \$323.5 million at December 31, 2018. Letters of credit are generally considered borrowings for purposes of calculating available borrowings. As of December 31, 2019 and 2018, \$152.6 million letters of credit were outstanding in both periods, all of which were under the revolving credit facility. Of this amount, \$146.2 million letters of credit relate to a JPF DCS contract.

Interest Rate Swaps

During 2015, we entered into interest rate swap agreements under the previously existing credit facility for the purposes of hedging the eight quarterly variable-rate Term Loan interest payments due in 2016 and 2017. Additionally, we entered into interest rate swap agreements to effectively convert \$83.8 million of our variable rate revolving credit facility debt to a fixed interest rate. These interest rate swap agreements were designated as cash flow hedges and intended to manage interest rate risk associated with our variable-rate borrowings and minimize the impact on our earnings and cash flows of interest rate fluctuations attributable to changes in LIBOR rates. As of December 31, 2017, these interest rate swap agreements had all matured and were not outstanding. As such, there was no activity related to these contracts for the years ended December 31, 2019 and 2018. The activity related to these contracts was not material to the Company's Consolidated Financial Statements for the year ended December 31, 2017.

Other Sources/Uses of Capital

Pension

We paid \$0.5 million and \$0.9 million in SERP benefits during 2019 and 2018, respectively. We expect to pay \$0.5 million in SERP benefits in 2020. We did not make any contributions to the qualified pension plan in 2019. We contributed \$30.0 million to the qualified pension plan during 2018. In 2020, we have contributed \$10.0 million to the qualified pension plan (as of the date of this filing) and do not anticipate making any further contributions this year.

Acquisitions

No acquisitions were completed in 2019, 2018 or 2017. For the year ended December 31, 2017, the Company paid \$1.4 million in earn-out payments related to a past acquisition. On January 3, 2020, the Company announced that it had completed the acquisition of Bal Seal, at a purchase price of approximately \$331.0 million, subject to working capital adjustments. We continue to identify and evaluate potential acquisition candidates, the purchase of which may require the use of additional capital.

Stock Repurchase Plans

On April 29, 2015, we announced that our Board of Directors approved a share repurchase program ("2015 Share Repurchase Program") authorizing the repurchase of up to \$100.0 million of the common stock, par value \$1.00 per share, of the Company. We currently intend to repurchase shares to offset the annual issuance of shares under our employee stock plans, but the timing and actual number of shares repurchased will depend on a variety of factors including stock price, market conditions, corporate and regulatory requirements, capital availability and other factors, including acquisition opportunities. As of December 31, 2019, we had repurchased 1,590,422 shares under the 2015 Share Repurchase Program and approximately \$15.7 million remained available for repurchases under this authorization.

NON-GAAP FINANCIAL MEASURES

Management believes that the non-GAAP measures used in this Annual Report on Form 10-K provide investors with important perspectives into our ongoing business performance. We do not intend for the information to be considered in isolation or as a substitute for the related GAAP measures. Other companies may define the measures differently. We define the non-GAAP measures used in this report and other disclosures as follows:

Organic Sales

Organic Sales is defined as "Net Sales" less sales derived from acquisitions completed during the preceding twelve months. We believe that this measure provides management and investors with a more complete understanding of underlying operating results and trends of established, ongoing operations by excluding the effect of acquisitions, which can obscure underlying trends. We also believe that presenting Organic Sales enables a more direct comparison to other businesses and companies in similar industries. Management recognizes that the term "Organic Sales" may be interpreted differently by other companies and under different circumstances.

Organic Sales (in thousands)

	2019	2018	2017
Net sales	\$ 761,608	\$ 735,994	\$ 724,944
Less: Acquisition Sales	—	—	—
Organic Sales	<u>\$ 761,608</u>	<u>\$ 735,994</u>	<u>\$ 724,944</u>

Free Cash Flow

Free cash flow is defined as GAAP "Net cash provided by (used in) operating activities" in a period less "Expenditures for property, plant & equipment" in the same period. Management believes Free Cash Flow provides an important perspective on our ability to generate cash from our business operations and, as such, that it is an important financial measure for use in evaluating the Company's financial performance. Free Cash Flow should not be viewed as representing the residual cash flow available for discretionary expenditures such as dividends to shareholders or acquisitions, as it may exclude certain mandatory expenditures such as repayment of maturing debt and other contractual obligations. Management uses Free Cash Flow internally to assess overall liquidity.

CONTRACTUAL OBLIGATIONS AND OFF-BALANCE SHEET ARRANGEMENTS

Contractual Obligations

The following table summarizes certain of the Company's contractual obligations as of December 31, 2019:

Contractual Obligations	Payments due by period (in millions)				
	Total	Within 1 year	1-3 years	3-5 years	More than 5 years
Long-term debt (including convertible notes)	\$ 199.5	\$ —	\$ —	\$ 199.5	\$ —
Interest payments on debt ^(a)	70.0	14.3	29.3	23.1	3.3
Operating leases	15.9	4.3	6.7	4.9	—
Finance leases	7.4	1.9	3.6	1.9	—
Purchase obligations ^(b)	203.4	177.6	25.5	0.3	—
Transition services agreement ^(c)	8.8	8.8	—	—	—
Other long-term obligations ^(d)	57.3	14.0	16.5	4.1	22.7
Planned funding of pension and SERP ^(e)	16.3	10.5	3.0	0.9	1.9
Total	\$ 578.6	\$ 231.4	\$ 84.6	\$ 234.7	\$ 27.9

Note: For more information refer to Note 3, *Discontinued Operations*; Note 14, *Debt*; Note 16, *Income Taxes*; Note 17, *Pension Plans*; Note 18, *Other Long-Term Liabilities*; Note 19, *Commitments and Contingencies* and Note 20, *Leases* in the Notes to Consolidated Financial Statements included in this Form 10-K.

- (a) Interest payments on debt are calculated based on the applicable rate and payment dates for each instrument. For variable-rate instruments, interest rates and payment dates are based on management's estimate of the most likely scenarios for each relevant debt instrument.
- (b) This category includes purchase commitments to suppliers for materials and supplies as part of the ordinary course of business, consulting arrangements and support services. Only obligations of at least \$50,000 are included.
- (c) This category includes obligations under the Company's transition services agreement entered into upon closing the sale of the Company's Distribution business. The Company agreed to support the information technology, human resources and benefits, tax and treasury functions of the Distribution business for six to twelve months from the date of sale. The buyer has the option to extend the support period for up to an additional year for certain services.
- (d) This category includes obligations under the Company's long-term incentive plan, deferred compensation plan, environmental liabilities, acquisition holdbacks and unrecognized tax benefits.
- (e) This category includes planned funding of the Company's SERP and qualified pension plan. Projected funding for the qualified pension plan beyond one year has not been included as there are several significant factors, such as the future market value of plan assets and projected investment return rates, which could cause actual funding requirements to differ materially from projected funding.

Additionally, upon closing of the sale of the Distribution business, the Company entered into separate trademark, trade name and domain license agreements with certain licensees. Under each such agreement, the Company granted the licensee a non-exclusive, royalty-free license to use certain registered service marks, common law service marks, trade names and domain names owned by the Company for a period of five years after the closing date, subject to the licensee's agreement to use commercially reasonable efforts to phase its use of such service marks and domain names as soon as it is reasonably practicable prior to the expiration of the term. These agreements, and the licenses granted therein, apply only within North America.

Off-Balance Sheet Arrangements

As of December 31, 2019, we had no significant off-balance sheet arrangements other than purchase obligations and \$152.6 million of outstanding standby letters of credit, all of which were under the revolving credit facility. Of this amount, \$146.2 million letters of credit relate to a JPF DCS contract.

CRITICAL ACCOUNTING ESTIMATES

Our significant accounting policies are outlined in Note 1, *Summary of Significant Accounting Policies*, to the Consolidated Financial Statements included in this Form 10-K. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosures based upon historical experience, current trends and other factors that management believes to be relevant. We are also responsible for evaluating the propriety of our estimates, judgments and accounting methods as new events occur. Actual results could differ from those estimates. Management periodically reviews the Company's critical accounting policies, estimates and judgments with the Audit Committee of our Board of Directors. The most significant areas currently involving management judgments and estimates are described below.

Revenue from Contracts with Customers

Methodology

We recognize sales and profit based upon either (1) the over time method, in which sales and profit are recorded based upon the ratio of costs incurred to date to estimated total costs to complete the performance obligation, or (2) the point-in-time method, in which sales are recognized at the time control is transferred to the customer. For long-term contracts, we generally recognize sales and income over time because of continuous transfer of control to the customer. Revenue is generally recognized using the cost-to-cost method based on the extent of progress towards completion of the performance obligation, which allows for recognition of revenue as work on a contract progresses.

On January 1, 2018, the Company adopted Accounting Standard Codification 606, Revenue from Contracts with Customers, using the modified retrospective method. As a result, the Company applied ASC 606 only to contracts that were not completed as of January 1, 2018. Prior to the adoption of ASC 606, for long-term contracts, we generally recognized sales and income based on the percentage-of-completion method accounting, which allowed for recognition of revenue as work on a contract progressed. We recognized sales and profit based upon either (1) the cost-to-cost method, in which sales and profit were recorded based upon the ratio of costs incurred to estimated total costs to complete the contract, or (2) the units-of delivery method, in which sales were recognized as deliveries were made and cost of sales was computed on the basis of the estimated ratio of total contract cost to total contract sales.

Management performs detailed quarterly reviews of all of our significant long-term contracts. Based upon these reviews, we record the effects of adjustments in profit estimates each period. If at any time management determines that in the case of a particular contract total costs will exceed total contract revenue, we record a provision for the entire anticipated contract loss at that time.

Judgment and Uncertainties

The over time revenue recognition model requires that we estimate future revenues and costs over the life of a contract. Revenues are estimated based upon the original contract price, with consideration being given to exercised contract options, change orders and, in some cases, projected customer requirements. Contract costs may be incurred over a period of several years, and the estimation of these costs requires significant judgment based upon the acquired knowledge and experience of program managers, engineers and financial professionals. Estimated costs are based primarily on anticipated purchase contract terms, historical performance trends, business base and other economic projections. The complexity of certain programs as well as technical risks and uncertainty as to the future availability of materials and labor resources could affect the Company's ability to accurately estimate future contract costs.

The following table illustrates the amount of revenue recognized for performance obligations satisfied over time versus the amount of revenue recognized for performance obligations satisfied at a point in time.

	2019	2018	2017
<i>In thousands</i>			
ASC 606			
Revenue recognized for performance obligations satisfied			
Point-in-time	\$ 466,866	\$ 383,109	\$ —
Over time	294,742	352,885	—
Total revenue recognized for performance obligations satisfied	<u>\$ 761,608</u>	<u>\$ 735,994</u>	<u>\$ —</u>
% of Net sales - Point-in-time	61.3%	52.1%	—%
% of Net sales - Over time	38.7%	47.9%	—%
% of Net sales - Performance obligations satisfied	<u>100.0%</u>	<u>100.0%</u>	<u>—%</u>

The following table illustrates the amount revenue recognized under the percentage-of-completion method prior to the adoption of ASC 606.

	2019	2018	2017
<i>In thousands</i>			
ASC 605			
Revenue recognized under percentage of completion method			
Units-of-delivery	\$ —	\$ —	\$ 317,906
Cost-to-cost	—	—	55,119
Total revenue recognized under percentage of completion method	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 373,025</u>
% of Net sales - Units-of-delivery	—	—	43.9%
% of Net sales - Cost-to-cost	—	—	7.6%
% of Net sales - Percentage-of-completion method	<u>—%</u>	<u>—%</u>	<u>51.5%</u>

Effect if Actual Results Differ From Assumptions

While we do not believe there is a reasonable likelihood there will be a material change in estimates or assumptions used to calculate our long-term revenues and costs, estimating the percentage of work complete on certain programs is a complex task. As a result, changes to these estimates could have a significant impact on our results of operations. These programs include the Sikorsky BLACK HAWK program, the JPF program with the USG, the Boeing A-10 program, the AH-1Z program, our other Bell Helicopter programs and several other programs. Estimating the ultimate total cost of these programs is challenging due to the complexity of the programs, unanticipated increases in production requirements, the nature of the materials needed to complete these programs, change orders related to the programs and the need to manage our customers' expectations. These programs are an important element in our continuing strategy to increase operating efficiencies and profitability as well as broaden our business base. Management continues to monitor and update program cost estimates quarterly for these contracts. A significant change in an estimate on one or more of these programs could have a material effect on our financial position and results of operations. The company recognized a reduction in revenue of \$4.6 million for the year ended December 31, 2019. The amount of revenue recognized from performance obligations satisfied (or partially satisfied) in previous periods was \$6.7 million for the year ended December 31, 2018. The net increase in our operating income from changes in contract estimates totaled \$5.7 million for the year ended December 31, 2017.

Allowance for Doubtful Accounts

Methodology

The allowance for doubtful accounts represents management's best estimate of probable losses inherent in the receivable balance. These estimates are based on known past due amounts and historical write-off experience, as well as trends and factors

impacting the credit risk associated with specific customers. In an effort to identify adverse trends for trade receivables, we perform ongoing reviews of account balances and the aging of receivables. Amounts are considered past due when payment has not been received within a pre-determined time frame based upon the credit terms extended. For our government and commercial contracts, we evaluate, on an ongoing basis, the amount of recoverable costs. The recoverability of costs is evaluated on a contract-by-contract basis based upon historical trends of payments, program viability and the customer's credit-worthiness.

Judgment and Uncertainties

Write-offs are charged against the allowance for doubtful accounts only after we have exhausted all collection efforts. Actual write-offs and adjustments could differ from the allowance estimates due to unanticipated changes in the business environment as well as factors and risks associated with specific customers.

Effect if Actual Results Differ From Assumptions

As of December 31, 2019 and 2018, our allowance for doubtful accounts was \$1.2 million and \$2.5 million, respectively. Receivables written off, net of recoveries, in 2019 and 2018 were \$0.8 million in both periods.

Currently we do not believe that we have a significant amount of risk relative to the allowance for doubtful accounts. A 10% change in the allowance would have a \$0.1 million effect on pre-tax earnings.

Inventory Valuation

Methodology

We have four types of inventory (a) raw materials, (b) contracts in process, (c) other work in process and (d) finished goods. Raw material includes certain general stock materials but primarily relates to purchases that were made in anticipation of specific programs that have not been started as of the balance sheet date. Raw materials are stated at the lower of the cost of the inventory or its fair market value. Contracts in process, other work in process and finished goods are valued at production cost comprised of material, labor and overhead. Contracts in process, other work in process and finished goods are reported at the lower of cost or net realizable value.

Judgment and Uncertainties

The process for evaluating inventory obsolescence or market value often requires the Company to make subjective judgments and estimates concerning future sales levels, quantities and prices at which such inventory will be sold in the normal course of business. We adjust our inventory by the difference between the estimated market value and the actual cost of our inventory to arrive at net realizable value. Changes in estimates of future sales volume may necessitate future write-downs of inventory value. At December 31, 2019, \$43.6 million of K-MAX® inventory was included in contracts and other work in process and finished goods, of which management believes that approximately \$22.5 million will be sold after December 31, 2020, based upon the anticipation of additional aircraft manufacturing and supporting the fleet for the foreseeable future. We believe it is stated at net realizable value, although lack of demand for spare parts in the future could result in additional write-downs of the inventory value. Overall, management believes that our inventory is appropriately valued and not subject to further obsolescence in the near term.

At December 31, 2019, \$3.6 million of SH-2G(I) inventory was included in contracts and other work in process inventory on the Company's Consolidated Balance Sheets. Management believes \$3.2 million of the SH-2G(I) inventory will be sold after December 31, 2020. This balance represents spares requirements and inventory to be used in SH-2G programs.

Effect if Actual Results Differ From Assumptions

Management reviews the K-MAX® inventory balance on an annual basis to determine whether any additional write-downs are necessary. We believe this inventory is stated at net realizable value, although lack of demand for spare parts in the future could result in additional write-downs of the inventory value. Overall, management believes that our inventory is appropriately valued and not subject to further obsolescence in the near term. If such a write-down were to occur, this could have a significant impact on our operating results. A 10% write-down of the December 31, 2019 K-MAX® inventory balance would have affected pre-tax earnings by approximately \$4.4 million in 2019.

The balance of SH-2G(I) inventory projected to be sold after December 31, 2019, represents spares requirements and inventory to be used to support the SH-2G programs in future periods and as such is appropriately valued as of December 31, 2019.

Goodwill and Other Intangible Assets

Methodology

Goodwill and certain intangible assets that have indefinite lives are evaluated at least annually for impairment. The annual evaluation is generally performed during the fourth quarter, using forecast information. All intangible assets are also reviewed for possible impairment whenever changes in conditions indicate that their carrying value may not be recoverable. For reporting units that qualify for a qualitative assessment, management will perform the two-step impairment test after a period of three years has elapsed since the test was last performed.

In accordance with generally accepted accounting principles, we test goodwill for impairment at the reporting unit level and other long-lived intangible assets (excluding goodwill) for impairment at the lowest level for which identifiable cash flows are available. The identification and measurement of goodwill impairment involves the estimation of fair value of the reporting unit as compared to its carrying value. The identification and measurement of other long-lived intangible asset impairment involves the estimation of future cash flows of the business unit as compared to its carrying value. Goodwill is tested one level below the segment level, and components are not aggregated for purposes of goodwill testing.

The carrying value of goodwill as of December 31, 2019 was \$195.3 million. The specific reporting units contributing to the total goodwill balance were as follows: Precision Products Orlando facility ("KPP-Orlando"), \$41.4 million; Specialty Bearings and Engineered Products, \$103.0 million; and Aerosystems, \$50.9 million. During 2019, it was determined that the two-step impairment test would be performed for all reporting units. See Note 12, *Goodwill and Other Intangible Assets, Net*, in the Notes to Consolidated Financial Statements for additional information regarding these assets.

The carrying value of other intangible assets as of December 31, 2019, was \$53.4 million. During the third quarter of 2018, management identified a triggering event for possible impairment at a certain asset group in its U.K. business based on a review of historical performance, the current forecast for the remainder of the year and the loss of future orders from one of its significant customers, requiring the Company to evaluate the intangible assets for impairment. No such triggering events were identified in 2019. See Note 12, *Goodwill and Other Intangible Assets, Net*, in the Notes to Consolidated Financial Statements for additional information regarding these assets.

Judgment and Uncertainties

In years that management performs a qualitative assessment we consider the following qualitative factors: general economic conditions in the markets served by the reporting units carrying goodwill, relevant industry-specific performance statistics, changes in the carrying value of the individual reporting units and assumptions used in the most recent fair value calculation, including forecasted results of operations, the weighted average cost of capital and recent transaction multiples.

For Step 1 of the two-step impairment test, management estimated the fair value of the reporting units using an income methodology based on management's estimates of forecasted cash flows, with those cash flows discounted to present value using rates commensurate with the risks associated with those cash flows. In addition, management used a market-based valuation method involving analysis of market multiples of revenues and earnings before interest, taxes, depreciation and amortization ("EBITDA") for (i) a group of comparable public companies and (ii) recent transactions, if any, involving comparable companies. In estimating the fair value of the reporting units, a weighting of 80% to the income approach and 20% to the market-based valuation method was selected, consistent with the prior year. A higher weighting was applied to the estimate derived from the income approach as it is based on management's assumptions specific for the reporting units, which are the outcome of an internal planning process. While the selected companies in the market based valuation method have comparability to the reporting units, they may not fully reflect the market share, product portfolio and operations of the reporting units. The estimated fair value of the reporting units is adjusted for an excess net working capital assumption, which represents management's identification of specific contract-related assets that will generate cash flows in the future.

In performing our step one test for the reporting units, we assumed terminal growth rates ranging from 2.0% - 3.0%. The discount rate utilized to reflect the risk and uncertainty in the financial markets and specifically in our internally developed earnings projections ranged from 8.5% - 12.5% for these reporting units. Changes in these estimates and assumptions could materially affect the results of our tests for goodwill impairment.

Under Step 2, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation. The residual fair value after this allocation is the implied fair value of the reporting unit goodwill. The results of the Step 1 tests indicated that the Company did not need to proceed to Step 2 for any of the reporting units tested.

Effect if Actual Results Differ From Assumptions

We performed the Step 1 test for the KPP-Orlando, Specialty Bearings and Aerosystems reporting units. KPP-Orlando and Specialty Bearings' fair values exceeded their respective carrying values in excess of 100% and Aerosystems' fair value exceeded the carrying value by approximately 17%. A one percentage point decrease in our terminal growth rate or an increase of one percentage point in our discount rate would not result in a fair value calculation less than the carrying value for these reporting units.

During the third quarter of 2018, we identified a triggering event for possible impairment at a certain asset group in our U.K. business based on a review of its historical performance, the current forecast for the remainder of the year and the loss of future orders from one of our significant customers, requiring us to evaluate the intangible assets for impairment. We performed a recoverability test on the intangibles for a certain asset group in our U.K. business by comparing the undiscounted cash flows of the asset group to its carrying value, and the estimated future cash flows of the business did not exceed the carrying value of the assets. Based on these results, we calculated the fair value of the asset group using an income approach, which resulted in an impairment charge of \$10.0 million, or the remaining balance of the customer lists/relationships at a certain asset group within the U.K. business. This charge was included in the operating results of the Aerospace business.

As with all assumptions, there is an inherent level of uncertainty and actual results, to the extent they differ from those assumptions, could have a material impact on fair value. For example, multiples for similar type reporting units could deteriorate due to changes in technology or a downturn in economic conditions. A reduction in customer demand would impact our assumed growth rate resulting in a reduced fair value. Potential events or circumstances could have a negative effect on the estimated fair value. The loss of a major customer or program could have a significant impact on the future cash flows of the reporting unit(s). Advances in technology by our competitors could result in our products becoming obsolete.

We do not currently believe there to be a reasonable likelihood that actual results will vary materially from estimates and assumptions used to test goodwill and other intangible assets for impairment losses. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to an impairment charge that could be material. Our estimates of the fair value of the Aerosystems reporting unit include estimated cash flows related to the K-MAX® unmanned aircraft system and composite blades.

Long-Term Incentive Programs

Methodology

The Company maintains a Management Incentive Plan, which provides for cash and share-based payment awards, including non-statutory stock options, restricted stock, stock appreciation rights and long-term incentive program ("LTIP") awards. We determine the fair value of our non-qualified stock option awards at the date of grant using a Black-Scholes model. We determine the fair value of our restricted share awards at the date of grant using the closing price the day prior to the grant.

LTIP awards provide certain senior executives an opportunity to receive long-term incentive award payments, generally in cash, for achieving targets established by the Personnel Compensation Committee of the Board of Directors. Prior to 2018, LTIP grants were based on the Company's financial results compared to the Russell 2000 indices for the same periods based upon the following metrics: (a) average return on total capital, (b) average earnings per share growth and (c) total return to shareholders for the performance period. Beginning in 2018, the performance metrics were changed to the following: (a) average return on total capital and (b) total return to shareholders, both compared to the Russell 2000 indices for the same performance period. No awards will be payable if the Company's performance is below the 25th percentile of the designated indices. The maximum award is payable if performance reaches the 75th percentile of the designated indices. Awards will be paid out at 100% at the 50th percentile. Awards for performance between the 25th and 75th percentiles are determined by straight-line interpolation between 0% and 200%.

In order to estimate the liability associated with LTIP awards, management must make assumptions as to how our current performance compares to current Russell 2000 data based upon the Russell 2000's historical results. This analysis is performed on a quarterly basis. When sufficient Russell 2000 data for a year is available, which typically will not be until May or June of the following year, management will adjust the liability to reflect its best estimate of the total award. Actual results could differ significantly from management's estimates. The total estimated liability as of December 31, 2019, was \$22.6 million.

Judgment and Uncertainties

Option-pricing models and generally accepted valuation techniques require management to make assumptions and to apply judgment to determine the fair value of our awards. These assumptions and judgments include estimating the future volatility of

our stock price, expected dividend yield, future employee turnover rates and future employee stock option exercise behaviors. Changes in these assumptions can materially affect the fair value estimate.

Our LTIP requires management to make assumptions regarding the likelihood of achieving long-term Company goals as well as estimate future Russell 2000 results.

Effect if Actual Results Differ From Assumptions

We do not currently believe there is a reasonable likelihood that there will be a material change in the estimates or assumptions we use to determine cash and share-based compensation expense. However, if actual results are not consistent with our estimates or assumptions, we may be exposed to changes in cash and share-based compensation expense that could be material.

If actual results are not consistent with the assumptions used, the share-based compensation expense reported in our financial statements may not be representative of the actual economic cost of the share-based compensation. A 10% change in our share-based compensation expense from continuing operations for the year ended December 31, 2019, would have affected pre-tax earnings by approximately \$0.5 million in 2019.

Due to the timing of availability of the Russell 2000 data, there is a risk that the amount we have recorded as LTIP expense could be different from the actual payout. A 10% increase in the total estimated liability for our LTIP would result in a reduction of 2019 pretax earnings of \$2.3 million.

Pension Plans

Methodology

We maintain a qualified defined benefit pension, as well as a non-qualified Supplemental Employees Retirement Plan ("SERP") for certain key executives. See Note 17, *Pension Plans*, in the Notes to Consolidated Financial Statements included in this Form 10-K for further discussion of these plans.

Expenses and liabilities associated with each of these plans are determined based upon actuarial valuations. Integral to these actuarial valuations are a variety of assumptions including expected return on plan assets and discount rates. We regularly review these assumptions, which are updated at the measurement date, December 31st. In accordance with generally accepted accounting principles, the impact of differences between actual results and the assumptions are accumulated and generally amortized over future periods, which will affect expense recognized in future periods.

We utilize a "spot rate approach" in the calculation of pension interest and service cost. The spot rate approach applies separate discount rates for each projected benefit payment in the calculation of pension interest and service cost.

Judgment and Uncertainties

The discount rate represents the interest rate used to determine the present value of future cash flows currently expected to be required to settle the pension obligation. Management uses the Financial Times Stock Exchange ("FTSE") Pension Liability Index for discount rate assumptions. This index was designed to provide a market average discount rate to assist plan sponsors in valuing the liabilities associated with postretirement obligations. Additionally, we reviewed the changes in the general level of interest rates since the last measurement date noting that overall rates had decreased when compared to 2018.

Based upon this information, we used a 3.14% discount rate as of December 31, 2019, for the qualified defined benefit pension plan. This rate takes into consideration the participants in our pension plan and the anticipated payment stream as compared to the Above Median Double-A Curve. For the SERP, we used the same methodology as the pension plan and derived a discount rate of 2.76% in 2019 for the benefit obligation. The difference in the discount rates is primarily due to the expected duration of SERP payments, which is shorter than the anticipated duration of benefit payments to be made to the average participant in the pension plan. The qualified defined benefit pension plan and SERP used discount rates of 4.17% and 3.88% at December 31, 2018, respectively, for purposes of calculating the benefit obligation.

The expected long-term rate of return on plan assets represents the average rate of earnings expected on the funds invested to provide for anticipated benefit payments. The expected return on assets assumption is developed based upon several factors. Such factors include current and expected target asset allocation, our expected returns by asset class type and our expected investment performance. Beginning in 2020, the expected long-term rate of return on plan assets is 6.5%. Historically, the expected long-term rate of return on plan assets was 7.5%.

Effect if Actual Results Differ From Assumptions

A lower discount rate increases the present value of benefit obligations and increases pension expense. A one percentage point decrease in the assumed discount rate would have increased pension expense in 2019 by \$5.7 million. A one percentage point increase in the assumed discount rate would have decreased pension expense in 2019 by \$4.9 million.

A lower expected rate of return on pension plan assets would increase pension expense. For 2019 and 2018, the expected rate of return on plan assets was 7.5%. A one-percentage point increase/decrease in the assumed return on pension plan assets would have changed pension expense in 2019 by approximately \$5.7 million. During 2019, the actual return on pension plan assets of 22.1% was higher than our expected long-term rate of return on pension plan assets of 7.5%.

Income Taxes

Methodology

Deferred tax assets and liabilities generally represent temporary differences between the recognition of tax benefits/expenses in our financial statements and the recognition of these tax benefits/expenses for tax purposes.

We establish reserves for deferred taxes when, despite our belief that our tax return positions are valid and defensible, we believe that certain positions may not prevail if challenged. We adjust these reserves in light of changing facts and circumstances, such as the progress of a tax audit or changes in tax legislation. Our effective tax rate includes the impact of reserve provisions and changes to reserves that we consider appropriate. This rate is then applied to our quarterly operating results. In the event that there is a significant unusual or one-time item recognized in our operating results, the tax attributable to that item would be separately calculated and recorded at the same time as the unusual or one-time item.

As of December 31, 2019, we had recorded \$28.2 million of deferred tax assets, net of valuation allowances. The realization of these benefits is dependent in part on future taxable capital gains and tax planning strategies designed to realize the benefit associated with the capital loss. For those jurisdictions where the expiration of tax loss or credit carryforwards or the projection of operating results indicates that realization is not likely, a valuation allowance is provided.

Judgment and Uncertainties

Management believes that sufficient income will be earned in the future to realize deferred income tax assets, net of valuation allowances recorded. The realization of these deferred tax assets can be impacted by changes to tax laws or statutory tax rates and future taxable income levels.

Our effective tax rate on earnings was (39.1)% for 2019. This rate was favorably impacted by an entity classification election related to the investment in the Company's U.K. business, which had the effect of treating the subsidiary as a disregarded entity for U.S. tax purposes. This election resulted in a loss for U.S. tax purposes and a significant tax benefit recognized by the Company in 2019. Additionally, the Company recognized additional benefits from research and development credits relating to research completed in the three prior years. Our effective tax rate is based on expected or reported income or loss, statutory tax rates and tax planning opportunities available to us in the various jurisdictions in which we operate. Significant judgment is required in determining our effective tax rate and in evaluating our tax positions.

Effect if Actual Results Differ From Assumptions

We do not anticipate a significant change in our unrecognized tax benefits within the next twelve months. We file tax returns in numerous U.S. and foreign jurisdictions, with returns subject to examination for varying periods, but generally back to and including 2013. It is our policy to record interest and penalties on unrecognized tax benefits as income taxes. A one percentage point increase/decrease in our tax rate would have affected our 2019 earnings by \$0.4 million.

RECENT ACCOUNTING STANDARDS

A summary of recent accounting standards is included in Note 1, *Summary of Significant Accounting Policies*, in the Notes to Consolidated Financial Statements, included in Item 8, Financial Statements and Supplementary Data, of this Form 10-K.

SELECTED QUARTERLY FINANCIAL DATA

2019	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share amounts)				
Net sales	\$ 166,434	\$ 174,712	\$ 182,670	\$ 237,792	\$ 761,608
Gross profit	\$ 54,521	\$ 52,589	\$ 61,133	\$ 72,562	\$ 240,805
Earnings from continuing operations, net of tax	\$ 5,822	\$ 6,389	\$ 10,130	\$ 34,105	\$ 56,446
Earnings from discontinued operations before gain on disposal, net of tax	8,303	7,077	9,860	3,787	29,027
Gain on disposal of discontinued operations, net of tax	—	—	122,786	1,570	124,356
Net earnings	\$ 14,125	\$ 13,466	\$ 142,776	\$ 39,462	\$ 209,829
<i>Basic earnings per share</i>					
From continuing operations	\$ 0.21	\$ 0.23	\$ 0.36	\$ 1.22	\$ 2.02
From discontinued operations	0.30	0.25	4.75	0.19	5.49
Basic earnings per share	\$ 0.51	\$ 0.48	\$ 5.11	\$ 1.41	\$ 7.51
<i>Diluted earnings per share</i>					
From continuing operations	\$ 0.20	\$ 0.23	\$ 0.36	\$ 1.22	\$ 2.01
From discontinued operations	0.30	0.25	4.72	0.19	5.46
Diluted earnings per share	\$ 0.50	\$ 0.48	\$ 5.08	\$ 1.41	\$ 7.47
2018	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
	(in thousands, except per share amounts)				
Net sales	\$ 179,395	\$ 178,606	\$ 157,134	\$ 220,859	\$ 735,994
Gross profit	\$ 53,180	\$ 53,441	\$ 47,688	\$ 73,008	\$ 227,317
Earnings from continuing operations, net of tax	\$ 4,970	\$ 4,778	\$ (9,503)	\$ 15,632	\$ 15,877
Earnings from discontinued operations before gain on disposal, net of tax	9,096	10,316	10,935	7,945	38,292
Net earnings	\$ 14,066	\$ 15,094	\$ 1,432	\$ 23,577	\$ 54,169
<i>Basic earnings per share</i>					
From continuing operations	\$ 0.18	\$ 0.17	\$ (0.34)	\$ 0.56	\$ 0.57
From discontinued operations	0.33	0.37	0.39	0.28	1.37
Basic earnings per share	\$ 0.51	\$ 0.54	\$ 0.05	\$ 0.84	\$ 1.94
<i>Diluted earnings per share</i>					
From continuing operations	\$ 0.18	\$ 0.17	\$ (0.34)	\$ 0.56	\$ 0.56
From discontinued operations	0.32	0.36	0.39	0.28	1.36
Diluted earnings per share	\$ 0.50	\$ 0.53	\$ 0.05	\$ 0.84	\$ 1.92

Included within certain quarterly results are a variety of unusual or significant adjustments that may affect comparability. The most significant of such adjustments are described below as well as within Management's Discussion and Analysis of Financial Condition and Results of Operations and the Notes to Consolidated Financial Statements. Additionally, due to the nature of the earnings per share calculation, the sum of quarterly earnings per share data may not equal the cumulative earnings per share data for the year.

Items within the 2019 quarterly results that may affect comparability are as follows:

2019	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
(in thousands)					
Tax benefit associated with entity classification for investment in U.K. business	\$ —	\$ —	\$ —	\$ (25,710)	\$ (25,710)
(Reductions) additions in revenue associated with changes in profit estimates for over time contracts	\$ (781)	\$ 467	\$ (1,243)	\$ (3,067)	\$ (4,624)
Cost associated with corporate development activities	\$ —	\$ —	\$ 2,993	\$ 7,097	\$ 10,090
Restructuring and severance costs	\$ 266	\$ 206	\$ 81	\$ 1,005	\$ 1,558
Costs from transition services agreement	\$ —	\$ —	\$ 1,154	\$ 3,519	\$ 4,673
Income from transition services agreement	\$ —	\$ —	\$ (944)	\$ (2,729)	\$ (3,673)
Loss on sale of U.K. Tooling business	\$ —	\$ —	\$ —	\$ 3,739	\$ 3,739

Items within the 2018 quarterly results that may affect comparability are as follows:

2018	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Year
(in thousands)					
Additions in revenue associated with changes in profit estimates for over time contracts	\$ 1,556	\$ 1,513	\$ 1,736	\$ 1,871	\$ 6,676
Non-cash intangible asset impairment charge	\$ —	\$ —	\$ 10,039	\$ —	\$ 10,039
Non-cash write-off of inventory	\$ —	\$ —	\$ 709	\$ —	\$ 709
Employee tax-related matters in foreign operations	\$ —	\$ —	\$ 1,279	\$ 1,761	\$ 3,040
Cost associated with corporate development activities	\$ —	\$ —	\$ 1,051	\$ 30	\$ 1,081
Gain on the sale of land	\$ —	\$ (1,520)	\$ —	\$ —	\$ (1,520)
Restructuring and severance costs	\$ 1,693	\$ 1,804	\$ 1,214	\$ 2,642	\$ 7,353
Loss on sale of U.K. Tooling business	\$ —	\$ —	\$ —	\$ 5,722	\$ 5,722
Loss on sale of assets and liabilities of Engineering Services business	\$ —	\$ —	\$ —	\$ 661	\$ 661

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have various market risk exposures that arise from our ongoing business operations. Market risk is the potential economic loss that may result from adverse changes in the fair value of financial instruments. Our financial results are impacted by changes in interest rates, certain foreign currency exchange rates and commodity prices.

Foreign Currencies

We have manufacturing and sales facilities in various locations throughout the world. As a result, we make investments and conduct business transactions denominated in various currencies, including the U.S. dollar, the British pound, the European euro, the Czech koruna, the Japanese yen and the Indian rupee. Total annual foreign sales, including foreign export sales, averaged approximately \$313.3 million over the last three years. Foreign sales represented 44.4% of consolidated net sales in 2019; however, a significant portion of our foreign sales are denominated in the U.S. dollar. We estimate a hypothetical 10% adverse change in foreign currency exchange rates relative to the U.S. dollar for 2019 would have had an unfavorable impact of \$12.3 million on sales and a favorable impact of \$0.2 million on operating income. We manage foreign currency exposures that are associated with committed foreign currency purchases and sales and other assets and liabilities created in the normal course of business at the subsidiary operations level. Sometimes we may, through the use of forward contracts or other derivative contracts, hedge the price risk associated with committed and forecasted foreign denominated payments and rates. Historically the use of these forward contracts has been minimal. We do not use derivatives for speculative or trading purposes.

Interest Rates

Our primary exposure to interest rate risk results from our outstanding debt obligations. The level of fees and interest charged on revolving credit commitments and borrowings are based upon leverage levels and market interest rates.

Our principal debt facilities are contained within a variable rate credit agreement that provides a \$800.0 million revolving credit facility. This agreement was amended and restated on December 13, 2019 (as amended), and expires on December 13, 2024. Total average bank borrowings for 2019 were \$70.6 million. The impact of a hypothetical 100 basis point increase in the interest rates on our average bank borrowings would have resulted in a \$0.7 million increase in interest expense.

During the fiscal quarter ended June 30, 2017, we issued \$200.0 million aggregate principal of convertible unsecured senior notes, due May 2024, in a private placement offering. These notes bear 3.25% interest per annum on the principal amount, payable semiannually in arrears on May 1 and November 1 of each year, beginning on November 1, 2017, and have an effective interest rate of 5.0%.

From time to time we will enter into interest rate swap contracts for the purpose of securing a fixed interest rate on our variable interest rate borrowings. These contracts allow us to create certainty with respect to future cash flows associated with our variable rate debt that would otherwise be impacted by fluctuations in LIBOR rates.

Commodity Prices

We are exposed to volatility in the price of raw materials used in certain manufacturing operations. These raw materials include, but are not limited to, aluminum, titanium, nickel, copper and other specialty metals. We manage our exposure related to these price changes through strategic procurement practices.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Kaman Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Kaman Corporation and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of operations, of comprehensive income, of shareholders’ equity, and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended December 31, 2019 appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019 and changed the manner in which it accounts for revenues from contracts with customers in 2018.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed 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 company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and

dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Goodwill Impairment Assessment - Aerosystems Reporting Unit

As described in Notes 1 and 12 to the consolidated financial statements, the Company's consolidated goodwill balance was \$195.3 million as of December 31, 2019, which is reviewed for impairment at least annually during the fourth quarter. As disclosed by management, the Aerosystems reporting unit comprised \$50.9 million of the consolidated goodwill balance. The identification and measurement of goodwill impairment involves the estimation of fair value of the reporting unit as compared to its carrying value. The fair value of the Aerosystems reporting unit is determined using both an income methodology and a market-based valuation method, and weighting the fair value determined under each method in estimating the fair value of the Aerosystems reporting unit. Fair value using the income methodology is based on management's estimates of forecasted cash flows for the Aerosystems reporting unit which included significant judgments and assumptions relating to forecasted cash flows, the terminal growth rate, excess net working capital and the discount rate. Fair value using the market-based valuation method includes analysis involving market multiples of revenues and earnings before interest, taxes, depreciation and amortization for (i) a group of comparable public companies and (ii) recent transactions, if any, involving comparable companies.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the Aerosystems reporting unit is a critical audit matter are there was significant judgment by management when developing the fair value measurement of the reporting unit. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating evidence related to management's forecasted cash flows and significant assumptions, including forecasted cash flows, terminal growth rate, excess net working capital, and the discount rate used in the determination of fair value using the income methodology. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the Aerosystems reporting unit. These procedures also included, among others, testing management's process for developing the fair value estimate, evaluating the appropriateness of the income and market-based valuation methods, testing the completeness, accuracy and relevance of underlying data used in the methods and evaluating the significant assumptions used by management including forecasted cash flows, the terminal growth rate, excess net working capital, and the discount rate. Evaluating management's assumptions related to forecasted cash flows and the terminal growth rate involved evaluating whether the assumptions used by management were reasonable considering the past performance and significant changes in contracts of the reporting unit and whether these assumptions were consistent with evidence obtained in other areas of the audit. Evaluating management's excess net working capital assumption involved evaluating management's identification of specific contract-related assets which will generate cash flows in the future. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's income and market-based valuation methods, including the weighting of estimated fair value between the two methods and certain significant assumptions, including the excess net working capital and the discount rate.

Estimated Costs at Completion for Certain Aerospace Contracts

As described in Notes 1 and 4 to the consolidated financial statements, for long-term aerospace contracts, the Company generally recognizes sales and income over time because of continuous transfer of control to the customer. The Company's net sales for the year ended December 31, 2019 was \$761.6 million, of which approximately 39% is recognized over time. Revenue is generally recognized using the cost-to-cost measure of progress for its over time performance obligations because this recognition best depicts the transfer of assets to the customer which occurs as cost is incurred under the contracts. Under the cost-to-cost method, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. Management performs detailed quarterly reviews of long-term contracts.

The principal considerations for our determination that performing procedures relating to estimated costs at contract completion for certain aerospace contracts is a critical audit matter are there was significant judgment by management when developing the estimated costs at completion. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating evidence related to the estimated costs at completion for certain of these contracts.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to revenue recognition, including controls over the determination of estimated costs at contract completion for long-term aerospace contracts. The procedures also included, among others, evaluating and testing management's process for determining estimated costs at contract completion for long-term aerospace contracts, which included evaluating the reasonableness of assumptions considered by management specific to each contract, and testing the accuracy of the revenue recognized based on these underlying contract estimates. Evaluating the reasonableness of significant assumptions used involved assessing management's ability to reasonably estimate costs at contract completion by (i) testing the basis and underlying support for the cost estimate, (ii) evaluating the consistent application of accounting policies, and (iii) evaluating the timely identification of circumstances which may warrant a modification to a previous estimate.

/s/ PricewaterhouseCoopers LLP

Hartford, Connecticut
February 24, 2020

We have served as the Company's auditor since 2013.

CONSOLIDATED BALANCE SHEETS
KAMAN CORPORATION AND SUBSIDIARIES
(In thousands, except share and per share amounts)

	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 471,540	\$ 25,895
Accounts receivable, net	156,492	149,338
Contract assets	121,614	99,261
Contract costs, current portion	6,052	5,993
Inventories	156,353	131,569
Income tax refunds receivable	8,069	1,752
Assets held for sale, current portion	—	351,261
Other current assets	16,368	8,036
Total current assets	936,488	773,105
Property, plant and equipment, net of accumulated depreciation of \$210,549 and \$192,285, respectively	140,450	137,112
Operating right-of-use asset, net	15,159	—
Goodwill	195,314	196,161
Other intangible assets, net	53,439	58,567
Deferred income taxes	35,240	38,040
Contract costs, noncurrent portion	6,099	10,666
Assets held for sale, noncurrent portion	—	229,238
Other assets	36,754	31,173
Total assets	\$ 1,418,943	\$ 1,474,062
Liabilities and Shareholders' Equity		
Current liabilities:		
Current portion of long-term debt, net of debt issuance costs	\$ —	\$ 9,375
Accounts payable – trade	70,884	56,826
Accrued salaries and wages	43,220	32,795
Contract liabilities, current portion	42,942	28,865
Operating lease liabilities, current portion	4,306	—
Income taxes payable	4,722	139
Liabilities held for sale, current portion	—	131,047
Other current liabilities	37,918	39,429
Total current liabilities	203,992	298,476
Long-term debt, excluding current portion, net of debt issuance costs	181,622	284,256
Deferred income taxes	6,994	7,146
Underfunded pension	97,246	104,988
Contract liabilities, noncurrent portion	37,855	78,562
Operating lease liabilities, noncurrent portion	11,617	—
Liabilities held for sale, noncurrent portion	—	15,602
Other long-term liabilities	56,415	51,875
Commitments and contingencies (Note 19)		
Shareholders' equity:		
Preferred stock, \$1 par value, 200,000 shares authorized; none outstanding	—	—
Common stock, \$1 par value, 50,000,000 shares authorized; voting; 30,058,455 and 29,544,714 shares issued, respectively	30,058	29,545
Additional paid-in capital	228,153	200,474
Retained earnings	820,666	610,103
Accumulated other comprehensive income (loss)	(150,893)	(134,898)
Less 2,219,332 and 1,672,917 shares of common stock, respectively, held in treasury, at cost	(104,782)	(72,067)
Total shareholders' equity	823,202	633,157
Total liabilities and shareholders' equity	\$ 1,418,943	\$ 1,474,062

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF OPERATIONS
KAMAN CORPORATION AND SUBSIDIARIES
(In thousands, except per share amounts)

	For the Year Ended December 31,		
	2019	2018	2017
Net sales	\$ 761,608	\$ 735,994	\$ 724,944
Cost of sales	520,803	508,677	490,915
Gross profit	240,805	227,317	234,029
Selling, general and administrative expenses	177,187	172,271	169,683
Other intangible assets impairment (Note 12)	—	10,039	—
Costs from transition services agreement (Note 3)	4,673	—	—
Restructuring costs (Note 5)	1,558	7,353	2,661
Loss on sale of business (Note 5)	3,739	5,722	—
Net loss (gain) on sale of assets	237	(1,031)	(31)
Operating income	53,411	32,963	61,716
Interest expense, net	17,202	20,046	20,578
Non-service pension and post retirement benefit income	(396)	(12,127)	(3,056)
Income from transition services agreement (Note 3)	(3,673)	—	—
Other income, net	(309)	(92)	(728)
Earnings from continuing operations before income taxes	40,587	25,136	44,922
Income tax (benefit) expense	(15,859)	9,259	25,214
Earnings from continuing operations, net of tax	56,446	15,877	19,708
Earnings from discontinued operations before gain on disposal, net of tax	29,027	38,292	30,118
Gain on disposal of discontinued operations, net of tax	124,356	—	—
Total earnings from discontinued operations, net of tax	153,383	38,292	30,118
Net earnings	\$ 209,829	\$ 54,169	\$ 49,826
Earnings per share:			
Basic earnings per share from continuing operations	\$ 2.02	\$ 0.57	\$ 0.71
Basic earnings per share from discontinued operations	5.49	1.37	1.09
Basic earnings per share	\$ 7.51	\$ 1.94	\$ 1.80
Diluted earnings per share from continuing operations	\$ 2.01	\$ 0.56	\$ 0.69
Diluted earnings per share from discontinued operations	5.46	1.36	1.06
Diluted earnings per share	\$ 7.47	\$ 1.92	\$ 1.75
Weighted average shares outstanding:			
Basic	27,936	27,945	27,611
Diluted	28,092	28,223	28,418

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
KAMAN CORPORATION AND SUBSIDIARIES
(In thousands)

	For the Year Ended December 31,		
	2019	2018	2017
Net earnings	\$ 209,829	\$ 54,169	\$ 49,826
Other comprehensive income, net of tax:			
Foreign currency translation adjustments and other	(1,772)	(7,525)	27,891
Pension plan adjustments, net of tax expense (benefit) of \$2,619, (\$3,701), and \$7,661, respectively	8,871	(11,559)	12,688
Other comprehensive income (loss)	\$ 7,099	\$ (19,084)	\$ 40,579
Total comprehensive income	\$ 216,928	\$ 35,085	\$ 90,405

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
KAMAN CORPORATION AND SUBSIDIARIES

(In thousands, except share amounts)

	Common Stock		Additional Paid-In	Retained	Accumulated Other Comprehensive	Treasury Stock		Total Shareholders'
	Shares	\$	Capital	Earnings	Income (Loss)	Shares	\$	Equity
Balance at December 31, 2016	28,162,497	\$ 28,162	\$ 171,162	\$ 560,200	\$ (156,393)	1,054,364	\$ (37,344)	\$ 565,787
Net earnings	—	—	—	49,826	—	—	—	49,826
Other comprehensive income	—	—	—	—	40,579	—	—	40,579
Dividends (per share of common stock, \$0.80)	—	—	—	(22,149)	—	—	—	(22,149)
Amounts reclassified to temporary equity	—	—	1,797	—	—	—	—	1,797
Changes due to convertible notes transactions	624,044	624	(2,582)	—	—	—	—	(1,958)
Purchase of treasury shares	—	—	—	—	—	218,235	(11,552)	(11,552)
Employee stock plans	265,886	266	9,074	—	—	39,647	(1,970)	7,370
Share-based compensation expense	89,040	89	5,881	—	—	13,729	(14)	5,956
Balance at December 31, 2017	29,141,467	\$ 29,141	\$ 185,332	\$ 587,877	\$ (115,814)	1,325,975	\$ (50,880)	\$ 635,656
Net earnings	—	—	—	54,169	—	—	—	54,169
Impact of change in revenue accounting standard	—	—	—	(9,584)	—	—	—	(9,584)
Other comprehensive income	—	—	—	—	(19,084)	—	—	(19,084)
Dividends (per share of common stock, \$0.80)	—	—	—	(22,359)	—	—	—	(22,359)
Changes due to convertible notes transactions	114,778	115	(123)	—	—	—	—	(8)
Purchase of treasury shares	—	—	—	—	—	313,330	(19,489)	(19,489)
Employee stock plans	226,722	227	8,813	—	—	25,069	(1,689)	7,351
Share-based compensation expense	61,747	62	6,452	—	—	8,543	(9)	6,505
Balance at December 31, 2018	29,544,714	\$ 29,545	\$ 200,474	\$ 610,103	\$ (134,898)	1,672,917	\$ (72,067)	\$ 633,157
Net earnings	—	—	—	209,829	—	—	—	209,829
Other comprehensive income	—	—	—	—	7,099	—	—	7,099
Reclassification of stranded tax effects resulting from Tax Reform	—	—	—	23,094	(23,094)	—	—	—
Dividends (per share of common stock, \$0.80)	—	—	—	(22,360)	—	—	—	(22,360)
Changes due to convertible notes transactions	—	—	(18)	—	—	—	—	(18)
Purchase of treasury shares	—	—	—	—	—	522,622	(31,785)	(31,785)
Employee stock plans	449,937	449	20,151	—	—	17,609	(924)	19,676
Share-based compensation expense	63,804	64	7,546	—	—	6,184	(6)	7,604
Balance at December 31, 2019	<u>30,058,455</u>	<u>\$ 30,058</u>	<u>\$ 228,153</u>	<u>\$ 820,666</u>	<u>\$ (150,893)</u>	<u>2,219,332</u>	<u>\$ (104,782)</u>	<u>\$ 823,202</u>

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
KAMAN CORPORATION AND SUBSIDIARIES
(In thousands)

	For the Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net earnings	\$ 209,829	\$ 54,169	\$ 49,826
Less: Total earnings from discontinued operations, net of tax	153,383	38,292	30,118
Earnings from continuing operations, net of tax	56,446	15,877	19,708
Adjustments to reconcile earnings from continuing operations, net of tax to net cash provided by operating activities:			
Depreciation and amortization	25,854	27,875	27,388
Amortization of debt issuance costs	1,996	1,806	2,014
Accretion of convertible notes discount	2,760	2,596	3,410
Provision for doubtful accounts	788	767	746
Loss on sale of business	3,971	5,722	—
Net loss (gain) on sale of assets	237	(1,031)	(31)
Other intangible assets impairment	—	10,039	—
Loss on debt extinguishment	—	—	137
Net loss (gain) on derivative instruments	302	829	(1,126)
Stock compensation expense	4,669	5,484	4,902
Non-cash consideration received for aircraft sale	(3,100)	—	—
Deferred income taxes	182	7,834	27,718
Changes in assets and liabilities, excluding effects of acquisitions/divestitures:			
Accounts receivable	(8,173)	(6,020)	(69,431)
Contract assets	(21,994)	(24,294)	—
Contract costs	4,506	(5,834)	—
Inventories	(25,129)	7,135	22,363
Income tax refunds receivable	(6,296)	1,136	3,180
Operating right-of-use assets	3,390	—	—
Other assets	(6,108)	(2,944)	3,458
Accounts payable - trade	14,034	10,807	7,432
Contract liabilities	(26,638)	96,430	—
Advances on contracts	—	—	(4,829)
Operating lease liabilities	(3,423)	—	—
Other current liabilities	6,085	(374)	2,967
Income taxes payable	7,888	(2,393)	212
Pension liabilities	4,170	(38,179)	(11,318)
Other long-term liabilities	6,071	5,446	(628)
Net cash provided by operating activities from continuing operations	42,488	118,714	38,272
Net cash (used in) provided by operating activities of discontinued operations	(50,288)	43,654	41,613
Net cash (used in) provided by operating activities	(7,800)	162,368	79,885
Cash flows from investing activities:			
Proceeds from sale of assets	196	2,138	191
Proceeds from sale of discontinued operations	655,030	—	—
Expenditures for property, plant & equipment	(22,447)	(21,504)	(18,010)
Acquisition of businesses including earn out adjustments, net of cash acquired	—	—	(1,365)
Other, net	(4,463)	(3,172)	(3,656)
Net cash provided by (used in) investing activities of continuing operations	628,316	(22,538)	(22,840)
Net cash used in investing activities of discontinued operations	(9,838)	(7,423)	(8,995)
Net cash provided by (used in) investing activities	618,478	(29,961)	(31,835)
Cash flows from financing activities:			
Net repayments under revolving credit agreements	(38,500)	(98,087)	(75,988)
Debt repayment	(76,875)	(7,500)	(6,875)
Proceeds from issuance of 2024 convertible notes	—	—	200,000
Repayment of convertible notes	(500)	—	(175,151)
Purchase of capped call - 2024 convertible notes	—	—	(20,500)
Proceeds from bond hedge settlement - 2017 convertible notes	—	—	58,564
Net change in bank overdraft	886	(279)	(37)
Proceeds from exercise of employee stock awards	19,676	7,351	7,370

Purchase of treasury shares	(30,060)	(19,278)	(11,552)
Dividends paid	(22,343)	(22,349)	(21,462)
Debt and equity issuance costs	(3,584)	—	(7,473)
Other	(1,413)	(1,003)	(523)
Net cash used in financing activities of continuing operations	(152,713)	(141,145)	(53,627)
Net cash provided by (used in) financing activities of discontinued operations	7,967	(217)	(1,109)
Net cash used in financing activities	(144,746)	(141,362)	(54,736)
Net increase (decrease) in cash and cash equivalents	465,932	(8,955)	(6,686)
Cash and cash equivalents of discontinued operations	(21,834)	(1,816)	(1,667)
Effect of exchange rate changes on cash and cash equivalents	(269)	(238)	2,385
Cash and cash equivalents at beginning of period	27,711	36,904	41,205
Cash and cash equivalents at end of period	<u>\$ 471,540</u>	<u>\$ 25,895</u>	<u>\$ 35,237</u>

See accompanying notes to consolidated financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Kaman Corporation, headquartered in Bloomfield, Connecticut, was incorporated in 1945 and is a diversified company that conducts business in the aerospace, medical and industrial markets. Kaman Corporation reports information for itself and its subsidiaries (collectively, the "Company") in one business segment, Aerospace.

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company and its subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. Certain amounts in prior year financial statements and notes thereto have been reclassified to conform to current year presentation.

During the third quarter of 2019, the Company completed the sale of its Distribution business for total cash consideration of \$700.0 million, excluding certain working capital adjustments and transaction costs. The Distribution business' results of operations and the related cash flows have been reclassified to earnings from discontinued operations in the Consolidated Statements of Operations and cash flows from discontinued operations in the Consolidated Statements of Cash Flows, respectively, for all periods presented. The assets and liabilities of the Distribution business have been reclassified to assets held for sale and liabilities held for sale, respectively, in the Consolidated Balance Sheets as of December 31, 2018. See Note 3, *Discontinued Operations*, to the Consolidated Financial Statements for further information.

Prior to the sale of the Distribution business, the Company was composed of two operating segments. As a result of this transaction, the Company is now composed of one operating segment. As the Company has not made any fundamental changes to its management or organization structure, this segment is now reflective of how the Company's Chief Executive Officer, who is its Chief Operating Decision Maker ("CODM"), reviews operating results for the purposes of allocating resources and assessing performance. The Company has not aggregated operating segments for purposes of identifying reportable segments.

Use of Estimates

The preparation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Significant items subject to such estimates and assumptions include the carrying amount of property, plant and equipment, goodwill and other intangible assets; valuation allowances for receivables, inventories and income taxes; valuation of share-based compensation; assets and obligations related to employee benefits; and accounting for long-term contracts including claims. Actual results could differ from those estimates.

Foreign Currency Translation

The Company has certain operations outside the United States that prepare financial statements in currencies other than the U.S. dollar. For these operations, results of operations and cash flows are translated using the average exchange rate throughout the period. Assets and liabilities are generally translated at end of period rates. The gains and losses associated with these translation adjustments are included as a component of accumulated other comprehensive income (loss) in shareholders' equity.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of trade accounts receivable. The carrying amounts of these items, as well as trade accounts payable and notes payable, approximate fair value due to the short-term maturity of these instruments. At December 31, 2019, one individual customer accounted for more than 10% of consolidated accounts receivable. At December 31, 2018, two individual customers accounted for more than 10% of consolidated accounts receivable. In the year ended December 31, 2019, three individual customers, the U.S. Government, The Boeing Company and a JPF DCS customer, accounted for more than 10% of consolidated net sales. In the year ended December 31, 2018, two individual customers, the U.S. Government and The Boeing Company, accounted for more than 10% of consolidated net sales. Foreign sales were approximately 44.4%, 37.9% and 44.5% of the Company's net sales in 2019, 2018 and 2017, respectively, and are concentrated in the United Kingdom, Germany, Canada, France, Switzerland, New Zealand, the Middle East and Asia.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Additional Cash Flow Information

Non-cash investing activities in 2019 include an accrual of \$0.8 million for purchases of property and equipment (including finance lease obligations), \$4.0 million in working capital adjustments associated with the sale of the Distribution business and the write-off of the \$4.0 million note receivable associated with the sale of the U.K. Tooling business as it was deemed not likely to be collected. Additionally, in 2019, the Company repurchased a K-MAX® aircraft from a customer who was simultaneously purchasing a new aircraft to support the development of the Company's unmanned aircraft system. The repurchased aircraft was used to settle a portion (\$3.1 million) of the purchase price on the customer's new K-MAX® aircraft. Non-cash financing activities in 2019 include an adjustment to other comprehensive income related to the underfunding of the pension and SERP plans. The total net adjustment was \$8.9 million, net of tax of \$2.6 million. Additionally, non-cash financing activities in 2019 include \$5.6 million of dividends declared but not yet paid and an accrual of \$1.7 million for purchases of treasury shares.

Non-cash investing activities in 2018 include an accrual of \$2.9 million for purchases of property and equipment (including capital lease obligations) and a note receivable with a present value of \$2.5 million for the amounts to be collected associated with the sale of the U.K. Tooling business. Non-cash financing activities in 2018 include 114,778 common shares issued for the unwind of warrant transactions associated with the 2017 Notes during the first half of 2018 that had a value of approximately \$7.6 million. Other non-cash financing activities in 2018 include an adjustment to other comprehensive income related to the underfunding of the pension and SERP plans and changes in the fair value of derivative financial instruments that qualified for hedge accounting. The total net adjustment was \$11.6 million, net of tax of \$3.7 million. Additionally, non-cash financing activities in 2018 include \$5.6 million of dividends declared but not yet paid.

Non-cash investing activities in 2017 include an accrual of \$3.6 million for purchases of property and equipment (including capital lease obligations). Non-cash financing activities in 2017 include 624,044 common shares issued for the partial unwind of warrant transactions during the second quarter of 2017 that had a value of approximately \$30.3 million, the receipt of 136,369 shares with an approximate value of \$7.5 million to unwind the remaining bond hedge transactions during the fourth quarter of 2017 and the issuance to bond holders of 136,347 shares with an approximate value of \$7.5 million upon conversion of the remaining 2017 Notes. Other non-cash financing activities in 2017 include an adjustment to other comprehensive income related to the underfunding of the pension and SERP plans and changes in the fair value of derivative financial instruments that qualified for hedge accounting. The total net adjustment was \$12.7 million, net of tax of \$7.7 million. Additionally, non-cash financing activities in 2017 include \$5.6 million of dividends declared but not yet paid.

The Company describes its pension obligations in more detail in Note 17, *Pension Plans*. The Company describes the convertible notes transactions in more detail in Note 14, *Debt*.

Revenue Recognition

Under Accounting Standard Codification ("ASC") 606, the amount of revenue recognized for any goods or services reflects the consideration that the Company expects to be entitled to receive in exchange for these goods or services. To achieve this core principle, the Company applies the following five step approach: (1) identify the contract with a customer; (2) identify the performance obligations in the contract; (3) determine the transaction price; (4) allocate the transaction price to performance obligations in the contract; and (5) recognize revenue when or as a performance obligation is satisfied.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Revenue Recognition - continued

A contract is accounted for when there has been approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. Performance obligations under a contract are identified based on the goods or services that will be transferred to the customer that are both capable of being distinct and are distinct in the context of the contract. In certain instances, the Company has concluded distinct goods or services should be accounted for as a single performance obligation when they are a series of distinct goods or services that have the same pattern of transfer to the customer. To the extent a contract includes multiple promised goods or services, the Company must apply judgment to determine whether the customer can benefit from the goods or services either on their own or together with other resources that are readily available to the customer (the goods or services are distinct) and if the promise to transfer the goods or services to the customer is separately identifiable from other promises in the contract (the goods or services are distinct in the context of the contract). If these criteria are not met, the promised services are accounted for as a single performance obligation. The transaction price is determined based on the consideration that the Company will be entitled to in exchange for transferring goods or services to the customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price, generally utilizing the most likely amount method. Determining the transaction price requires significant judgment. If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price basis. Standalone selling price is determined by the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price by taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations. Performance obligations are satisfied either over time or at a point in time as discussed in further detail below. In addition, the Company's contracts with customers generally do not include significant financing components or non-cash consideration.

In certain instances, the Company has accounted for contracts using the portfolio approach, a practical expedient permissible under the standard. The determination of when the use of the portfolio approach is appropriate requires judgment from management based on consideration of all the facts and circumstances. The Company uses the portfolio approach when the effect of accounting for a group of contracts or a group of performance obligations would not differ materially from considering each contract or performance obligation separately. This determination requires the use of estimates and assumptions that reflect the size and composition of the portfolio. The Company primarily uses the portfolio approach for its commercial and defense bearings and structures businesses. The Company's primary criteria considered when using the portfolio approach is the commonality of economic factors, which generally follow the product type based on consistent production costs and standard pricing for the products.

The majority of long-term contracts were historically accounted for under the percentage-of-completion method using units-of-delivery as a measurement basis. Many of these contracts moved to an over time revenue model under ASC 606. For example, revenue for the Company's Joint Programmable Fuze ("JPF") program with the U.S. Government ("USG") moved from percentage-of-completion using units-of-delivery as the measurement basis to the over time revenue recognition model using input costs as the basis for recognizing progress to completion. Conversely, revenue for the K-MAX® program moved from cost-to-cost revenue recognition under percentage-of-completion accounting to the point-in-time method, with revenue on these aircraft being recognized upon acceptance by the end customer. For certain programs, early-contract unit costs in excess of the average expected cost over the life of the contract and contractually recoverable general and administrative costs were previously capitalized and amortized over the period of performance of the contract. With the adoption of ASC 606, \$32.5 million of previously capitalized deferred costs in excess of the contract average and previously contractually recoverable general and administrative costs were adjusted within the cumulative effect to retained earnings and have not been amortized into earnings after January 1, 2018.

To determine the appropriate revenue recognition model for long-term contracts, the Company evaluates whether a contract exists, considering whether multiple contracts should be combined as one single contract and then whether the contract should be accounted for as more than one performance obligation. This evaluation requires significant judgment, as these decisions could change the amount of revenue and profit recorded in a given period. For certain programs, the Company may promise to provide distinct goods or services within a contract, in which case these are separated into more than one performance obligation.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Revenue Recognition - continued

For certain programs, the Company recognizes revenue over time because of continuous transfer of control to the customer. For USG contracts, this continuous transfer of control to the customer is supported by clauses in the contract that provide lien rights to the customer over the work in progress, thereby control transfers as costs are incurred. For non-USG contracts, the customer typically controls the work in progress because the Company is producing products that do not have an alternative use to the Company and where contractual termination clauses provide the Company rights to payment for work performed to date plus a reasonable profit.

Revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. The Company generally uses the cost-to-cost measure of progress for its contracts because it best depicts the transfer of assets to the customer which occurs as cost is incurred under the contracts. Under the cost-to-cost method, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. Total estimated contract costs generally include labor, materials and subcontractors' costs, other direct costs and related overhead costs. These estimates also include the estimated cost of satisfying offset obligations, as required under certain contracts. The complexity of certain programs as well as technical risks and uncertainty as to the future availability of materials and labor resources could affect the Company's ability to accurately estimate future contract costs.

For contracts that recognize revenue over time, the Company performs detailed quarterly reviews of the progress and execution of its performance obligations under these contracts. As part of this process, management reviews information including, but not limited to, any outstanding key contract matters, progress towards completion and the related program schedule, identified risks and opportunities and the related changes in estimates of revenues and costs. The risks and opportunities include management's judgment about the ability and cost to achieve the schedule (e.g. the number and type of milestone events), technical requirements (e.g., a newly-developed product versus a mature product) and other contract requirements. Management must make assumptions and estimates regarding labor productivity and availability, the complexity of the work to be performed, the availability of materials, the length of time to complete the performance obligation (e.g. to estimate increases in wages and prices for materials and related support cost allocations), execution by subcontractors, the availability and timing of funding from customers and overhead cost rates, among other variables. Based upon these reviews, the Company will record the effects of adjustments in profit estimates each period. If at any time management determines that in the case of a particular contract total costs will exceed total contract revenue, a provision for the entire anticipated contract loss is recorded at that time. The Company recognized a reduction in revenue of \$4.6 million in the year ended December 31, 2019. This decrease was primarily related to cost growth on the SH-2G program with Peru, a certain legacy fuzing contract and certain structures contracts, partially offset by favorable cost performance on the JPF contract with the USG. The amount of revenue recognized in the year ended December 31, 2018 from performance obligations satisfied (or partially satisfied) in previous periods was \$6.7 million. This amount was primarily related to changes in the estimates of the stages of completion of certain contracts, more specifically the JPF contract with the USG and the AH-1Z contract. For the year ended December 31, 2017, the net increase in our operating income from changes in contract estimates totaled \$5.7 million. The increase in 2017 was primarily a result of improved performance on the AH-1Z program, the JPF program with the USG and the SH-2G program with Peru. These improvements were partially offset by cost growth on the K-MAX® and A-10 programs.

Due to the nature of the work required to be performed on many of the Company's performance obligations, the estimation of total revenue and cost at completion is complex, subject to many variables and requires significant judgment. From time-to-time the Company enters into long-term contracts with the USG and other customers that contain award fees, incentive fees or other provisions that can either increase or decrease the transaction price. These variable amounts generally are awarded upon achievement of certain performance metrics, program milestones or cost targets and can be based upon customer discretion. The Company estimates variable consideration at the most likely amount to which it expects to be entitled. Estimated amounts are included in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available. The Company does not include financing components as variable consideration if less than one year. At December 31, 2019, the Company did not have any significant financing components.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Revenue Recognition - continued

Contracts are often modified to account for changes in contract specifications and requirements. The Company considers contract modifications to exist when the modification either creates new or makes changes to the existing enforceable rights and obligations. Contract modifications for goods or services that are not distinct from the existing contract are accounted for as if they were part of that existing contract. In these cases, the effect of the contract modification on the transaction price and the measure of progress for the performance obligation to which it relates is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis, except when such modifications relate to a performance obligation that is a series of substantially the same distinct goods or services. If the modification relates to a performance obligation for a series of substantially the same distinct goods or services, the modification is treated prospectively. Contract modifications for goods or services that are considered distinct from the existing contract are accounted for as separate contracts. The Company applied the practical expedient for any contracts that were modified prior to January 1, 2018; therefore, the contracts were not restated retrospectively for those modifications.

For other contracts, excluding the long-term contracts discussed above, the method of revenue recognition remained substantially the same under ASC 606. For these contracts, revenue is primarily recognized at the point in time when the title transfers to the customer, as this is when the performance obligation is controlled by the customer. Additionally, a small percentage of revenue related to certain contracts for repairs and overhauls is accounted for over time under ASC 606. Under these contracts, revenue is generally recognized as work is performed in proportion to the actual costs incurred as compared to total estimated contract costs.

Cost of Sales and Selling, General and Administrative Expenses

Cost of sales includes costs of products and services sold (i.e., purchased product, raw material, direct labor, engineering labor, outbound freight charges, depreciation and amortization, indirect costs and overhead charges). Selling expenses primarily consist of advertising, promotion, bid and proposal, employee payroll and corresponding benefits and commissions paid to sales and marketing personnel. General and administrative expenses primarily consist of employee payroll including executive, administrative and financial personnel and corresponding benefits, incentive compensation, independent research and development, consulting expenses, warehousing costs, depreciation and amortization. Legal costs are expensed as incurred and are generally included in general and administrative expenses. The Company previously included general and administrative expenses as an element of program cost and inventory for certain government contracts prior to the adoption of ASC 606.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, demand deposits and short-term cash investments. These investments are liquid in nature and have original maturities of three months or less. The Company's cash and cash equivalents at December 31, 2019 included \$443.2 million of Level 1 (quoted prices in active markets for identical assets or liabilities) money market funds.

Bank overdraft positions, which occur when total outstanding issued checks exceed available cash balances at a single financial institution at the end of a reporting period, are reclassified to other current liabilities within the consolidated balance sheets. At December 31, 2019 and 2018, the Company had bank overdrafts of \$1.6 million and \$0.7 million, respectively, included in other current liabilities.

Accounts Receivable

The Company has three types of accounts receivable: (a) Trade receivables, which consist of amounts billed and currently due from customers; (b) USG contracts, which consist of (1) amounts billed, and (2) costs and accrued profit – not billed; and (c) Commercial and other government contracts, which consist of (1) amounts billed, and (2) costs and accrued profit – not billed. The Company's receivables, net, consist of amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value.

The allowance for doubtful accounts reflects management's best estimate of probable losses inherent in the trade accounts receivable and billed contracts balance. Management determines the allowance based on known troubled accounts, historical experience and other currently available evidence.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Contract Assets

The Company's contract assets include unbilled amounts typically resulting from sales under long-term contracts when the cost-to-cost method of revenue recognition is applied and revenue recognized exceeds the amount billed to the customer, and right to payment is not just subject to the passage of time. Amounts do not exceed their net realizable value. Contract assets are generally classified as current as such amounts are billable and collectible within twelve months.

Contract Costs

Contract costs consist of costs to obtain and fulfill a contract. Costs to fulfill a contract primarily consist of nonrecurring engineering costs incurred at the start of a new program for which such costs are expected to be recovered under existing and future contracts. Such costs are amortized over the estimated revenue amount of the contract. Costs to obtain a contract consist of commissions and agent fees paid in connection with the award of a contract. If these costs are determined to have an amortization period of less than one year, the Company applies the practical expedient and the related costs are expensed as incurred. If the amortization period is determined to be greater than a year and the incremental costs to obtaining the contract qualify as an asset, then the contract costs are recorded and amortized over the estimated contract revenue.

Inventories

The Company has the following types of inventory: (a) raw materials, (b) contracts in process and other work in process, and (c) finished goods. Raw material includes certain general stock materials but primarily relates to purchases that were made in anticipation of specific programs for which production has not been started as of the balance sheet date. Raw materials are stated at the lower of the cost of the inventory or its fair market value. Contracts in process and other work in process and finished goods are valued at production cost represented by raw material, labor and overhead. Contracts in process and other work in process and finished goods are not reported at amounts in excess of net realizable values.

Property, Plant and Equipment

Property, plant and equipment is recorded at cost. Depreciation is computed primarily on a straight-line basis over the estimated useful lives of the assets. The estimated useful lives for buildings generally range from 15 to 40 years and for leasehold improvements range from 1 to 20 years, whereas machinery, office furniture and equipment generally have useful lives ranging from 3 to 15 years. At the time of retirement or disposal, the acquisition cost of the asset and related accumulated depreciation are eliminated and any gain or loss is credited to or charged against income.

Long-lived assets, such as property, plant and equipment and purchased intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset be tested for possible impairment, the Company first compares undiscounted cash flows expected to be generated by an asset to the carrying value of the asset. If the carrying value of the long-lived asset is not recoverable on an undiscounted cash flow basis, impairment is recognized to the extent that the carrying value exceeds its fair value. Fair value is determined through various valuation techniques including discounted cash flow models, quoted market values and third-party independent appraisals, as considered necessary.

Maintenance and repair items are charged against income as incurred, whereas renewals and betterments are capitalized and depreciated.

Leasing

On January 1, 2019, the Company adopted ASC 842, Leases. Under ASC 842, the Company determines if a contract contains a lease at the inception date of the contract. To determine if the contract contains a lease, the Company evaluates if there is an identified asset in the contract and if the Company has control over the use of the identified asset. There is an identified asset in the contract if the asset is explicitly or implicitly specified in the contract, the asset is physically distinct or the Company has the right to receive substantially all of the asset's capacity, and if the supplier does not have substantive substitution rights. The Company has control over the use of the identified asset if the Company obtains substantially all economic benefits from the use of the asset and can direct the use of the asset. The Company applied the practical expedient for any contracts that existed prior to January 1, 2019; therefore, the contracts were not reassessed to determine if they contain leases.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Leasing - continued

The Company must classify each lease as a finance lease or operating lease. A lease is classified as a finance lease if the Company will own the asset by the end of the lease term, the Company is reasonably certain to exercise the purchase option, the lease term covers a major part of the asset's economic life, the sum of the present value of the lease payments and the present value of the residual value guarantee not included in the lease payments equal or exceed substantially all of the fair value of the underlying asset at lease commencement or if the lessor has no alternative use for the asset. If any of these criteria are not met, the lease is classified as an operating lease. The Company applied the practical expedient for any leases that existed prior to January 1, 2019; therefore, the lease classifications of existing leases were not reassessed (all existing leases classified as operating leases under ASC 840 were classified as operating leases under ASC 842 on January 1, 2019 and all existing leases classified as capital leases under ASC 840 were classified as finance leases under ASC 842 on January 1, 2019).

The Company's operating leases consist of rent commitments under various leases for office space, warehouses, land and buildings at varying dates from January 2020 to December 2024. The terms of most of these leases are in the range of 3 to 8 years, with certain leases renewable for varying periods and certain leases including options to terminate the leases. While some of the Company's leases include options allowing early termination of the lease, the Company historically has not terminated its lease agreements early unless there is an economic, financial or business reason to do so. It is expected that in the normal course of business leases that expire will be renewed or replaced by leases on other similar property. Some of the Company's leases have fixed amount rent escalations or contingent rent that are recognized on a straight-line basis over the entire lease term. Material leasehold improvements and other landlord incentives are amortized over the shorter of their economic lives or the lease term, including renewal periods, if reasonably assured. Substantially all real estate taxes, insurance and maintenance expenses associated with leased facilities are obligations of the Company. The terms for most machinery and equipment leases range from 3 to 5 years.

The majority of the Company's finance leases consist of assets purchased under a master leasing agreement. The terms of these leases are 5 years. These assets are included in machinery, office furniture and equipment and construction in process and amortization of these assets is included in depreciation and amortization expense.

At the commencement date, the right-of-use asset and lease liability are recorded to the Company's Consolidated Balance Sheets when the Company obtains control of the use of the asset. Right-of-use assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make payments upon entering into a lease agreement. The initial measurement of the lease liability is equal to the present value of the unpaid lease payments. Subsequent to the initial measurement, the lease liability continues to be measured at the present value of unpaid lease payments throughout the lease term. The lease liability is remeasured if the lease is modified and the modification is not accounted for as a separate contract, there is a change in the assessment of the lease term, the assessment of a purchase option exercise or the amount probable of being owed under a residual value guarantee, or a contingency is resolved resulting in some or all of the variable lease payments becoming fixed payments. The initial measurement of the right-of-use asset is equal to the total of the initial measurement of the lease liability, incremental costs to obtain the lease and prepaid lease payments, less any lease incentives received. Subsequent to the initial measurement, the right-of-use asset for a finance lease is equivalent to the initial measurement less accumulated amortization and any accumulated impairment losses. Generally, amortization of finance leases is recorded to cost of sales on a straight-line basis over the lease term. Subsequent to initial measurement, the right-of-use asset for an operating lease is equivalent to initial measurement less accumulated amortization (the difference between the straight-line lease cost for the period and the accretion of the lease liability using the effective interest method). The Company has elected not to apply the recognition requirements of ASC 842 to short-term leases (leases that, at the commencement date, have a lease term of twelve months or less and do not include an option to purchase the underlying asset that the lessee is reasonably certain to exercise) as permissible under the standard. For short-term leases, the Company recognizes lease payments on a straight-line basis and variable payments in the period in which the obligation for those payments is incurred.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Leasing - continued

Leasing contracts can be separated into lease components, non-lease components and items that are not components of the contract (items that do not transfer a good or service to the Company). Two or more contracts may be combined if at least one of which is or contains a lease entered into or near the same time with the same counterparty and consider the contracts as a single transaction if the contracts are negotiated as a package with the same objective, the amount of consideration to be paid in one contract depends on the price of performance of the other contract or the rights to use the underlying assets conveyed in the contracts are a single lease component. Lease components are considered separate if the Company can benefit from the right to use either on its own or together with other resources readily available to the Company and the right to use is not highly dependent or highly interrelated with the other rights to use the underlying assets in the contract. Consideration in the contract is allocated only to lease and non-lease components of a contract. The Company has elected the practical expedient allowing the Company to combine lease and non-lease components by class as a single lease component for its real estate leases. Nonlease components for the Company's vehicles and other equipment leases are not material.

The lease term is the noncancellable period for which a lessee has the right to use an underlying asset, including periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option and periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option. For renewal options, the Company performs an assessment at commencement if it is reasonably likely to exercise the option. The assessment is based on the Company's intentions, past practices, estimates and factors that create an economic incentive for the Company. Generally, the Company is not reasonably certain to exercise the renewal option in a lease contract as it performs an assessment for most real estate leases within six months prior to termination comparing the renewal rents under the option with the fair market returns for equivalent property under similar terms and conditions. Although the Company does not historically change locations often, it is not reasonably certain the Company will exercise the renewal option; therefore, the periods covered by the renewal option are not typically included in the lease term at commencement. While some of the Company's leases include options allowing early termination of the lease, the Company historically has not terminated its lease agreements early unless there is an economic, financial or business reason to do so; therefore, the Company does not typically consider the termination option in its lease term at commencement.

Consideration in the contract is the sum of lease payments relating to the use of the underlying asset, fixed payments and other in-substance fixed payments, less any incentives received. Remeasurement of variable lease payments based on an index is only required if remeasurement is required for another reason, such as a change in lease term or change in estimates of probable payments under residual value guarantees. If remeasured, the remeasurement date becomes the new date for updating the payments based on the index.

The Company uses the discount rate implicit in a lease contract, if available. As most of the Company's leases do not provide an implicit rate, the Company uses the incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. For any leases that existed prior to the adoption of the standard, the Company used the incremental borrowing rate as of January 1, 2019 based on the type of asset and term of the lease. The Company separated its real estate leases by classes of lease terms and used the incremental borrowing rate consistent with its lease term class to determine the present value of lease payments. As most of the Company's vehicles had a four-year lease term at the point of the adoption of the standard, the Company used the incremental borrowing rate consistent with a four-year lease term for all vehicles. For all other equipment leases, the Company used the incremental borrowing rate consistent with a five-year lease term as the majority of the Company's leases for other equipment had a five-year lease term at the point of the adoption of the standard.

Goodwill and Other Intangible Assets

Goodwill represents the excess of the aggregate purchase price over the fair value of the net assets acquired in a purchase business combination and is reviewed for impairment at least annually.

ASC Topic 350, "Intangibles - Goodwill and Other," ("ASC 350") permits the assessment of qualitative factors to determine whether events and circumstances lead to the conclusion that it is necessary to perform the two-step goodwill impairment test required under ASC 350. The qualitative assessment management performs takes into consideration the following factors: general economic conditions, industry specific performance, changes in carrying values of the reporting units or asset groups, the assessment of assumptions used in the previous fair value calculation and changes in transaction multiples.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Goodwill and Other Intangible Assets - continued

In the first step of the two-step test, the fair value of the reporting unit is compared with its carrying value (including goodwill). If the fair value of the reporting unit is less than its carrying value, an indication of goodwill impairment exists for the reporting unit and the enterprise must perform step two of the impairment test (measurement). In Step 2, an impairment loss is recognized for any excess of the carrying amount of the reporting unit's goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation. The residual fair value after this allocation is the implied fair value of the reporting unit goodwill.

Fair value of the reporting unit is determined using an income methodology based on management's estimates of forecasted cash flows for each reporting unit, with those cash flows discounted to present value using rates commensurate with the risks associated with those cash flows. In addition, management uses a market-based valuation method involving analysis of market multiples of revenues and earnings before interest, taxes, depreciation and amortization ("EBITDA") for (i) a group of comparable public companies and (ii) recent transactions, if any, involving comparable companies. If the fair value of the reporting unit exceeds its carrying value, step two need not be performed.

Goodwill and intangible assets with indefinite lives are evaluated annually for impairment in the fourth quarter, based on annual forecast information. Intangible assets with finite lives are amortized using the straight-line method over their estimated period of benefit. Goodwill and other intangible assets are reviewed for possible impairment whenever changes in conditions indicate that the fair value of a reporting unit is more likely than not below its carrying value. During the third quarter of 2018, management identified a triggering event for possible impairment at a certain asset group in its U.K. business based on a review of historical performance, the current forecast for the remainder of the year and the loss of future orders from one of its significant customers, requiring the Company to evaluate the intangible assets for impairment. The Company performed a recoverability test by comparing the undiscounted cash flows of the asset group to its carrying value, and the estimated future cash flows of the business did not exceed the carrying value of the assets. Based on these results, the Company calculated the fair value of the asset group using an income approach, which resulted in an other intangible assets impairment charge of \$10.0 million, or the remaining balance of the customer lists/relationships at a certain asset group within the U.K. business. This charge has been included in the operating results of the Aerospace business. No such charges were recorded in 2019 or 2017.

Debt

The Company relies on bank financing as an important source of liquidity for its business activities. Outstanding debt is classified as current or long-term based on the maturity of the Company's financing arrangements. Current and long-term debt balances are reported net of debt issuance costs. See Note 14, *Debt*, for further information on the Company's financing arrangements.

Contract Liabilities

The Company's contract liabilities consist of advance payments and billings in excess of revenue recognized and deferred revenue. Advance payments and billings in excess of revenue recognized are classified as current or noncurrent based on the timing of when recognition of revenue is expected.

Unfulfilled Performance Obligations

Unfulfilled performance obligations ("backlog") represents the transaction price of firm orders for which work has not been performed and excludes unexercised contract options and potential orders under ordering-type contracts. As of December 31, 2019, the aggregate amount of the transaction price allocated to backlog was \$806.9 million. The Company expects to recognize revenue on approximately \$511.8 million of this amount over the next 12 months, with the remaining amount to be recognized thereafter. At December 31, 2018, the aggregate amount of the transaction price allocated to backlog was \$851.8 million.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Self-Insured Retentions

To limit exposure to losses related to group health, workers' compensation, auto and product general liability claims, the Company obtains third-party insurance coverage. The Company has varying levels of deductibles for these claims. The total liability/deductible for group health is limited to \$0.3 million per claim, workers' compensation is limited to \$0.4 million per claim and for product/general liability and auto liability the limit is \$0.3 million per claim. The cost of such benefits is recognized as expense based on claims filed in each reporting period and an estimate of claims incurred but not reported ("IBNR") during such period. The estimates for the IBNR are based upon historical trends and information provided to us by the claims administrators, and are periodically revised to reflect changes in loss trends. These amounts are included in other current liabilities on the Consolidated Balance Sheets.

Liabilities associated with these claims are estimated in part by considering historical claims experience, severity factors and other actuarial assumptions. Projections of future losses are inherently uncertain because of the random nature of insurance claim occurrences and the potential for differences between actual developments and actuarial assumptions. Such self-insurance accruals will likely include claims for which the ultimate losses will be settled over a period of years.

Research and Development

Customer funded research expenditures (which are included in cost of sales) were \$0.6 million in 2019, \$1.8 million in 2018 and \$1.1 million in 2017. Research and development costs not specifically covered by contracts are recognized as expense as incurred and included in selling, general and administrative expenses. Such costs amounted to \$11.6 million, \$9.1 million and \$8.2 million in 2019, 2018 and 2017, respectively.

Income Taxes

Income taxes are accounted for using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss, capital loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. The deferred income taxes were significantly impacted by the enactment of the Tax Cuts and Jobs Act of 2017 ("Tax Reform"), as further discussed in Note 16, *Income Taxes*. The adjustments to deferred income taxes resulted in stranded tax effects of items within accumulated other comprehensive income. The Company elected to reclassify the stranded tax effects to retained earnings from accumulated other comprehensive income using the item-by-item approach.

The Company records a benefit for uncertain tax positions in the financial statements only when it determines it is more likely than not that such a position will be sustained upon examination by taxing authorities based on the technical merits of the position. Unrecognized tax benefits represent the difference between the position taken in the tax return and the benefit reflected in the financial statements.

Share-Based Payment Arrangements

The Company records compensation expense for share-based awards based upon an assessment of the grant date fair value of the awards. The fair value of each option award is estimated on the date of grant using the Black-Scholes option valuation model. A number of assumptions are used to determine the fair value of options granted. These include expected term, dividend yield, volatility of the options and the risk free interest rate. See Note 22, *Share-Based Arrangements*, for further information.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Environmental Remediation

The Company is subject to environmental regulation by federal, state and local authorities in the United States and regulatory authorities with jurisdiction over its foreign operations. When the Company becomes aware of environmental risk, it performs a site study to ascertain the potential magnitude of contamination and the estimated cost of remediation. Environmental costs are accrued when it is probable that a liability has been incurred and the amount can be reasonably estimated. The most likely cost to be incurred is accrued based on an evaluation of currently available facts with respect to each individual site. Conditions of the site must be monitored throughout the remediation process as numerous factors could affect the estimated liability. The Company evaluates the identified environmental issues to ensure the time to complete the remediation and the total cost of remediation are consistent with the initial estimate. If there is any change in the cost and/or timing of remediation, the accrual is adjusted accordingly. See Note 13, *Environmental Costs*, and Note 19, *Commitments and Contingencies*, for further information.

Derivative Financial Instruments

The Company is exposed to certain risks relating to its ongoing business operations, including market risks relating to fluctuations in foreign currency exchange rates and interest rates. Derivative financial instruments are recognized on the Consolidated Balance Sheets as either assets or liabilities and are measured at fair value. Changes in the fair values of derivatives are recorded each period in earnings or accumulated other comprehensive income, depending on whether a derivative is effective as part of a hedged transaction. Gains and losses on derivative instruments reported in accumulated other comprehensive income are subsequently included in earnings in the periods in which earnings are affected by the hedged item. The Company does not use derivative instruments for speculative purposes. See Note 9, *Derivative Financial Instruments*, for further information.

Pension Accounting

The Company accounts for its defined benefit pension plan by recognizing the overfunded or underfunded status of the plan, calculated as the difference between the plan assets and the projected benefit obligation, as an asset or liability on the balance sheet, with changes in the funded status recognized in comprehensive income in the year in which they occur.

Expenses and liabilities associated with the plan are determined based upon actuarial valuations. Integral to the actuarial valuations are a variety of assumptions including expected return on plan assets and discount rate. The Company regularly reviews the assumptions, which are updated at the measurement date, December 31st. The impact of differences between actual results and the assumptions are accumulated and generally amortized over future periods, which will affect expense recognized in future periods. The service cost component of net benefit cost is recorded in cost of sales and selling, general and administrative expenses separately from the other components of net benefit cost, which are recorded to non-service pension and postretirement benefit income. See Note 17, *Pension Plans*, for further information.

Recent Accounting Standards

Recent Accounting Standards Adopted

In October 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") 2018-16, "Derivatives and Hedging (Topic 815) - Inclusion of the Secured Overnight Financing Rate ("SOFR") Overnight Index Swap ("OIS") Rate as a Benchmark Interest Rate for Hedge Accounting Purposes". The Federal Reserve Board and the Federal Reserve Bank of New York initiated an effort to introduce an alternative reference rate to LIBOR in the United States. This standard update permits the use of the OIS rate based on SOFR as a U.S. benchmark interest rate for hedge accounting purposes under Topic 815. The standard update was effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption was permitted. The amendments in this ASU were required to be adopted concurrently with the amendments in ASU 2017-12. The adoption of this standard update did not have a material impact on the Company's consolidated financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Recent Accounting Standards - continued

Recent Accounting Standards Adopted - continued

In February 2018, the FASB issued ASU 2018-02 "Income Statement - Reporting Comprehensive Income (Topic 220) - Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income". The objective of this standard was to address the concern that tax effects of items within accumulated other comprehensive income did not appropriately reflect the tax rate because Tax Reform required the adjustment of deferred taxes be recorded to income. This ASU provided an entity the election to reclassify stranded tax effects resulting from Tax Reform to retained earnings from accumulated other comprehensive income. The standard update was effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption was permitted. The adoption of ASU 2018-02 resulted in an increase to retained earnings of \$23.1 million, primarily related to the stranded tax effects resulting from Tax Reform for pension and other post-retirement benefits.

In August 2017, the FASB issued ASU 2017-12, "Derivatives and Hedging (Topic 815) - Targeted Improvements to Accounting for Hedging Activities". The objective of this standard update was to improve the financial reporting of hedging relationships to better reflect the economic results of an entity's risk management activities in its financial statements. This ASU expanded hedge accounting for both nonfinancial and financial risk components and refines the measurement of hedge results to better reflect an entity's hedging strategies. The standard update was effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption was permitted. The adoption of this standard update did not have a material impact on the Company's consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)". Under this ASU as amended, lessees are required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: (i) a lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (ii) a right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Lessor accounting is largely unchanged under this ASU as amended. This standard update was effective for fiscal years, and interim periods within those years, beginning after December 15, 2018. Early adoption was permitted. On January 1, 2019, the Company adopted ASC 842 using the modified retrospective transition method allowing entities to initially apply the new leases standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. As a result, the Company applied ASC 842 only to leases that existed as of January 1, 2019 and did not restate prior periods. The adoption of ASC 842 resulted in a net increase of approximately \$18.5 million to its assets and liabilities as of January 1, 2019 due to the addition of right-of-use assets and lease liabilities for operating leases on the balance sheet; however, it did not have a material impact on the Company's cash flows, results of operations or debt covenant compliance.

The Company has elected the following practical expedients (which must be elected as a package and applied consistently to all leases): an entity need not reassess whether any expired or existing contracts are or contain leases, an entity need not reassess the lease classification for any expired or existing leases and an entity need not reassess initial direct costs for any existing leases. Additionally, the Company has elected the practical expedient to not separate nonlease components from the associated lease component and account for those components as a single component for real estate leases. Nonlease components for the Company's vehicle and other equipment leases are not material. The Company has elected not to apply the recognition requirements to short-term leases, and will recognize the lease payments in profit or loss on a straight-line basis over the lease term and variable payments in the period in which the obligation for those payments is incurred.

Subsequent to the issuance of ASU 2016-02, the FASB has issued the following updates: ASU 2018-10, "Codification Improvements to Topic 842, Leases", ASU 2018-11, "Leases (Topic 842): Targeted Improvements - Transition - Comparative Reporting at Adoption" and ASU 2019-01, "Leases (Topic 842): Codification Improvements". The amendments in these updates affect the guidance contained within ASU 2016-02 and were similarly adopted on January 1, 2019.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Recent Accounting Standards - continued

Recent Accounting Standards Yet to be Adopted

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740) - Simplifying the Accounting for Income Taxes". The objective of the standard is to simplify the accounting for income taxes by removing certain exceptions and to improve consistent application of Topic 740 by clarifying and amending existing guidance. The standard update is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Early adoption of the standard is permitted, including adoption in any interim period for which financial statements have not yet been issued. If early adopted in an interim period, the adjustments should be reflected as of the beginning of the annual period that includes that interim period. All amendments under the standard must be adopted in the same period. The Company is currently assessing the potential impact this standard update could have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40) - Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract". The objective of the standard update is to provide additional guidance on the accounting for costs of implementation activities performed in a cloud computing arrangement that is a service contract to address the diversity in practice. The ASU requires an entity in a hosting arrangement that is a service arrangement to determine which costs to capitalize as an asset related to a service contract and which costs to expense, and to determine which project stage implementation activities relate to. Costs for implementation activities in the application development stage are capitalized depending on the nature of the costs, while costs incurred during the preliminary project and post-implementation stages are expensed as the activities are performed. Capitalized implementation costs of a hosting arrangement are expensed over the term of the hosting arrangement in the same line item in the statement of operations as the fees associated with the hosting element of the arrangement. The standard update is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. Early adoption is permitted. The amendments in this standard update should be applied either retrospectively or prospectively to all implementation costs incurred after the inception date. The Company has elected to adopt the standard update prospectively. The adoption of this standard update is not expected to have a material impact on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20) - Disclosure Framework - Changes to Disclosure Requirements for Defined Benefit Plans". The objective of the standard update is to improve the effectiveness of disclosure requirements for defined benefit pension and other post-retirement plans. This standard update removes disclosures that are no longer considered cost beneficial, clarifies specific requirements of disclosures and adds new disclosure requirements identified as relevant. The standard update is effective for fiscal years, and interim periods within those years, beginning after December 15, 2020. Early adoption is permitted. The adoption of this standard update is not expected to have a material impact on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820) - Disclosure Framework - Changes to Disclosure Requirements for Fair Value Measurement". The objective of this standard update is to improve the effectiveness of disclosures for recurring and nonrecurring fair value measurements. This standard update removes certain disclosure requirements that are no longer considered cost beneficial, modifies existing disclosure requirements and adds new disclosure requirements identified as relevant. The standard update is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. Early adoption is permitted. An entity is permitted to early adopt any removed or modified disclosures upon issuance of the ASU and delay adoption of the additional disclosures until the effective date. The adoption of this standard update is not expected to have a material impact on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment". The objective of this standard update is to simplify the subsequent measurement of goodwill, eliminating Step 2 from the goodwill impairment test. Under this ASU, an entity should perform its annual goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity would recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value, assuming the loss recognized does not exceed the total amount of goodwill for the reporting unit. The standard update is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted. The impact of the adoption of this standard update is dependent on the Company's goodwill impairment assessment.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Recent Accounting Standards - continued

Recent Accounting Standards Yet to be Adopted - continued

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments". The objective of this standard update is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. The amendments in this ASU replace the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The standard update is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. Early adoption is permitted. An entity will apply the amendments in this ASU through a cumulative-effect adjustment to retained earnings as of the first reporting period in which the guidance is effective. The adoption of this standard update is not expected to have a material impact on the Company's consolidated financial statements.

Subsequent to the issuance of ASU 2016-13, the FASB has issued the following updates: ASU 2018-19, "Codification Improvements to Topic 326, Financial Instruments- Credit Losses", ASU 2019-04, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments", ASU 2019-05, "Financial Instruments - Credit Losses (Topic 326) - Targeted Transition Relief" and ASU 2019-11, "Codification Improvements to Topic 326, Financial Instruments - Credit Losses". The amendments in these updates affect the guidance within ASU 2016-13 and have been assessed with ASU 2016-13.

2. ACCOUNTING CHANGES

The Company's significant accounting policies are detailed in Note 1, *Summary of Significant Accounting Policies*.

Revenue Recognition

On January 1, 2018, the Company adopted ASC 606 using the modified retrospective method. As a result, the Company applied ASC 606 only to contracts that were not completed as of January 1, 2019.

	For the year ended December 31, 2018		
	As reported	Adjustments	Balances without adoption of ASC 606
<i>In thousands</i>			
Net sales	\$ 735,994	\$ (59,683)	\$ 676,311
Cost of sales	508,677	(42,036)	466,641
Gross profit	227,317	(17,647)	209,670
Selling, general and administrative expenses	172,271	(2,281)	169,990
Other intangibles asset impairment (Note 12)	10,039	—	10,039
Restructuring costs (Note 5)	7,353	—	7,353
Loss on sale of business (Note 5)	5,722	539	6,261
Net gain on sale of assets	(1,031)	—	(1,031)
Operating income	32,963	(15,905)	17,058
Interest expense, net	20,046	—	20,046
Non-service pension and post retirement benefit income	(12,127)	—	(12,127)
Other income, net	(92)	—	(92)
Earnings from continuing operations before income taxes	25,136	(15,905)	9,231
Income tax expense	9,259	(2,486)	6,773
Earnings from continuing operations, net of tax	\$ 15,877	\$ (13,419)	\$ 2,458

2. ACCOUNTING CHANGES (CONTINUED)

For the year ended December 31, 2018, the only adjustments to comprehensive income when comparing the balances with ASC 606 and the balances without ASC 606 included the adjustments to net earnings presented above. There was no impact to the Company's cash flows from operating activities.

3. DISCONTINUED OPERATIONS

On August 26, 2019, the Company completed the sale of its Distribution business for total cash consideration of \$700.0 million, excluding certain working capital adjustments. The sale of the Distribution business was a result of the Company's shift in strategy to be a highly focused, technologically differentiated aerospace and engineered products company. As a result of the sale, the Distribution segment met the criteria set forth in ASC 205-20, *Presentation of Financial Statements - Discontinued Operations* for discontinued operations.

Upon closing, the Company entered into a transition services agreement ("TSA") with the buyer, pursuant to which the Company agreed to support the information technology, human resources and benefits, tax and treasury functions of the Distribution business for six to twelve months. The buyer has the option to extend the support period for up to an additional year for certain services. The Company incurred \$4.7 million in costs associated with the TSA in 2019, which was included in costs from transition services agreement on the Company's Consolidated Statement of Operations. The Company earned \$3.7 million in income associated with the TSA in 2019, which was included in income from transition services on the Company's Consolidated Statement of Operations.

Cash outflows from the Company to its former Distribution business after the sale totaled \$7.8 million in 2019, which primarily related to Distribution employee and employee-related costs incurred prior to the sale. Cash inflows from the Company's former Distribution business to the Company after the sale totaled \$3.6 million in 2019, which primarily related to cash received for services performed under the TSA.

The related assets and liabilities of the Company's former Distribution business were reclassified to assets held for sale and liabilities held for sale, respectively, as of December 31, 2018 on the Company's Consolidated Balance Sheets. The following table is a summary of the assets and liabilities held for sale:

	December 31, 2018
<i>In thousands</i>	
Assets	
Cash and cash equivalents	\$ 1,816
Accounts receivable, net	151,756
Contract assets	9,600
Inventories	163,343
Other current assets	24,746
Total assets held for sale, current portion	351,261
Property, plant and equipment, net of accumulated depreciation of \$70,021	47,112
Goodwill	149,204
Other intangible assets, net	32,440
Deferred income taxes	146
Other assets	336
Total assets held for sale	\$ 580,499
Liabilities	
Accounts payable – trade	\$ 101,801
Accrued salaries and wages	13,839
Other current liabilities	15,407
Total liabilities held for sale, current portion	131,047
Deferred income taxes	13,630
Other long-term liabilities	1,972
Total liabilities held for sale	\$ 146,649

3. DISCONTINUED OPERATIONS (CONTINUED)

The results of operations for the Company's former Distribution business were included in discontinued operations on the Company's Consolidated Statement of Operations. The following table provides information regarding the results of discontinued operations:

	For the Year Ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Net sales from discontinued operations	\$ 748,451	\$ 1,139,431	\$ 1,080,965
Cost of sales from discontinued operations	536,749	816,711	769,403
Gross profit from discontinued operations	211,702	322,720	311,562
Selling, general and administrative expenses from discontinued operations	177,475	272,633	262,384
Restructuring costs from discontinued operations	—	655	—
Net loss (gain) on sale of assets from discontinued operations	8	(669)	(225)
Operating income from discontinued operations	34,219	50,101	49,403
Interest expense, net from discontinued operations	25	51	3
Other income, net from discontinued operations	(12)	(51)	(56)
Earnings from discontinued operations before income taxes	34,206	50,101	49,456
Income tax expense	5,179	11,809	19,338
Earnings from discontinued operations before gain on disposal	29,027	38,292	30,118
Gain on disposal of discontinued operations, pretax	167,757	—	—
Income tax expense on gain on disposal	43,401	—	—
Gain on disposal of discontinued operations, net of tax	124,356	—	—
Earnings from discontinued operations, net of tax	<u>\$ 153,383</u>	<u>\$ 38,292</u>	<u>\$ 30,118</u>

3. DISCONTINUED OPERATIONS (CONTINUED)

The following table provides information on the gain recorded on the sale of the Company's former Distribution business for 2019. These amounts reflect the closing balance sheet of its Distribution business upon the closing of the sale on August 26, 2019.

Net proceeds received from sale of Distribution ⁽¹⁾	\$	659,009
Distribution assets		
Cash and cash equivalents	\$	21,834
Accounts receivable, net		150,317
Contract assets		9,128
Inventories		163,995
Other current assets		20,289
Property plant and equipment, net of accumulated depreciation of \$73,795		51,039
Operating right-of-use assets, net		68,049
Goodwill		149,204
Other intangible assets, net		28,361
Deferred income taxes		133
Other assets		195
Total Distribution assets	\$	662,544
Distribution liabilities		
Accounts payable - trade	\$	67,975
Accrued salaries and wages		12,916
Operating lease liabilities, current portion		19,981
Other current liabilities		22,024
Deferred income taxes		78
Operating lease liabilities, noncurrent portion		48,130
Other long-term liabilities		188
Total Distribution liabilities	\$	171,292
Gain on sale of Distribution before income taxes	\$	167,757

⁽¹⁾ The proceeds received from the sale of the Distribution business were included in net cash provided by (used in) investing activities of continuing operations on the Company's Consolidated Statement of Cash Flows. These proceeds were net of transaction costs of \$33.1 million and working capital adjustments. The final consideration and gain on sale is subject to a working capital adjustment expected to be settled in the first quarter of 2020.

4. REVENUE AND GEOGRAPHIC INFORMATION

The timing related to the satisfaction of performance obligations and the typical timing of payment could vary between military, safe and arm devices and commercial contracts. For military and safe and arm device contracts with the USG, payment terms typically include progress payments, and the satisfaction of these performance obligations does not vary significantly from timing of payment. For firm-fixed price military and safe and arm device contracts with foreign militaries, the satisfaction of performance obligations could occur at a point in time or over time, depending on the nature of the performance obligations and the right to payment terms in the contracts. Generally, payment terms for these types of contracts range from 30 to 180 days from delivery; however, at times, the Company may negotiate advance payments to cover a portion of the initial costs. Payment terms for firm-fixed price commercial contracts generally range from 30 to 90 days from delivery. The satisfaction of these performance obligations could occur at a point in time or over time, depending on the nature of the performance obligations and the right to payment terms in the contracts. For certain commercial contracts, the Company may negotiate advance payments for long-lead materials.

4. REVENUE AND GEOGRAPHIC INFORMATION (CONTINUED)

Disaggregation of Revenue

The following table disaggregates total revenue by major product line.

	For the year ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Military and Defense, excluding safe and arm devices	\$ 178,289	\$ 190,264	\$ 201,760
Safe and Arm Devices	227,846	195,751	184,640
Commercial Aerospace and Other	355,473	349,979	338,544
Total revenue ⁽¹⁾⁽²⁾⁽³⁾	<u>\$ 761,608</u>	<u>\$ 735,994</u>	<u>\$ 724,944</u>

⁽¹⁾ Service revenue was not material for the years ended December 31, 2019, 2018 and 2017.

⁽²⁾ Sales of the Company's formerly owned Distribution business were included in earnings from discontinued operations, net of tax, on the Company's Consolidated Statements of Operations. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

⁽³⁾ Net sales under contracts with USG agencies (including sales to foreign governments through foreign military sales contracts with USG agencies) totaled \$244.3 million, \$281.3 million and \$248.6 million in 2019, 2018 and 2017, respectively, and represent direct and indirect sales to the USG and related agencies.

The following table illustrates the approximate percentage of revenue recognized by product types.

	For the year ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Original Equipment Manufacturer	58%	56%	57%
Aftermarket	12%	17%	18%
Safe and Arm Devices	30%	27%	25%
Total revenue	<u>100%</u>	<u>100%</u>	<u>100%</u>

The following table illustrates the approximate percentage of revenue recognized for performance obligations satisfied over time versus the amount of revenue recognized for performance obligations satisfied at a point in time:

	2019	2018
Revenue recognized for performance obligations satisfied:		
Over time	39%	48%
Point-in-time	61%	52%
Total revenue	<u>100%</u>	<u>100%</u>

4. REVENUE AND GEOGRAPHIC INFORMATION (CONTINUED)

Geographic Information

Sales are attributed to geographic regions based on the location to which the product is shipped. Geographic distribution of sales recorded is as follows:

	For the year ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
North America	\$ 438,638	\$ 485,856	\$ 437,326
Europe	164,921	167,176	168,236
Middle East	114,110	51,565	81,197
Asia	19,326	16,998	24,614
Oceania	14,598	8,739	10,837
Other	10,015	5,660	2,734
Total revenue	<u>\$ 761,608</u>	<u>\$ 735,994</u>	<u>\$ 724,944</u>

Geographic distribution of long-lived assets is as follows:

	At December 31,	
	2019	2018
<i>In thousands</i>		
United States ⁽¹⁾	\$ 249,935	\$ 463,114
Germany	157,504	160,257
United Kingdom	32,834	32,378
Czech Republic	5,753	6,077
Mexico	1,189	1,091
Total long-lived assets ⁽²⁾	<u>\$ 447,215</u>	<u>\$ 662,917</u>

⁽¹⁾ Long-lived assets attributable to the Company's formerly owned Distribution business, totaling \$229.2 million were included in assets held for sale, noncurrent portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

⁽²⁾ For the purpose of this disclosure the Company excluded deferred tax assets of \$35.2 million and \$38.0 million as of December 31, 2019 and 2018, respectively.

5. RESTRUCTURING COSTS

During the third quarter of 2017, the Company initiated restructuring activities at certain businesses to support the ongoing effort of improving capacity utilization and operating efficiency to better position the Company for increased profitability and growth. Such actions include workforce reductions and the consolidation of operations, beginning in the third quarter of 2017 through the planned completion of restructuring activities in 2019. The Company currently expects these actions to result in approximately \$9.5 million in pre-tax restructuring and transition charges. The Company has begun realizing total cost savings in excess of \$8.0 million annually as a result of these restructuring activities.

The following table summarizes the accrual balances by cost type for the restructuring actions:

	Severance	Other ⁽¹⁾	Total
<i>In thousands</i>			
Restructuring accrual balance at December 31, 2018	\$ 1,022	\$ 558	\$ 1,580
Provision	(15)	198	183
Cash payments	(999)	(380)	(1,379)
Changes in foreign currency exchange rates	(8)	1	(7)
Restructuring accrual balance at December 31, 2019	<u>\$ —</u>	<u>\$ 377</u>	<u>\$ 377</u>

⁽¹⁾ Includes costs associated with consolidation of facilities.

5. RESTRUCTURING COSTS (CONTINUED)

The above accrual balance was included in other current liabilities on the Company's Consolidated Balance Sheets. Since the announcement of these restructuring activities, restructuring expense related to these activities as of December 31, 2019 was \$9.3 million. For the year ended December 31, 2019, restructuring expense, totaling \$0.6 million, was included in restructuring costs on the Company's Consolidated Statements of Operations. Included in this expense was approximately \$0.3 million of cost that primarily related to the write-off of inventory for various small order programs that the Company will no longer continue to manufacture as a result of the consolidation of operations and \$0.1 million in depreciation expense associated with an enterprise resource planning ("ERP") system that will no longer be utilized as a result of the restructuring activities.

For the year ended December 31, 2018, restructuring expense, totaling \$6.0 million, was included in restructuring costs on the Company's Consolidated Statements of Operations. Included in this expense was approximately \$0.8 million of cost that primarily related to the write-off of inventory for various small order programs that the Company will no longer continue to manufacture as a result of the consolidation of operations and \$0.4 million associated with the acceleration of stock compensation for management impacted by the restructuring activities.

For the year ended December 31, 2017, restructuring expense, totaling \$2.7 million, was included in restructuring costs on the Company's Consolidated Statements of Operations. Included in this expense was approximately \$1.0 million of cost that primarily related to the write-off of inventory for various small order programs that the Company will no longer continue to manufacture as a result of the consolidation of operations.

As part of the restructuring activities discussed above, the Company sold its U.K. Tooling business and substantially all of the assets and liabilities of its Engineering Services business in the fourth quarter of 2018. These divestitures did not qualify for the reporting of discontinued operations within the consolidated financial statements. In the year ended December 31, 2018, the Company incurred a loss of \$5.7 million associated with the sale of the U.K. Tooling business, which was included in loss on the sale of business on the Company's Consolidated Statements of Operations. Of the \$5.7 million loss on the sale of the U.K. Tooling business, \$1.7 million related to the foreign currency translation reclassified from accumulated other comprehensive income (loss) to net income. In the year ended December 31, 2019, the Company incurred an additional loss of \$3.7 million associated with the write-off of note receivables recorded in 2018 for the remaining amounts to be collected on the sale of the U.K. Tooling business as this balance was deemed not likely to be collected. This charge was included in loss on the sale of business on the Company's Consolidated Statements of Operations. At December 31, 2018, the present value of these note receivables of \$0.2 million and \$2.3 million were included in other current assets and other assets, respectively, on the Company's Consolidated Balance Sheets. In the year ended December 31, 2018, the Company incurred a loss of \$0.7 million associated with the sale of substantially all of the assets and liabilities of its Engineering Services business, which was included in net loss (gain) on the sale of assets on the Company's Consolidated Statements of Operations.

Other Matters

In addition to the restructuring activities above, for the year ended December 31, 2019, the Company's corporate office incurred \$0.9 million in severance expense. Of this amount, \$0.5 million was recorded in accrued salaries and wages on the Company's Consolidated Balance Sheets as of December 31, 2019. These amounts are not included in the table above.

For the year ended December 31, 2018, the Company incurred \$1.4 million in costs associated with the termination of certain distributor agreements and separation costs for certain employees not covered by restructuring activities noted above.

In 2017, the Company incurred \$0.4 million of other severance expense. There was also \$1.6 million in separation costs associated with a senior executive recorded in accrued salaries and wages on the Company's Consolidated Balance Sheets as of December 31, 2017. These amounts are not included in the table above.

6. ACCOUNTS RECEIVABLE, NET

Accounts receivable consist of the following:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Trade receivables	\$ 13,794	\$ 11,380
U.S. Government contracts:		
Billed	15,136	38,173
Costs and accrued profit – not billed	894	780
Commercial and other government contracts:		
Billed	120,427	100,603
Costs and accrued profit – not billed	7,487	900
Less allowance for doubtful accounts	(1,246)	(2,498)
Accounts receivable, net ⁽¹⁾	\$ 156,492	\$ 149,338

⁽¹⁾ Accounts receivable, net attributable to the Company's formerly owned Distribution business were included in assets held for sale, current portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

The increase in accounts receivable, net was primarily due to an increase in receivables related to a JPF DCS contract, partially offset by payments received under the Company's JPF program with the USG.

Accounts receivable, net includes amounts for matters such as contract changes, negotiated settlements and claims for unanticipated contract costs. These amounts are as follows:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Contract changes, negotiated settlements and claims for unanticipated contract costs	\$ 900	\$ 900
Total	\$ 900	\$ 900

7. CONTRACT ASSETS, CONTRACT COSTS AND CONTRACT LIABILITIES

Contract assets consist of unbilled amounts typically resulting from sales under long-term contracts when the cost-to-cost method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer. Contract costs consist of costs to obtain and fulfill a contract. Costs to fulfill a contract primarily consist of nonrecurring engineering costs incurred at the start of a new program for which such costs are expected to be recovered under existing and future contracts. Such costs are amortized over the estimated revenue amount of the contract. Costs to obtain a contract consist of commissions and agent fees paid in connection with the award of a contract. Contract liabilities consist of advance payments and billings in excess of costs incurred and deferred revenue.

7. CONTRACT ASSETS, CONTRACT COSTS AND CONTRACT LIABILITIES (CONTINUED)

Activity related to contract assets, contract costs and contract liabilities is as follows:

	December 31, 2019	December 31, 2018	\$ Change	% Change
<i>In thousands</i>				
Contract assets ⁽¹⁾⁽²⁾	\$ 121,614	\$ 99,261	\$ 22,353	22.5 %
Contract costs, current portion	\$ 6,052	\$ 5,993	\$ 59	1.0 %
Contract costs, noncurrent portion	\$ 6,099	\$ 10,666	\$ (4,567)	(42.8)%
Contract liabilities, current portion ⁽²⁾	\$ 42,942	\$ 28,865	\$ 14,077	48.8 %
Contract liabilities, noncurrent portion ⁽²⁾	\$ 37,855	\$ 78,562	\$ (40,707)	(51.8)%

⁽¹⁾ The Company's contract assets were net of unliquidated progress payments, primarily from the U.S. Government, of \$30.2 million and \$30.3 million at December 31, 2019 and December 31, 2018, respectively.

⁽²⁾ Contract assets and contract liabilities of the Company's formerly owned Distribution business were included in assets held for sale and liabilities held for sale, respectively, as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

Contract Assets

The increase in contract assets was primarily due to the recognition of revenue related to the satisfaction or partial satisfaction of performance obligations during the year ended December 31, 2019. This increase is primarily attributable to work performed and not yet billed on the JPF program with the USG and certain structures programs. These increases were partially offset by amounts billed on the SH-2G program for Peru. There were no significant impairment losses related to the Company's contract assets during the year ended December 31, 2019 and December 31, 2018.

Contract assets includes amounts for matters such as contract changes, negotiated settlements and claims for unanticipated contract costs. These amounts are as follows:

	December 31, 2019	December 31, 2018
<i>In thousands</i>		
Contract changes, negotiated settlements and claims for unanticipated contract costs	\$ 3,745	\$ 2,909

Contract Costs

At December 31, 2019, costs to fulfill a contract and costs to obtain a contract were \$6.6 million and \$5.6 million, respectively. At December 31, 2018, costs to fulfill a contract and costs to obtain a contract were \$8.9 million and \$7.8 million, respectively. These amounts are included in contract costs, current portion and contract costs, noncurrent portion on the Company's Consolidated Balance Sheets at December 31, 2019 and December 31, 2018.

Contract costs, current portion at December 31, 2019 remained relatively flat when compared to December 31, 2018. This was the result of the reclassification of a portion of costs to obtain a JPF DCS contract and costs to fulfill certain structures programs from contract costs, noncurrent portion, partially offset by amortization of contract costs. For the years ended December 31, 2019 and December 31, 2018, amortization of contract costs was \$11.6 million and \$3.7 million, respectively.

The decrease in contract costs, noncurrent portion was primarily related to the reclassification of a portion of costs to obtain a JPF DCS contract and costs to fulfill certain structures programs to contract costs, current portion.

7. CONTRACT ASSETS, CONTRACT COSTS AND CONTRACT LIABILITIES (CONTINUED)

Contract Liabilities

The increase in contract liabilities, current portion was primarily due to the reclassification of advance payments received for a JPF DCS contract from contract liabilities, noncurrent portion, partially offset by revenue recognized on a JPF DCS contract and the K-MAX® program. For the years ended December 31, 2019 and December 31, 2018, revenue recognized related to contract liabilities, current portion was \$48.5 million and \$12.1 million, respectively.

The decrease in contract liabilities, noncurrent portion was due to the reclassification of advance payments received for a JPF DCS contract to contract liabilities, current portion. For the years ended December 31, 2019 and December 31, 2018, the Company did not recognize revenue against contract liabilities, noncurrent portion.

8. FAIR VALUE MEASUREMENTS

Fair value is defined as the exchange price that would be received for an asset or the price paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date.

The Company uses a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires us to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 — Quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than quoted prices included in Level 1, such as quoted prices for markets that are not active or other inputs that are observable or can be corroborated by observable market data.
- Level 3 — Unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

The following table provides the carrying value and fair value of financial instruments that are not carried at fair value at December 31, 2019 and 2018:

	2019		2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
<i>In thousands</i>				
Debt ⁽¹⁾	\$ 186,060	\$ 237,381	\$ 299,124	\$ 325,251

⁽¹⁾ These amounts are classified within Level 2.

The above fair values were computed based on quoted market prices and discounted future cash flows (observable inputs), as applicable. Differences from carrying values are attributable to interest rate changes subsequent to when the transactions occurred. The fair values of cash and cash equivalents, accounts receivable, net, and accounts payable - trade approximate their carrying amounts due to the short-term maturities of these instruments. The Company's cash and cash equivalents at December 31, 2019 included \$443.2 million of Level 1 money market funds.

Recurring Fair Value Measurements

The Company holds derivative instruments for foreign exchange contracts that are measured at fair value using observable market inputs such as forward rates and our counterparties' credit risks. Based on these inputs, the derivative instruments are classified within Level 2 of the valuation hierarchy and have been included in other current assets and other current liabilities on the Consolidated Balance Sheets at December 31, 2019 and other current liabilities on the Consolidated Balance Sheets at December 31, 2018. Based on the continued ability to trade and enter into forward contracts and interest rate swaps, the Company considers the markets for the fair value instruments to be active.

The Company evaluated the credit risk associated with the counterparties to these derivative instruments and determined that as of December 31, 2019, such credit risks have not had an adverse impact on the fair value of these instruments.

8. FAIR VALUE MEASUREMENTS (CONTINUED)

Nonrecurring Fair Value Measurements

During the third quarter of 2018, the Company incurred a \$10.0 million impairment charge for a certain asset group at its U.K. business. Refer to *Note 12, Goodwill and Other Intangible Assets, Net* for further information regarding the calculation of fair value.

9. DERIVATIVE FINANCIAL INSTRUMENTS

The Company is exposed to certain risks relating to its ongoing business operations, including market risks relating to fluctuations in foreign currency exchange rates and interest rates. Derivative financial instruments are reported on the Consolidated Balance Sheets at fair value. Changes in the fair values of derivatives are reported each period in earnings or accumulated other comprehensive income, depending on whether a derivative is effective as part of a hedged transaction. Gains and losses on derivative instruments reported in accumulated other comprehensive income are subsequently included in earnings in the periods in which earnings are affected by the hedged item. The Company does not use derivative instruments for speculative purposes.

The Company held forward exchange contracts designed to hedge forecasted transactions denominated in foreign currencies and to minimize the impact of foreign currency fluctuations on the Company's earnings and cash flows. Some of those contracts were designated as cash flow hedges. The Company will include in earnings amounts currently included in accumulated other comprehensive income upon recognition of cost of sales related to the underlying transaction.

Interest Rate Swaps

The Company's Term Loan Facility ("Term Loan") under the Company's previously existing credit facility contained floating rate obligations and was subject to interest rate fluctuations. During 2015, the Company entered into interest rate swap agreements for the purposes of hedging the eight quarterly variable-rate Term Loan interest payments due in 2016 and 2017. Additionally, the Company entered into interest rate swap agreements to effectively convert \$83.8 million of our variable rate revolving credit facility debt to a fixed interest rate. These interest rate swap agreements were designated as cash flow hedges and intended to manage interest rate risk associated with our variable-rate borrowings and minimize the impact on our earnings and cash flows of interest rate fluctuations attributable to changes in LIBOR rates. As of December 31, 2017, these interest rate swap agreements had all matured and were no longer outstanding. As such, there was no activity related to these contracts for the years ended December 31, 2019 and 2018. The activity related to these contracts was not material to the Company's Consolidated Financial Statements for the year ended December 31, 2017. No amounts related to cash flow hedges are expected to be reclassified from other comprehensive income over the next twelve months.

Forward Exchange Contracts

From time to time, the Company will enter into foreign exchange contracts that are not designated as hedging instruments. These contracts are entered into in order to minimize the impact of foreign currency fluctuations on the Company's earnings and cash flows. The Company reports expense related to these contracts in other income, net on the Consolidated Statements of Operations.

In addition to the forward exchange contract mentioned above, the Company held forward exchange contracts to mitigate the risk associated with foreign currencies that were not designated as hedging instruments as of December 31, 2019 and 2018. The balances associated with the contracts and the gains or losses reported in other income, net were not material for the years ended December 31, 2019, 2018 or 2017.

10. INVENTORIES

Inventories consist of the following:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Raw materials	\$ 15,012	\$ 15,939
Contracts in process:		
US Government	6,217	6,030
Commercial and other government contracts	74,035	49,471
Contracts and other work in process (including certain general stock materials)	36,130	41,166
Finished goods	24,959	18,963
Inventories ⁽¹⁾	<u>\$ 156,353</u>	<u>\$ 131,569</u>

⁽¹⁾ Inventories attributable to the Company's formerly owned Distribution business were included in assets held for sale, current portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

Inventories include amounts associated with matters such as contract changes, negotiated settlements and claims for unanticipated contract costs, which totaled \$0.4 million and \$0.5 million at December 31, 2019 and 2018, respectively.

At December 31, 2019 and 2018, \$43.6 million and \$34.7 million, respectively, of K-MAX® inventory was included in contracts and other work in process inventory and finished goods on the Company's Consolidated Balance Sheets. Management believes that approximately \$22.5 million of the K-MAX® inventory will be sold after December 31, 2020, based upon the anticipation of additional aircraft manufacturing and supporting the fleet for the foreseeable future.

At December 31, 2019 and 2018, \$3.6 million and \$5.4 million, respectively, of SH-2G(I) inventory was included in contracts and other work in process inventory on the Company's Consolidated Balance Sheets. Management believes that approximately \$3.2 million of the SH-2G(I) inventory will be sold after December 31, 2020. This balance represents spares requirements and inventory to be used in SH-2G programs.

11. PROPERTY, PLANT AND EQUIPMENT, NET

Property, plant and equipment, net is summarized as follows:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Land	\$ 16,319	\$ 14,408
Buildings	101,562	100,005
Leasehold improvements	14,904	14,626
Machinery, office furniture and equipment	200,466	188,081
Construction in process	17,748	12,277
Total	350,999	329,397
Less accumulated depreciation	(210,549)	(192,285)
Property, plant and equipment, net ⁽¹⁾	<u>\$ 140,450</u>	<u>\$ 137,112</u>

⁽¹⁾ Property, plant and equipment, net attributable to the Company's Distribution business were included in assets held for sale, noncurrent portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

Depreciation expense was \$21.3 million, \$20.9 million and \$19.8 million for 2019, 2018 and 2017, respectively.

11. PROPERTY, PLANT AND EQUIPMENT, NET (CONTINUED)

Finance Leases

For the year ended December 31, 2019, \$10.9 million of assets included in machinery, office furniture and equipment and construction in process were accounted for as finance leases, with the majority of these assets being purchased under the Company's master leasing agreement. At December 31, 2019, the Company had accumulated depreciation of \$2.4 million associated with these assets. For the year ended December 31, 2018, \$10.8 million of assets purchased under the Company's master leasing agreement and accounted for as capital leases was included in machinery, office furniture and equipment with accumulated depreciation of \$1.5 million. Depreciation expense associated with the finance leases (capital leases in 2018 and 2017) was \$0.9 million, \$0.7 million and \$0.4 million for 2019, 2018 and 2017, respectively. See Note 20, *Leases*, for a discussion on the master leasing agreement.

12. GOODWILL AND OTHER INTANGIBLE ASSETS, NET

Goodwill

The following table sets forth the change in the carrying amount of goodwill for each reportable segment and for the Company:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Gross balance at beginning of period	\$ 212,413	\$ 218,765
Accumulated impairment	(16,252)	(16,252)
Net balance at beginning of period	196,161	202,513
Change in goodwill due to disposals ⁽¹⁾	—	(447)
Foreign currency translation	(847)	(5,905)
Net balance at end of period ⁽²⁾	<u>\$ 195,314</u>	<u>\$ 196,161</u>
Accumulated impairment at end of period	<u>\$ (16,252)</u>	<u>\$ (16,252)</u>

⁽¹⁾ The Company sold its U.K. Tooling business and substantially all of the assets and liabilities of its Engineering Services business in 2018. This amount reflects the proportionate goodwill based on these businesses' relative fair value of the Aerosystems reporting unit.

⁽²⁾ Goodwill of the Distribution business was included in assets held for sale, noncurrent portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

2019 Analysis

In accordance with ASC 350, the Company evaluates goodwill for possible impairment on at least an annual basis. The Company elected to perform a Step 1 analysis on the Aerosystems, Specialty Bearings and Engineered Products and KPP - Orlando reporting units. The results of the Step 1 analyses indicated that the Company did not need to proceed to Step 2, as the fair values of the reporting units exceeded the respective carrying values. The Company performed a sensitivity analysis relative to the discount rates and growth rates selected and determined a decrease of one percentage point in the terminal growth rates or an increase of one percentage point in the discount rates would not result in a fair value calculation less than the carrying value for each reporting unit.

12. GOODWILL AND OTHER INTANGIBLE ASSETS, NET (CONTINUED)

Goodwill - continued

2018 Analysis

Upon completion of the 2018 qualitative assessment of events and circumstances affecting recorded goodwill as described in Note 1, *Summary of Significant Accounting Policies*, the Company concluded that the Aerosystems reporting unit should receive a Step 1 analysis, while qualitative assessments should be performed for the Specialty Bearings and Engineered Products and KPP - Orlando reporting units.

The qualitative assessment performed for Specialty Bearings and Engineered Products and KPP - Orlando took into consideration the following factors: general economic conditions, industry specific performance, changes in carrying values of the reporting unit, the assessment of assumptions used in the previous fair value calculation and changes in transaction multiples. The results of these analyses indicated that it is more likely than not that goodwill is not impaired and these reporting units did not need to proceed to the two-step impairment test.

A Step 1 analysis was performed for the Aerosystems reporting unit. The results of the Step 1 analysis indicated that the Company did not need to proceed to Step 2, as the fair value of the reporting unit exceeded its carrying value. The Company performed a sensitivity analysis relative to the discount rate and growth rate selected and determined a decrease of one percentage point in the terminal growth rate or an increase of one percentage point in the discount rate would not result in a fair value calculation less than the carrying value for the reporting unit.

Other Intangible Assets

Other intangible assets consisted of:

		At December 31, 2019		At December 31, 2018	
	Amortization Period	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
<i>In thousands</i>					
Customer lists / relationships	6-26 years	\$ 56,789	\$ (21,415)	\$ 57,263	\$ (18,587)
Developed technologies	10-20 years	19,552	(5,217)	19,729	(3,998)
Trademarks / trade names	15-17 years	5,012	(1,368)	5,117	(1,055)
Non-compete agreements and other	1-15 years	2,338	(2,321)	2,350	(2,330)
Patents	17 years	523	(454)	523	(445)
Total ⁽¹⁾		\$ 84,214	\$ (30,775)	\$ 84,982	\$ (26,415)

⁽¹⁾ Other intangible assets of the Distribution business were included in assets held for sale, noncurrent portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

The decrease in the other intangible assets, net balance at December 31, 2019, as compared to December 31, 2018, was primarily due to amortization. Intangible asset amortization expense was \$4.5 million, \$7.0 million and \$7.5 million in 2019, 2018 and 2017, respectively.

12. GOODWILL AND OTHER INTANGIBLE ASSETS, NET (CONTINUED)

Other Intangible Assets - continued

In accordance with ASC 360 - Property, Plant, and Equipment ("ASC 360"), the Company is required to evaluate long-lived assets for possible impairment whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. In 2018, management identified a triggering event for possible impairment at a certain asset group in its U.K. business based on a review of its historical performance, the current forecast for the remainder of the year and the loss of future orders from one of its significant customers, requiring the Company to evaluate the intangible assets for impairment. The Company performed a recoverability test as defined under ASC 360 by comparing the undiscounted cash flows of the asset group to its carrying value. The estimated undiscounted cash flows of the business did not exceed the carrying value of the assets. Based on these results, the Company calculated the fair value of the asset group, using an income approach based on the estimated future cash flows, discounted to present value using a rate commensurate with the risks associated with the asset group's weighted average cost of capital. This calculation resulted in a write-off of \$10.0 million for a certain asset group at the U.K. business, which was included in other intangible assets impairment on the Company's Consolidated Statements of Operations. This charge has been included in the operating results of the Company's Aerospace business. Other intangible assets, gross, and accumulated amortization decreased by \$21.0 million and \$11.0 million, respectively, as a result of the \$10.0 million impairment of customer lists/relationships at the asset group within the Company's U.K. business incurred in the year ended December 31, 2018. No such triggering events were identified in the year ended December 31, 2019.

Estimated amortization expense for the next five years associated with intangible assets existing as of December 31, 2019, is as follows:

In thousands

2020	\$	4,559
2021	\$	4,524
2022	\$	4,137
2023	\$	4,118
2024	\$	3,908

In order to determine the useful life of acquired intangible assets, the Company considers numerous factors, most importantly the industry considerations associated with the acquired entities. The Company determines the amortization period for acquired intangible assets, such as customer relationships, based primarily on an analysis of their historical customer sales attrition information and the period over which the assets are expected to deliver meaningful cash flow generation in support of the fair value of the asset.

13. ENVIRONMENTAL COSTS

The following table displays the activity and balances associated with accruals related to environmental costs included in other current liabilities and other long-term liabilities:

	2019	2018
<i>In thousands</i>		
Balance at January 1	\$ 5,531	\$ 6,057
Additions to accrual	1,122	—
Payments	(569)	(944)
Changes in foreign currency exchange rates	(6)	418
Balance at December 31	<u>\$ 6,078</u>	<u>\$ 5,531</u>

13. ENVIRONMENTAL COSTS (CONTINUED)

Bloomfield

In August 2008, the Company completed its purchase of the portion of the Bloomfield campus that Kaman Aerospace Corporation had leased from NAVAIR for many years. In connection with the purchase, the Company has assumed responsibility for environmental remediation at the facility as may be required under the Connecticut Transfer Act (the "Transfer Act") and it continues the effort to define the scope of the remediation that will be required by the Connecticut Department of Environmental Protection ("CTDEP"). The transaction was recorded by taking the undiscounted estimated remediation liability of \$20.8 million and discounting it at a rate of 8% to its present value. The fair value of the Navy Property asset, which at that time approximated the discounted present value of the assumed environmental liability of \$10.3 million, is included in property, plant and equipment, net. This remediation process will take many years to complete.

The following represents estimated future payments for the undiscounted environmental remediation liability related to the Bloomfield campus as of December 31, 2019:

<i>In thousands</i>		
2020	\$	172
2021		653
2022		151
2023		184
2024		387
Thereafter		4,956
Total	\$	6,503

Other

In 2014, the Company sold its former manufacturing facility in Moosup, Connecticut to TD Development, LLC ("TD"). In connection with the sale, the Company agreed to contribute \$4.0 million in cash to an escrow account over a four-year period to fund a portion of TD's environmental remediation work performed on the site. The Company funded \$1.6 million to the escrow account between 2014 and 2015. TD stopped work on the site in 2016 and defaulted on its obligations under the sale agreements. From 2016 to 2018, the Company funded \$2.4 million to a separate environmental escrow account due to TD's work stoppage.

In December 2016, the Company filed a summons and civil complaint against TD, which was subsequently amended in April 2017. The amended complaint alleged breach of contract, default by TD and unjust enrichment, and sought damages and other equitable relief against TD, including the return to the Company of all amounts held in the environmental escrow accounts. On December 21, 2018, the court entered an order and judgment favorable to the Company, which granted its application to confirm an arbitration award. The judgment provides that TD is not entitled to any of the amounts held in the escrow accounts nor any accrued interest, and the funds held in the escrow accounts shall be released to the Company. Additionally, the court awarded the Company compensatory damages, including reasonable legal fees, costs and expenses, and interest on the amounts awarded, but unpaid. In February 2019, the Company received the remaining balance of the escrow account (\$0.7 million), which was added to the Company's accrual related to this matter. As of December 31, 2019, the Company has not recorded any amounts for compensatory damages, reasonable legal fees and costs and expenses from the arbitration award. The accrual related to the Moosup facility was \$3.1 million as of December 31, 2019.

The Company's environmental accrual also includes estimated environmental remediation costs that the Company expects to incur at the former Music segment's New Hartford, CT facility and the Company's facility in Rimpf, Germany. The Company continues to assess the work that may be required at each of these facilities, which may result in a change to this accrual. For further discussion of these matters, see Note 19, *Commitments and Contingencies*.

14. DEBT

Long-Term Debt

The Company has long-term debt as follows:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Revolving credit agreement	\$ —	\$ 38,500
Term loan	—	76,875
Convertible notes	186,060	183,749
Total	186,060	299,124
Less current portion	—	9,375
Total excluding current portion	\$ 186,060	\$ 289,749

At December 31, 2019 and 2018, the current and long-term debt balances on the Company's Consolidated Balance Sheets were net of debt issuance costs of \$4.4 million and \$5.5 million, respectively.

The weighted average interest rate on long-term borrowings outstanding as of December 31, 2019 and 2018, was 3.25% and 3.44%, respectively.

For the years ended December 31, 2019 and 2018, \$5.6 million and \$6.3 million, respectively, of liabilities associated with our finance leases are included in other long-term liabilities. See Note 20, *Leases*, for a discussion of the master leasing agreement.

The aggregate annual maturities of long-term debt for each of the next five years are approximately as follows:

<i>In thousands</i>		
2020	\$	—
2021	\$	—
2022	\$	—
2023	\$	—
2024	\$	199,500

Convertible Notes

Overview

During May 2017, the Company issued \$200.0 million aggregate principal amount of convertible senior unsecured notes due May 2024 (the "2024 Notes") pursuant to an indenture (the "Indenture"), dated May 12, 2017, between the Company and U.S. Bank National Association, as trustee. In connection therewith, the Company entered into certain capped call transactions that cover, collectively, the number of shares of the Company's common stock underlying the 2024 Notes. In a separate transaction, the Company repurchased \$103.5 million aggregate principal amount of its existing convertible senior unsecured notes due November 15, 2017 (the "2017 Notes"). In connection with the repurchase and conversion transactions of the 2017 Notes, the Company settled the associated outstanding bond hedge transactions and a portion of the associated warrant transactions it entered into in 2010 in connection with their issuance.

The remaining portion of the 2017 Notes were convertible at the option of the noteholders until the close of business on the second Scheduled Trading Day (as defined in the 2017 Notes indenture) immediately preceding the maturity date. On November 10, 2017 and November 13, 2017, the Company received conversion notices from bondholders, totaling the remaining \$11.5 million principal amount outstanding under the 2017 Notes. The Company also settled the remaining portion of the bond hedge. During the first half of 2018, the remaining warrant transactions were settled with 114,778 shares of the Company's common stock.

14. DEBT (CONTINUED)

Convertible Notes - continued

2024 Notes

On May 12, 2017, the Company issued \$175.0 million in principal amount of 2024 Notes, in a private placement offering. On May 24, 2017, the Company issued an additional \$25.0 million in principal amount of 2024 Notes pursuant to the initial purchasers' exercise of their over-allotment option, resulting in the issuance of an aggregate \$200.0 million principal amount of 2024 Notes. The 2024 Notes bear 3.25% interest per annum on the principal amount, payable semiannually in arrears on May 1 and November 1 of each year, beginning on November 1, 2017. The 2024 Notes will mature on May 1, 2024, unless earlier repurchased by the Company or converted. The Company will settle any conversions of the 2024 Notes in cash, shares of the Company's common stock or a combination of cash and shares of common stock, at the Company's election.

The sale of the Distribution business in the third quarter of 2019 was deemed to be a "Fundamental Change" and a "Make-Whole Fundamental Change" pursuant to the terms and conditions of the indenture governing the 2024 Notes. As a result, the sale triggered the right of the holders of our 2024 Notes to require us to repurchase all of the 2024 Notes, or any portion thereof that is a multiple of \$1,000 principal amount on September 27, 2019. The aggregate principal amount of the 2024 Notes validly tendered and not validly withdrawn was \$0.5 million, representing 0.25% of all outstanding notes. Holders of such notes receive the purchase price equal to 100% of the principal amount of the 2024 Notes being purchased, plus accrued and unpaid interest.

The following table illustrates the conversion rate at the date of issuance of the 2024 Notes:

2024 Notes		
Conversion Rate per \$1,000 principal amount ⁽¹⁾		15.3227
Conversion Price ⁽²⁾	\$	65.2626
Contingent Conversion Price ⁽³⁾	\$	84.8413
Aggregate shares to be issued upon conversion ⁽⁴⁾		3,056,879

⁽¹⁾ Represents the number of shares of Common Stock hypothetically issuable per each \$1,000 principal amount of 2024 Notes, subject to adjustments upon the occurrence of certain specified events in accordance with the terms of the Indenture.

⁽²⁾ Represents \$1,000 divided by the conversion rate as of such date. The conversion price reflects the strike price of the embedded option within the 2024 Notes. If the Company's share price exceeds the conversion price at conversion, the noteholders would be entitled to receive additional consideration either in cash, shares or a combination thereof, the form of which is at the sole discretion of the Company.

⁽³⁾ Prior to November 1, 2023, the notes are convertible only in the following circumstances: (1) during any fiscal quarter commencing after July 1, 2017, and only during any such fiscal quarter, if the last reported sale price of the Company's common stock was greater than or equal to 130% of the applicable conversion price for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding fiscal quarter, (2) during the five consecutive business day period following any ten consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of 2024 Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day or (3) upon the occurrence of specified corporate events. On or after November 1, 2023, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert their notes at any time, regardless of the foregoing circumstances. If the Company undergoes a fundamental change (as defined in the Indenture), holders of the notes may require the Company to repurchase all or a portion of their notes for cash at a repurchase price equal to 100% of the principal amount to be repurchased, plus any accrued and unpaid interest. As of December 31, 2019, none of the conditions permitting the holders of the 2024 Notes to convert had been met. Therefore, the 2024 Notes are classified as long-term debt.

⁽⁴⁾ This represents the number of shares hypothetically issuable upon conversion of 100% of the outstanding aggregate principal amount of the 2024 Notes at each date; however, the terms of the 2024 Notes state that the Company may pay or deliver, as the case may be, cash, shares of the Company's common stock or a combination of cash and shares of common stock, at the Company's election. The Company currently intends to settle the aggregate principal amount in cash. Amounts due in excess of the principal, if any, also may be settled in cash, shares of the Company's common stock or a combination of cash and shares of common stock, at the Company's election.

14. DEBT (CONTINUED)

Convertible Notes - continued

2024 Notes - continued

In connection with the 2024 Notes offering, the Company entered into capped call transactions with certain of the initial purchasers or their respective affiliates. These transactions are intended to reduce the potential dilution to the Company's shareholders and/or offset the cash payments the Company is required to make in excess of the principal amount upon any future conversion of the notes in the event that the market price per share of the Company's common stock is greater than the strike price of the capped call transactions, with such reduction and/or offset subject to a cap based on the cap price of the capped call transactions. Under the terms of the capped call transactions, the strike price (\$65.2626) and the cap price (\$88.7570) are each subject to adjustment in certain circumstances. In connection with establishing their initial hedges of the capped call transactions, the option counterparties or their respective affiliates entered into various derivative transactions with respect to the Company's common stock concurrently with or shortly after the pricing of the notes. The capped call transactions, which cost an aggregate \$20.5 million, were recorded as a reduction of additional paid-in capital.

ASC Topic 815 - Derivatives and Hedging ("ASC 815") provides that contracts are initially classified as equity if (1) the contract requires physical settlement or net-share settlement, or (2) the contract gives the company a choice of net-cash settlement or settlement in its own shares (physical settlement or net-share settlement). The settlement terms of our capped call transactions require net-share settlement. Based on the guidance in ASC 815, the capped call transactions were recorded as a reduction of equity as of the trade date. ASC 815 states that a reporting entity shall not consider contracts to be derivative instruments if the contract issued or held by the reporting entity is both indexed to its own stock and classified in shareholders' equity in its balance sheet. The Company concluded the capped call transactions should be accounted for in shareholders' equity and are, therefore, not to be considered a derivative instrument.

ASC 470-20 "Debt with Conversion and Other Options" ("ASC 470-20") clarifies the accounting for convertible debt instruments that may be settled in cash upon conversion, including partial cash settlement. ASC 470-20 specifies that an issuer of such instruments should separately account for the liability and equity components of the instruments in a manner that reflects the issuer's non-convertible debt borrowing rate which interest costs are to be recognized in subsequent periods. The note payable principal balance for the 2024 Notes at the date of issuance of \$200.0 million was bifurcated into the debt component of \$179.5 million and the equity component of \$20.5 million. The difference between the note payable principal balance and the fair value of the debt component representing the debt discount is being accreted to interest expense over the term of the 2024 Notes. The fair value of the debt component was recognized using a 5.0% discount rate, representing the Company's borrowing rate at the date of issuance for a similar debt instrument without a conversion feature with an expected life of seven years.

The Company incurred \$7.4 million of debt issuance costs in connection with the sale of the 2024 Notes, which was allocated between the debt and equity components of the instrument. Of the total amount, \$0.7 million was recorded as an offset to additional paid-in capital. The balance, \$6.7 million, was recorded as a contra-debt balance and is being amortized over the term of the 2024 Notes. Total amortization expense for the years ended December 31, 2019, 2018 and 2017 was \$0.9 million, \$0.8 million and \$0.5 million.

The carrying amount of the equity component and the principal amount of the liability component, the unamortized discount and the net carrying value of the liability are as follows:

	2024 Notes	
	December 31, 2019	December 31, 2018
<i>In thousands</i>		
Principal amount of liability	\$ 199,500	\$ 200,000
Unamortized discount	13,440	16,251
Carrying value of liability	\$ 186,060	\$ 183,749
Equity component	\$ 20,408	\$ 20,459

14. DEBT (CONTINUED)

Convertible Notes - continued

2024 Notes - continued

Because the embedded conversion option is indexed to the Company's own stock and would be classified in shareholders' equity, it does not meet the criterion under ASC 815 that would require separate accounting as a derivative instrument.

As of December 31, 2019, the "if converted value" exceeded the principal amount of the 2024 Notes by \$2.0 million since the closing sales price of the Company's common stock was \$65.92 compared to the conversion price of \$65.26 for the the 2024 Notes.

Interest expense associated with the 2024 Notes consisted of the following:

	For the year ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Contractual coupon rate of interest	\$ 6,503	\$ 6,500	\$ 4,207
Accretion of convertible notes discount	2,753	2,596	1,612
Interest expense - convertible notes	<u>\$ 9,256</u>	<u>\$ 9,096</u>	<u>\$ 5,819</u>

2017 Notes

In November 2010, the Company issued convertible senior unsecured notes due on November 15, 2017, in the aggregate principal amount of \$115.0 million in a private placement offering. These notes bore 3.25% interest per annum on the principal amount, payable semiannually in arrears on May 15 and November 15 of each year, beginning in 2011. In May 2017, the Company used a portion of the net proceeds from the issuance of the 2024 Notes, along with cash received from the counterparties in connection with the termination of the existing convertible note hedge transactions referred to below, to repurchase \$103.5 million principal amount of the 2017 Notes from a limited number of holders in an arm's length transaction. This repurchase represented approximately 90% of the aggregate principal amount of 2017 Notes. The repurchases were accounted for as an extinguishment of the outstanding instrument. Of the total aggregate cost of \$165.3 million, \$60.0 million was allocated to the equity component of the 2017 Notes and was recorded as a reduction to additional paid-in capital. The remainder of the cost was attributed to the outstanding principal repurchased and accrued interest.

The repayment of a portion of the 2017 Notes was not contingent upon the issuance of the 2024 Notes. As such, the repurchase of the 2017 Notes was accounted for as a debt extinguishment. At December 31, 2019 and 2018, there was no liability balance associated with the 2017 Notes as a result of the debt extinguishment.

See below for further details on the loss on extinguishment:

<i>In thousands</i>		
Carrying value of 2017 Notes	\$	113,943
Carrying value of Redeemed Debt	\$	102,548
Fair value of consideration transferred allocated to debt component ⁽¹⁾		103,637
Loss on extinguishment of 2017 Notes ⁽²⁾	\$	(1,089)
Acceleration of the related portion of debt issuance cost ⁽³⁾		(297)
Total loss on extinguishment of 2017 Notes ⁽⁴⁾	<u>\$</u>	<u>(1,386)</u>

⁽¹⁾ The fair value of consideration transferred was calculated using a discount rate of 3%, representing the Company's borrowing rate at the date of issuance for a similar debt instrument with a remaining expected life of six months (for the 2017 Notes).

⁽²⁾ The majority of this balance relates to the write-off of approximately \$1.0 million, 90% of the unamortized debt discount.

⁽³⁾ The Company determined that in connection with the repurchase of the 2017 Notes, 90% of the unamortized debt issuance costs should be written off, representing the approximate outstanding portion of these costs related to the notes repurchased.

⁽⁴⁾ This loss is included in interest expense, net on the Company's Consolidated Statement of Operations in the year ended December 31, 2017.

14. DEBT (CONTINUED)

Convertible Notes - continued

2017 Notes - continued

In connection with the 2017 Notes, the Company had entered into convertible note hedge transactions and warrant transactions ("existing call spread transactions") with certain financial institutions. These transactions were accounted for as equity instruments at the time of issuance in 2010. With the intention of repurchasing the 2017 Notes, the Company entered into agreements with these financial institutions to terminate a portion of the existing call spread transactions concurrently with the offering. In connection with these transactions, the Company received \$58.6 million in payments related to the unwind of 90% of the convertible note hedge transactions and made deliveries of 624,044 shares of the Company's common stock in connection with the partial unwind of the warrant transactions. The Company used a portion of the proceeds from the bond hedge settlement to repurchase the 2017 Notes as described above and to make a payment to the revolving credit facility. The cash proceeds received were recorded as an increase of additional paid-in-capital which was partially offset by the delivery of shares.

The remaining portion of the 2017 Notes were convertible at the option of the bondholders until the close of business on the second Scheduled Trading Day (as defined in the 2017 Notes indenture) immediately preceding the maturity date. On November 10, 2017 and November 13, 2017, the Company received conversion notices from bondholders, totaling the remaining \$11.5 million principal amount outstanding under the 2017 Notes. The Company settled the principal amount of \$11.5 million in cash, with the excess settled in shares, delivering 136,347 shares of the Company's common stock with an approximate value of \$7.5 million, and any fractional shares settled in cash. Additionally, the Company received 136,369 shares to settle the remaining 10% of the convertible note hedge transactions associated with the 2017 Notes. The cash proceeds received were recorded as an increase of additional paid-in-capital which were offset by the delivery of shares. During the first half of 2018, the remaining warrant transactions were settled with 114,778 shares of the Company's common stock, which resulted in a reduction in additional paid-in-capital.

For the year ended December 31, 2017, interest expense associated with the 2017 Notes consisted of contractual coupon rate of interest of \$3.3 million and accretion of the convertible notes discount of \$1.8 million.

Revolving Credit and Term Loan Agreements

On December 13, 2019, the Company closed an amended and restated \$800.0 million Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A., as Administrative Agent and as Collateral Agent. The Credit Agreement amends and restates the Company's previously existing credit facility in its entirety to, among other things: (i) extend the maturity date to December 13, 2024; (ii) increase the aggregate amount of revolving commitments from \$600.0 million to \$800.0 million; (iii) remove the existing term loan credit facility; (iv) modify the affirmative and negative covenants set forth in the facility; and (v) effectuate a number of additional modifications to the terms and provisions of the facility, including its pricing. Capitalized terms used but not defined within this Note 14, *Debt*, have the meanings ascribed thereto in the Credit Agreement.

The Credit Agreement permits the Company to pay cash dividends. The Lenders have been granted a security interest in substantially all of the Company's and its domestic subsidiaries' personal property and other assets (including intellectual property but excluding real estate), including a pledge of 66% of the Company's equity interest in certain foreign subsidiaries and 100% of the Company's equity interest in its domestic subsidiaries, as collateral for the Company's obligations under the Credit Agreement.

14. DEBT (CONTINUED)

Revolving Credit and Term Loan Agreements - continued

The following table shows the amounts available for borrowing under the Company's revolving credit facility:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Total facility	\$ 800,000	\$ 600,000
Amounts outstanding, excluding letters of credit	—	38,500
Amounts available for borrowing, excluding letters of credit	800,000	561,500
Letters of credit under the credit facility ⁽¹⁾	152,614	152,613
Amounts available for borrowing	\$ 647,386	\$ 408,887
Amounts available for borrowing subject to EBITDA, as defined by the Credit Agreement ⁽²⁾	\$ 322,900	\$ 323,532

⁽¹⁾ The Company has entered into standby letters of credit issued on the Company's behalf by financial institutions, and directly issued guarantees to third parties primarily related to advances received from customers and the guarantee of future performance on certain contracts. Letters of credit generally are available for draw down in the event the Company does not perform its obligations.

⁽²⁾ Amounts available for borrowing subject to EBITDA as of December 31, 2019 reflect the minimum borrowing capacity under EBITDA, subject to adjustments.

Debt issuance costs in connection with the Credit Agreement have been capitalized and are being amortized over the term of the agreement. The Company incurred \$3.6 million of debt issuance costs in connection with the amendment and restatement of the Credit Agreement in the year ended December 31, 2019. Total amortization expense for the years ended December 31, 2019, 2018 and 2017 was \$1.0 million each period.

Interest rates on amounts outstanding under the Credit Agreement are variable, and are determined based on the Senior Secured Net Leverage Ratio, as defined in the Credit Agreement. In addition, the Company is required to pay a quarterly commitment fee on the unused revolving loan commitment amount at a rate ranging from 0.150% to 0.250% per annum, based on the Senior Secured Net Leverage Ratio. Fees for outstanding letters of credit range from 1.125% to 1.625%, based on the Senior Secured Net Leverage Ratio.

The interest rate for the outstanding amounts on both the revolving credit facility and term loan commitment are as follows:

	At December 31,	
	2019	2018
Interest rate ⁽¹⁾	—	3.74%

⁽¹⁾At December 31, 2019, there were no outstanding amounts on the revolving credit facility.

The financial covenants associated with the Credit Agreement include a requirement that (i) the Consolidated Total Net Leverage Ratio, as defined in the Credit Agreement, cannot be greater than 4.00 to 1.00, with an election to increase the maximum to 4.50 to 1.00 for four consecutive quarters, in connection with a Material Permitted Investment; (ii) the Interest Coverage Ratio cannot be less than 3.00 to 1.00; and (iii) Liquidity: (a) as of the last day of the fiscal quarter ending on or about September 30, 2023 cannot be less than an amount equal to 50% of the aggregate principal amount of the 2024 Convertible Notes as of such date, and (b) as of the last day of the fiscal quarter ending on December 31, 2023 and ending on or about March 29, 2024, to be less than the amount equal to 100% of the aggregate principal amount of the 2024 Convertible Notes as of such day. The Company was in compliance with those financial covenants as of and for the quarter ended December 31, 2019, and management does not anticipate noncompliance in the foreseeable future.

Interest Payments

Cash payments for interest were \$15.7 million, \$16.0 million and \$17.9 million in 2019, 2018 and 2017, respectively.

15. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The components of accumulated other comprehensive income (loss) are shown below:

	2019	2018
<i>In thousands</i>		
Foreign currency translation and other:		
Beginning balance	\$ (14,579)	\$ (7,054)
Net (loss) gain on foreign currency translation	(1,772)	(9,255)
Reclassification to net income ⁽¹⁾	—	1,730
Other comprehensive loss, net of tax	(1,772)	(7,525)
Ending balance	\$ (16,351)	\$ (14,579)
Pension and other post-retirement benefits ⁽²⁾:		
Beginning balance	\$ (120,319)	\$ (108,760)
Reclassification to net income		
Amortization of net loss, net of tax expense of \$3,534 and \$2,818, respectively	11,971	8,800
Change in net gain, net of tax benefit of \$915 and \$6,519, respectively	(3,100)	(20,359)
Other comprehensive (loss) gain, net of tax	8,871	(11,559)
Reclassification of stranded tax effects resulting from Tax Reform to retained earnings balance ⁽³⁾	(23,094)	—
Ending balance	\$ (134,542)	\$ (120,319)
Total accumulated other comprehensive income (loss)	\$ (150,893)	\$ (134,898)

⁽¹⁾ The foreign currency translation reclassified to net income relates to the sale of the Company's UK Tooling business (see Note 5, *Restructuring Costs*, for additional information).

⁽²⁾ These accumulated other comprehensive income components are included in the computation of net periodic pension cost (see Note 17, *Pension Plans* for additional information).

⁽³⁾ See Note 1, *Summary of Significant Accounting Policies*, for additional information regarding the reclassification of stranded tax effects resulting from Tax Reform to retained earnings.

16. INCOME TAXES

The components of income tax (benefit) expense from continuing operations are as follows:

	For the twelve months ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Current:			
Federal	\$ (19,432)	\$ 351	\$ 2,841
State	1,996	104	(626)
Foreign	585	1,191	2,341
	(16,851)	1,646	4,556
Deferred:			
Federal	719	7,145	20,531
State	277	841	(60)
Foreign	(4)	(373)	187
	992	7,613	20,658
Total	\$ (15,859)	\$ 9,259	\$ 25,214

16. INCOME TAXES (CONTINUED)

In the year ended December 31, 2019, the Company filed an entity classification election with regard to the investment in the Company's U.K. business, which had the effect of treating the subsidiary as a disregarded entity for U.S. tax purposes, but has no impact on operations or taxation in the U.K. This election resulted in a loss for U.S. tax purposes and a significant tax benefit recognized by the Company in 2019. The loss was based on the tax basis of the Company's investment in the subsidiary and was not impacted by the carrying value of the Company's investment in the subsidiary for financial statement purposes. If a divestiture of the subsidiary occurs at some point in the future, the Company would expect to record a financial statement loss, for which no tax benefit would be recorded. Additionally, in 2019, the Company recognized additional benefits from research and development credits, relating to research completed in the three prior years. The credit was based upon the increases in qualified research expenditures over a base period. Based on the Company's level of research, additional credits would be expected in future years.

During the fourth quarter of 2017, Tax Reform was enacted by the federal government. The SEC issued Staff Accounting Bulletin 118 ("SAB 118") in December 2017, which provides guidance on accounting for the tax effects of Tax Reform. SAB 118 provides a measurement period in which to finalize the accounting under ASC 740, Income Taxes ("ASC 740") as it relates to Tax Reform. This measurement period should not extend beyond one year from the Tax Reform enactment date. In accordance with SAB 118, the Company has properly reflected the income tax effects of all aspects of the legislation for which the accounting under ASC 740 was impacted. The new tax legislation provided for significant changes in corporate taxation, including a reduction in the applicable corporate tax rate from 35% to 21%, effective January 1, 2018. As a result of this rate reduction, the Company's U.S. net deferred tax assets were required to be revalued as of December 31, 2017. This resulted in a one-time charge to tax expense of \$9.7 million in the fourth quarter of 2017. Other Tax Reform provisions that impacted the Company included the elimination of the deduction for manufacturing activities, changes to the deductibility of executive compensation and various international tax law changes. All conclusions under SAB 118 were finalized during the fourth quarter of 2018 with no changes to the provisional amounts.

One of the international tax law changes provided for with Tax Reform relates to the taxation of a corporation's global intangible low-taxed income ("GILTI") for tax years beginning after December 31, 2017. The Company has evaluated this provision of Tax Reform and the application of ASC 740, and has determined that GILTI had no impact on the Company for the years ended December 31, 2019 and 2018. Another significant international change brought upon by Tax Reform was the foreign-derived intangible income ("FDII") provision, which is applicable for tax years beginning after December 31, 2017. FDII encourages U.S. manufacturing by allowing for what equates to a 13% U.S. tax rate on qualifying export sales. The Company benefited from this provision during the years ended December 31, 2019 and 2018, and expects to continue to benefit in future years.

The tax effects of temporary differences that give rise to deferred tax assets and liabilities of continuing operations are presented below:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Deferred tax assets:		
Deferred employee benefits	\$ 36,678	\$ 43,118
Tax loss and credit carryforwards	19,449	17,610
Accrued liabilities and other items	14,044	9,036
Total deferred tax assets	70,171	69,764
Deferred tax liabilities:		
Property, plant and equipment	(6,410)	(2,677)
Intangibles	(27,147)	(27,732)
Other items	(226)	(218)
Total deferred tax liabilities	(33,783)	(30,627)
Net deferred tax assets before valuation allowance	36,388	39,137
Valuation allowance	(8,142)	(8,243)
Net deferred tax assets after valuation allowance	\$ 28,246	\$ 30,894

16. INCOME TAXES (CONTINUED)

The decrease in the valuation allowance from December 31, 2018 to December 31, 2019, primarily relates to a change in state tax law which will enable the Company to utilize additional state loss carryforwards, partially offset by additional losses incurred by the Kaman U.K. entities for which no tax benefit could be recorded. Valuation allowances reduced the deferred tax asset attributable to these state and foreign loss and credit carryforwards to an amount that, based upon all available information, is more likely than not to be realized. Reversal of the valuation allowance is contingent upon the recognition of future taxable income in the respective jurisdictions or changes in circumstances which cause the realization of the benefits of carryforwards to become more likely than not.

Tax loss and credit carryforwards associated with approximately \$10.0 million of deferred tax assets have no expiration period. The remainder of the loss and credit carryforwards have varying expiration periods; however, most will expire prior to 2035.

Pre-tax losses from foreign operations amounted to \$4.0 million and \$27.1 million in 2019 and 2018, respectively, while pre-tax income from foreign operations amounted to \$1.0 million in 2017. Tax Reform required the Company to effectively recognize all foreign earnings in U.S. taxable income in the year ended December 31, 2017. Due to this provision and foreign losses incurred in prior years, there were no accumulated earnings in foreign subsidiaries for which U.S. income taxes were required to be provided in 2019.

The provision for income taxes from continuing operations differs from that computed at the federal statutory corporate tax rate as follows:

	For the twelve months ended December 31,		
	2019	2018	2017
<i>In thousands</i>			
Federal tax at statutory rate ⁽¹⁾	\$ 8,523	\$ 5,279	\$ 15,722
State income taxes, net of federal benefit ⁽²⁾	1,839	773	(584)
Tax effect:			
Section 199 Manufacturing deduction	—	—	(1,616)
Research and development credits	(3,480)	(100)	(100)
Impact of entity classification election	(24,813)	—	—
Foreign derived intangible income benefit	—	(2,186)	—
Provision to return adjustments	(1,466)	(1,612)	366
Foreign losses for which no tax benefit has been recorded	1,282	2,685	—
Change in valuation allowance	976	3,161	861
Equity compensation benefit	(482)	(910)	(851)
Nondeductible compensation	891	347	11
Nondeductible acquisition costs	546	—	—
Impact of tax rate changes, including Tax Reform	68	193	10,032
Other, net	257	1,629	1,373
Income tax (benefit) expense	<u>\$ (15,859)</u>	<u>\$ 9,259</u>	<u>\$ 25,214</u>

⁽¹⁾ The federal statutory tax rate was 21% for the years ended December 31, 2019 and 2018 and 35% for the year ended December 31, 2017.

⁽²⁾ Included in state income taxes, net of federal benefit was the state impact of the entity classification election of \$0.9 million for the year ended December 31, 2019.

The Company will realize tax benefits of approximately \$3.4 million for the year ended December 31, 2019 associated with the FDII deduction; however, based on U.S. GAAP reporting requirements, this benefit was recorded in earnings from discontinued operations due to the loss in continuing operations. While the amount of the benefit is dependent upon the volume and profitability of the Company's export sales, as well as consolidated taxable income, the Company would expect such benefit to be associated with continuing operations in the future.

16. INCOME TAXES (CONTINUED)

During the fourth quarter of 2016, the Company elected to early adopt ASU 2016-09, "Compensation - Stock Compensation (Topic 718) - Improvements to Employee Share-Based Payment Accounting". The objective of this standard update is to simplify several aspects of the accounting for share-based payment transactions, including, but not limited to, income tax consequences. The standard update was effective for fiscal years, and interim periods within those years, beginning after December 31, 2016. Pursuant to this standard the Company recorded tax benefits of \$0.5 million, 0.9 million and \$0.8 million for the years ended December 31, 2019, 2018 and 2017, respectively.

The Company records a benefit for uncertain tax positions in the financial statements only when it determines it is more likely than not that such a position will be sustained upon examination by taxing authorities. Unrecognized tax benefits represent the difference between the position taken and the benefit reflected in the financial statements. On December 31, 2019, 2018 and 2017, the total liability for unrecognized tax benefits was \$3.2 million, \$3.5 million and \$3.4 million, respectively (including interest and penalties of \$0.2 million in 2019, \$0.4 million in 2018 and \$0.4 million in 2017).

The change in the liability for 2019, 2018 and 2017 is explained as follows:

	2019	2018	2017
<i>In thousands</i>			
Balance at January 1	\$ 3,457	\$ 3,423	\$ 2,832
(Reductions) additions based on current year tax positions	(378)	162	381
Changes for tax positions of prior years	135	(128)	152
Settlements	—	—	58
Balance at December 31	<u>\$ 3,214</u>	<u>\$ 3,457</u>	<u>\$ 3,423</u>

Included in unrecognized tax benefits at December 31, 2019, were items approximating \$2.8 million that, if recognized, would favorably affect the Company's effective tax rate in future periods. The Company files tax returns in numerous U.S. and foreign jurisdictions, with returns subject to examination for varying periods, but generally back to and including 2013. During 2019, 2018 and 2017, \$0.2 million or less of interest and penalties was recognized each year as a component of income tax expense. It is the Company's policy to record interest and penalties on unrecognized tax benefits as income taxes.

Cash payments for income taxes, net of refunds, were \$47.8 million, \$12.4 million and \$16.6 million in 2019, 2018 and 2017, respectively.

17. PENSION PLANS

The Company has a non-contributory qualified defined benefit pension plan (the "Qualified Pension Plan"). On February 23, 2010, the Company's Board of Directors approved an amendment to the Qualified Pension Plan that, among other things, closed the Qualified Pension Plan to all new hires on or after March 1, 2010, and stipulated that years of service would continue to be added for purposes of the benefit calculations only through December 31, 2015, with no further accrual of benefits for service thereafter. As a result, effective December 31, 2015, the qualified pension plan was frozen with respect to future benefit accruals. Under U.S. Government Cost Accounting Standard ("CAS") 413 the Company must determine the USG's share of any pension curtailment adjustment calculated in accordance with CAS. During the fourth quarter of 2016, the Company accrued a \$0.3 million liability representing our estimate of the amount due to the USG based on our pension curtailment adjustment calculation, which was submitted to the USG for review in December 2016. The Company has maintained its accrual at \$0.3 million as of December 31, 2019. There can be no assurance that the ultimate resolution of this matter will not have a material adverse effect on the Company's results of operations, financial position and cash flows.

The Company also has a Supplemental Employees' Retirement Plan ("SERP"), which is considered a non-qualified pension plan. The SERP provides certain key executives, whose compensation is in excess of the limitations imposed by federal law on the qualified defined benefit pension plan, with supplemental benefits based upon eligible earnings, years of service and age at retirement. During 2010, the Company's Board of Directors also approved an amendment to the SERP that made changes consistent with the pension plan amendment. The Board's Compensation Committee and the Board have not approved any new participants to the SERP since February 28, 2010, and do not intend to do so at any time in the future. The measurement date for both these plans is December 31.

17. PENSION PLANS (CONTINUED)

Obligations and Funded Status

The changes in the actuarial present value of the projected benefit obligation and fair value of plan assets are as follows:

	For the twelve months ended December 31,			
	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
<i>In thousands</i>				
Projected benefit obligation at beginning of year	\$ 695,375	\$ 770,316	\$ 6,913	\$ 7,896
Service cost	5,100	4,897	—	—
Interest cost	26,422	23,804	237	246
Actuarial liability loss (gain) ⁽¹⁾	88,271	(67,157)	720	(280)
Benefit payments	(37,780)	(36,485)	(534)	(949)
Projected benefit obligation at end of year	\$ 777,388	\$ 695,375	\$ 7,336	\$ 6,913
Fair value of plan assets at beginning of year	\$ 590,387	\$ 643,392	\$ —	\$ —
Actual return on plan assets	127,535	(46,520)	—	—
Employer contributions	—	30,000	534	949
Benefit payments	(37,780)	(36,485)	(534)	(949)
Fair value of plan assets at end of year	\$ 680,142	\$ 590,387	\$ —	\$ —
Funded status at end of year	\$ (97,246)	\$ (104,988)	\$ (7,336)	\$ (6,913)
Accumulated benefit obligation	\$ 777,388	\$ 695,375	\$ 7,336	\$ 6,913

⁽¹⁾ The actuarial liability loss (gain) amount for the qualified pension plan for 2019 and 2018 is principally due to the effect of changes in the discount rate.

The Company has recorded liabilities related to our qualified pension plan and SERP as follows:

	At December 31,			
	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
<i>In thousands</i>				
Current liabilities ⁽¹⁾	\$ —	\$ —	\$ (528)	\$ (529)
Noncurrent liabilities	(97,246)	(104,988)	(6,808)	(6,384)
Total	\$ (97,246)	\$ (104,988)	\$ (7,336)	\$ (6,913)

⁽¹⁾ The current liabilities are included in other current liabilities on the Consolidated Balance Sheets.

The following table presents amounts included in accumulated other comprehensive income on the Consolidated Balance Sheets that will be recognized as components of pension cost in future periods.

	At December 31,			
	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
<i>In thousands</i>				
Unrecognized loss	\$ 177,083	\$ 189,047	\$ 1,311	\$ 837
Amount included in accumulated other comprehensive income	\$ 177,083	\$ 189,047	\$ 1,311	\$ 837

The amount of unrecognized loss for the qualified pension plan and the SERP, respectively, that will be amortized from accumulated other comprehensive income into net periodic benefit cost over the next year is estimated to be \$4.6 million and \$0.9 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
For the Years Ended December 31, 2019, 2018 and 2017

17. PENSION PLANS (CONTINUED)

Obligations and Funded Status - continued

The pension plan net periodic benefit costs on the Consolidated Statements of Operations and other amounts recognized in other comprehensive income (loss) on the Consolidated Statements of Comprehensive Income and Consolidated Statements of Shareholders' Equity were computed using the projected unit credit actuarial cost method and included the following components:

	For the twelve months ended December 31,					
	Qualified Pension Plan			SERP		
	2019	2018	2017	2019	2018	2017
<i>In thousands</i>						
Service cost for benefits earned during the year	\$ 5,100	\$ 4,897	\$ 4,794	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	26,422	23,804	24,358	237	246	241
Expected return on plan assets	(42,560)	(47,841)	(42,049)	—	—	—
Recognized net loss	15,260	11,370	13,943	245	248	146
Additional amount recognized due to curtailment/settlement	—	—	—	—	46	305
Net pension benefit cost (income)	\$ 4,222	\$ (7,770)	\$ 1,046	\$ 482	\$ 540	\$ 692
Change in net gain or (loss)	3,295	27,203	(6,607)	720	(325)	347
Amortization of net loss	(15,260)	(11,370)	(13,943)	(245)	(248)	(146)
Total recognized in other comprehensive (loss) income	\$ (11,965)	\$ 15,833	\$ (20,550)	\$ 475	\$ (573)	\$ 201
Total recognized in net periodic benefit cost and other comprehensive (loss) income	\$ (7,743)	\$ 8,063	\$ (19,504)	\$ 957	\$ (33)	\$ 893

The following tables show the amount of the contributions made to the Qualified Pension Plan and SERP during each period and the amount of contributions the Company expects to make during 2020:

	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
<i>In thousands</i>				
Contributions	\$ —	\$ 30,000	\$ 534	\$ 949

	Qualified Pension Plan	SERP
<i>In thousands</i>		
Expected contributions during 2020 ⁽¹⁾	\$ 10,000	\$ 528

⁽¹⁾ The Company contributed \$10.0 million to the qualified pension plan in February 2020 and does not intend to make any further contributions to the qualified pension plan in 2020.

17. PENSION PLANS (CONTINUED)

Obligations and Funded Status - continued

Expected future benefit payments are as follows:

	Qualified Pension Plan	SERP
<i>In thousands</i>		
2020	\$ 39,368	\$ 528
2021	\$ 40,664	\$ 2,554
2022	\$ 41,966	\$ 494
2023	\$ 43,107	\$ 474
2024	\$ 44,127	\$ 451
2025-2029	\$ 225,251	\$ 1,863

Mortality is a key assumption in developing actuarial estimates, and therefore could significantly impact the valuation of the Company's obligations under the qualified pension plan and SERP. The Company reviewed the mortality data and based on the size and demographics of the plan's participant population, the Company determined the Pri-2012 Blue Collar with Scale MP-2019 mortality table was the most appropriate assumption.

Since 2014, the Company has been using the Financial Times Stock Exchange ("FTSE") Pension Liability Index, as it is deemed to be the most appropriate basis for generating the Company's discount rate assumption, as the future cash flows of the plan are most closely aligned to the Above Median Double-A Curve. The discount rates used in determining benefit obligations of the pension plans are as follows:

	At December 31,			
	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
Discount rate	3.14%	4.17%	2.76%	3.88%

The actuarial assumptions used in determining the net periodic benefit cost of the pension plans are as follows:

	For the twelve months ended December 31,			
	Qualified Pension Plan		SERP	
	2019	2018	2019	2018
Discount rate	4.17%	3.50%	3.88%	3.15%
Expected return on plan assets	7.50%	7.50%	N/A	N/A
Average rate of increase in compensation levels	N/A	N/A	N/A	N/A

Other

The Company utilizes a "spot rate approach" in the calculation of pension interest and service cost. The spot rate approach applies separate discount rates for each projected benefit payment in the calculation of pension interest and service cost.

17. PENSION PLANS (CONTINUED)

Qualified Pension Plan Assets

The expected return on plan assets rate was determined based upon historical returns adjusted for estimated future market fluctuations. For 2019 and 2018, the expected rate of return on plan assets was 7.5%. During 2019, the actual return on pension plan assets, net of expenses, was 22.1%.

Plan assets are invested in a diversified portfolio consisting of equity and fixed income securities. The investment goals for pension plan assets are to improve and/or maintain the Plan's funded status by generating long-term asset returns that exceed the rate of growth of the Plan's liabilities. The Plan invests assets in a manner that seeks to (a) maximize return within reasonable and prudent levels of risk of loss of funded status; and (b) maintain sufficient liquidity to meet benefit payment obligations and other periodic cash flow requirements on a timely basis. The return generation/liability matching asset allocation ratio is currently 43.5%/56.5%. As the plan's funded status changes, the pension plan's Administrative Committee (the management committee that is responsible for plan administration) will act through an immediate or gradual process, as appropriate, to reallocate assets.

Under the current investment policy, no Investment Manager may invest in investments deemed illiquid by the Investment Manager at the time of purchase, development programs, real estate, mortgages or private equities or securities of Kaman Corporation without prior written authorization from the Pension Administrative Committee. In addition, with the exception of USG securities, managers' holdings in the securities of any one issuer, at the time of purchase, may not exceed 7.5% of the total market value of that manager's account.

The pension plan assets are valued at fair value. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Short-term Investments – This investment category consists of cash and cash equivalents and futures and options contracts. Cash and cash equivalents are comprised of investments with maturities of three months or less when purchased, including certain short-term fixed-income securities, and are classified as Level 1 investments. Futures contracts and options contracts requiring the investment managers to receive from or pay to the broker an amount of cash equal to daily fluctuations are included in short-term investments and are classified as Level 2 investments.

Corporate Stock – This investment category consists primarily of domestic common stock issued by U.S. corporations. Common shares are traded actively on exchanges and price quotes for these shares are readily available. Holdings of corporate stock are classified as Level 1 investments.

Mutual Funds – Mutual funds are traded actively on public exchanges. The share prices for these mutual funds are published at the close of each business day. Holdings of mutual funds are classified as Level 1 investments.

Common Trust Funds – Common trust funds are comprised of shares or units in commingled funds that are not publicly traded. The values of the commingled funds are not publicly quoted and must trade through a broker. For equity and fixed-income commingled funds traded through a broker, the fund administrator values the fund using the net asset value ("NAV") per fund share, derived from the value of the underlying assets. The underlying assets in these funds (equity securities, fixed income securities and commodity-related securities) are publicly traded on exchanges and price quotes for the assets held by these funds are readily available. Holdings of common trust funds are not subject to leveling.

Fixed Income Securities - For fixed income securities, multiple prices and price types are obtained from pricing vendors whenever possible, which enables cross-provider validations. A primary price source is identified based on asset type, class or issue for each security. The fair values of fixed income securities are based on evaluated prices that reflect observable market information, such as actual trade information of similar securities, adjusted for observable differences, and are categorized as Level 2. These securities are primarily investment grade securities.

17. PENSION PLANS (CONTINUED)

Qualified Pension Plan Assets - continued

The fair values of the Company's qualified pension plan assets at December 31, 2019 and 2018, are as follows:

	Total Carrying Value at December 31, 2019	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Not subject to leveling
<i>In thousands</i>					
Short-term investments:					
Cash and cash equivalents	\$ 17,597	\$ 17,597	\$ —	\$ —	\$ —
Futures contracts - assets	—	—	—	—	—
Futures contracts - liabilities	(1,210)	—	(1,210)	—	—
Fixed income securities	195,133	—	195,133	—	—
Mutual funds	102,423	102,423	—	—	—
Common trust funds ⁽¹⁾	319,932	—	—	—	319,932
Corporate stock	44,124	44,124	—	—	—
Subtotal	\$ 677,999	\$ 164,144	\$ 193,923	\$ —	\$ 319,932
Accrued income/expense	2,143	67	2,021	—	55
Total	<u>\$ 680,142</u>	<u>\$ 164,211</u>	<u>\$ 195,944</u>	<u>\$ —</u>	<u>\$ 319,987</u>
	Total Carrying Value at December 31, 2018	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Not subject to leveling
<i>In thousands</i>					
Short term investments:					
Cash and cash equivalents	\$ 17,752	\$ 17,752	\$ —	\$ —	\$ —
Futures contracts - assets	4,023	—	4,023	—	—
Futures contracts - liabilities	—	—	—	—	—
Fixed income securities	151,895	—	151,895	—	—
Mutual funds	99,584	99,584	—	—	—
Common trust funds ⁽¹⁾	281,064	—	—	—	281,064
Corporate stock	34,164	34,164	—	—	—
Subtotal	\$ 588,482	\$ 151,500	\$ 155,918	\$ —	\$ 281,064
Accrued income/expense	1,905	113	1,740	—	52
Total	<u>\$ 590,387</u>	<u>\$ 151,613</u>	<u>\$ 157,658</u>	<u>\$ —</u>	<u>\$ 281,116</u>

⁽¹⁾ In accordance with ASU 2015-07, Fair Value Measurement (Topic 820), certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented for the total pension plan assets.

Derivatives are primarily used to manage risk and gain asset class exposure while still maintaining liquidity. Derivative instruments mainly consist of equity futures and interest rate futures.

17. PENSION PLANS (CONTINUED)

Other Plans

The Company also maintains a Defined Contribution Plan that has been adopted by most of its U.S. subsidiaries. Employees of the adopting employers who meet the eligibility requirements of the plan may participate. Employer matching contributions are made to the plan based on a percentage of each participant's pre-tax contribution. For each dollar that a participant contributes, up to 5% of compensation, participating subsidiaries make employer contributions of one dollar. Employer contributions to the plan for continuing operations totaled \$7.1 million, \$6.8 million and \$6.5 million in 2019, 2018 and 2017, respectively. Employer contributions to the plan for discontinued operations totaled \$4.5 million, \$6.3 million and \$6.1 million in 2019, 2018 and 2017, respectively.

One of the Company's foreign subsidiaries maintains a defined benefit plan of its own for its local employees. The net pension liability associated with this plan was not material as of December 31, 2019 and 2018.

18. OTHER LONG-TERM LIABILITIES

Other long-term liabilities consist of the following:

	At December 31,	
	2019	2018
<i>In thousands</i>		
Supplemental employees' retirement plan ("SERP")	\$ 6,808	\$ 6,384
Deferred compensation	20,768	17,885
Long-term incentive plan	10,527	9,821
Noncurrent income taxes payable	3,390	3,371
Environmental remediation liability	5,525	4,610
Finance leases	5,559	6,261
Other	3,838	3,543
Total other long-term liabilities ⁽¹⁾	<u>\$ 56,415</u>	<u>\$ 51,875</u>

⁽¹⁾ Other long-term liabilities attributable to the Company's formerly owned Distribution business were included in liabilities held for sale, noncurrent portion as of December 31, 2018 on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

The Company maintains a non-qualified deferred compensation plan for certain of its employees as well as a non-qualified deferred compensation plan for its Board of Directors. Generally, participants in these plans have the ability to defer a certain amount of their compensation, as defined in the agreement. The deferred compensation liability will be paid out either upon retirement or as requested based upon certain terms in the agreements and in accordance with Internal Revenue Code Section 409A.

Disclosures regarding the assumptions used in the determination of the SERP liabilities are included in Note 17, *Pension Plans*. Discussions of our environmental remediation liabilities are in Note 13, *Environmental Costs*, and Note 19, *Commitments and Contingencies*.

19. COMMITMENTS AND CONTINGENCIES

Asset Retirement Obligations

The Company has unrecorded Asset Retirement Obligation's ("AROs") that are conditional upon certain events. These AROs generally include the removal and disposition of non-friable asbestos. The Company has not recorded a liability for these conditional AROs at December 31, 2019, because the Company does not currently believe there is a reasonable basis for estimating a date or range of dates for major renovation or demolition of these facilities. In reaching this conclusion, the Company considered the historical performance of each facility and has taken into account factors such as planned maintenance, asset replacements and upgrades, which, if conducted as in the past, can extend the physical lives of the facilities indefinitely. The Company also considered the possibility of changes in technology and risk of obsolescence in arriving at its conclusion.

19. COMMITMENTS AND CONTINGENCIES (CONTINUED)

Asset Retirement Obligations - continued

The Company currently leases various properties under leases that give the lessor the right to make the determination as to whether the lessee must return the premises to their original condition, except for normal wear and tear. The Company does not normally make substantial modifications to leased property, and many of the Company's leases either require lessor approval of planned improvements or transfer ownership of such improvements to the lessor at the termination of the lease. Historically the Company has not incurred significant costs to return leased premises to their original condition.

Other Matters

Pension Freeze

Effective December 31, 2015, the Company's qualified pension plan was frozen with respect to future benefit accruals. Under CAS 413 the Company must determine the USG's share of any pension curtailment adjustment calculated in accordance with CAS. Such adjustments can result in an amount due to the USG for pension plans that are in a surplus position or an amount due to the contractor for plans that are in a deficit position. During the fourth quarter of 2016, the Company accrued a \$0.3 million liability representing our estimate of the amount due to the USG based on the Company's pension curtailment adjustment calculation, which was submitted to the USG for review in December 2016. The Company has maintained its accrual at \$0.3 million as of December 31, 2019. There can be no assurance that the ultimate resolution of this matter will not have a material adverse effect on the Company's results of operations, financial position and cash flows.

Offset Agreement

During January 2018, the Company entered into an offset agreement as a condition to obtaining orders from a foreign customer for the Company's JPF product. This agreement is designed to return economic value to the foreign country by requiring the Company to engage in activities supporting local defense or commercial industries, promoting a balance of trade, developing in-country technology capabilities or addressing other local development priorities. The offset agreement may be satisfied through activities that do not require a direct cash payment, including transferring technology, providing manufacturing, training and other consulting support to in-country projects and the purchase by third parties of supplies from in-country vendors. This agreement may also be satisfied through the Company's use of cash for activities, such as subcontracting with local partners, purchasing supplies from in-country vendors, providing financial support for in-country projects and making investments in local ventures. At December 31, 2019, the offset agreement had an outstanding notional value of approximately \$194.0 million, which is equal to sixty percent of the contract value of \$324.0 million as defined by the agreement between the customer and the Company. The amount ultimately applied against the offset agreement is based on negotiations with the customer and may require cash outlays that represent only a fraction of the notional value in the offset agreement.

The Company continues to work with the customer to further define the requirements to satisfy the offset agreement. The satisfaction of the offset requirements will be determined by the customer and is expected to occur over a seven-year period. Deliveries under the contract are expected to be completed prior to satisfaction of the offset requirements. In the event the offset requirements of the contract are not met, the Company could be liable for potential penalties up to \$16.5 million payable to the customer. The Company began recognizing revenue associated with this contract in the third quarter of 2019 and has considered the potential penalties of \$16.5 million as a reduction to the transaction price in its determination of the value of the contract. At the point the Company has an approved plan to satisfy the offset requirements, the Company will include the value of the potential penalties in backlog to the extent those penalties are expected to be offset and begin recognizing revenue on the total contract value.

Employee-Related Tax Matter

During 2018, the Company identified certain individuals at one of its foreign subsidiaries who were potentially misclassified as self-employed persons performing services for the subsidiary, as opposed to being classified as employees of the subsidiary. The Company investigated the misclassification of these individuals and the potential liability for any associated social contributions, interest and fines and/or penalties as a result of the misclassification. Following the internal investigation, the foreign subsidiary made a voluntary disclosure of the matter to the appropriate legal and regulatory authorities. The Company has accrued \$2.5 million, which represents the Company's best estimate of potentially unpaid social security contributions, related interest and possible penalties. There can be no assurance that the ultimate resolution of this matter will not have a material adverse effect on the Company's results of operations, financial position and cash flows.

19. COMMITMENTS AND CONTINGENCIES (CONTINUED)

Other Matters - continued

New Hartford

In connection with sale of the Company's Music segment in 2007, the Company assumed responsibility for meeting certain requirements of the Transfer Act that applied to our transfer of the New Hartford, Connecticut, facility leased by that segment for guitar manufacturing purposes ("Ovation"). Under the Transfer Act, those responsibilities essentially consist of assessing the site's environmental conditions and remediating environmental impairments, if any, caused by Ovation's operations prior to the sale. The site is a multi-tenant industrial park, in which Ovation and other unrelated entities lease space. The environmental assessment, which began in 2008, has been completed and site remediation is in process.

The Company's estimate of its portion of the cost to assess the environmental conditions and remediate this site is \$2.3 million, all of which has been accrued. The total amount paid to date in connection with these environmental remediation activities is \$1.6 million. At December 31, 2019, the Company had \$0.7 million accrued for these environmental remediation activities. A portion (\$0.1 million) of the accrual related to this property is included in other current liabilities and the balance is included in other long-term liabilities. The remaining balance of the accrual reflects the total anticipated cost of completing these environmental remediation activities. Although it is reasonably possible that additional costs will be paid in connection with the resolution of this matter, the Company is unable to estimate the amount of such additional costs, if any, at this time.

Bloomfield

In connection with the Company's 2008 purchase of the portion of the Bloomfield campus that Kaman Aerospace Corporation had leased from NAVAIR, the Company assumed responsibility for environmental remediation at the facility as may be required under the Transfer Act and is currently remediating the property under the guidance of the CTDEP. The assumed environmental liability of \$10.3 million was determined by taking the undiscounted estimated remediation liability of \$20.8 million and discounting it at a rate of 8%. This remediation process will take many years to complete. The total amount paid to date in connection with these environmental remediation activities is \$14.3 million. At December 31, 2019, the Company had \$2.0 million accrued for these environmental remediation activities. A portion (\$0.2 million) of the accrual related to this property is included in other current liabilities, and the balance is included in other long-term liabilities. Although it is reasonably possible that additional costs will be paid in connection with the resolution of this matter, the Company is unable to estimate the amount of such additional costs, if any, at this time.

20. LEASES

The Company's operating leases consist of rent commitments under various leases for office space, warehouses, land and buildings at varying dates from January 2020 to December 2024. The terms of most of these leases are in the range of 3 to 8 years, with certain leases renewable for varying periods. It is expected that in the normal course of business leases that expire will be renewed or replaced by leases on other similar property. Some of the Company's lease obligations have rent escalations or contingent rent that are recognized on a straight-line basis over the entire lease term. Material leasehold improvements and other landlord incentives are amortized over the shorter of their economic lives or the lease term, including renewal periods, if reasonably assured. Substantially all real estate taxes, insurance and maintenance expenses associated with leased facilities are obligations of the Company. The terms for most machinery and equipment leases range from 3 to 5 years.

The Company's finance leases consist of assets purchased under the Company's master leasing agreement. The terms of these leases are 5 years. These assets are included in machinery, office furniture and equipment and construction in process and amortization of these assets is included in depreciation and amortization expense. At December 31, 2019, \$8.2 million of assets included in property, plant and equipment were accounted for as finance leases purchased under the Company's master leasing agreement. At December 31, 2019, the Company had accumulated depreciation of \$2.4 million associated with these assets. Additionally, \$2.7 million of assets purchased under the Company's master leasing agreement were included in construction in process in property, plant and equipment, net of accumulated depreciation. At December 31, 2018, \$10.8 million of assets purchased under the Company's master leasing agreement and accounted for as capital leases were included in property, plant and equipment, with accumulated depreciation of \$1.5 million. Finance leases (capital leases at December 31, 2018) of the Company's formerly owned Distribution business were included in assets held for sale, noncurrent portion on the Company's Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

20. LEASES (CONTINUED)

At the commencement date of a contract containing a lease, a right-of-use asset and lease liability are recorded to the Company's Consolidated Balance Sheets when the Company obtains control of the use of the asset. Right-of-use assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make payments upon entering into a lease agreement.

Right-of-use assets, net consisted of the following:

Classification		December 31, 2019 ⁽¹⁾
<i>In thousands</i>		
Assets		
Operating lease right of use assets	Operating lease right-of-use assets, net	\$ 15,159
Finance lease right of use assets	Property, plant and equipment, net of accumulated depreciation	5,840
Total leased assets		<u>\$ 20,999</u>

⁽¹⁾ The Company elected the modified retrospective transition method that applies ASC 842 as of January 1, 2019. See Note 1, Summary of *Significant Accounting Policies*, for further information on the adoption of ASC 842.

The lease liability and future rental payments are required under leases that have initial or remaining non-cancellable lease terms in excess of one year as of December 31, 2019. Lease liabilities consisted of the following:

Classification		December 31, 2019	December 31, 2018
<i>In thousands</i>			
Liabilities			
<i>Current</i>			
Operating lease liability, current portion	Operating lease liabilities, current portion	\$ 4,306	\$ —
Finance lease liability, current portion	Other current liabilities	1,838	1,803
<i>Noncurrent</i>			
Operating lease liability, noncurrent portion	Operating lease liabilities, noncurrent portion	11,617	—
Finance lease liability, noncurrent portion	Other long-term liabilities	5,559	6,260
Total lease liabilities ⁽¹⁾		<u>\$ 23,320</u>	<u>\$ 8,063</u>

⁽¹⁾ Lease liabilities of the Company's formerly owned Distribution business were included in liabilities held for sale as of December 31, 2018 on the Company's Condensed Consolidated Balance Sheets. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

20. LEASES (CONTINUED)

Future rental payments for continuing operations consisted of the following:

	December 31, 2019
<i>In thousands</i>	
Operating leases	
2020	\$ 5,164
2021	4,095
2022	3,285
2023	2,728
2024	2,059
Thereafter	—
Total future operating lease payments	\$ 17,331
Interest	(1,408)
Present value of future operating lease payments	\$ 15,923
Finance leases	
2020	2,114
2021	1,965
2022	1,705
2023	1,189
2024	703
Thereafter	—
Total future finance lease payments	\$ 7,676
Interest	(279)
Present value of future finance lease payments	\$ 7,397
Present value of total future lease payments	\$ 23,320

Prior to the adoption of ASC 842, operating lease payments on an undiscounted basis for continuing operations were approximately \$20.7 million and were payable as follows: \$4.8 million in 2019, \$4.5 million in 2020, \$3.7 million in 2021, \$3.1 million in 2022, \$2.6 million in 2023 and \$2.0 million thereafter. Prior to the adoption of ASC 842, finance lease payments (capital lease payments under ASC 840) on an undiscounted basis for continuing operations were approximately \$8.1 million and were payable as follows: \$1.8 million in 2019, \$1.8 million in 2020, 1.7 million in 2021, \$1.5 million in 2022, \$1.0 million in 2023 and \$0.3 million thereafter.

The following table illustrates the components of lease expense for the Company's leases.

	For the Year Ended December 31, 2019
<i>In thousands</i>	
Finance lease cost	
Amortization of right-of-use assets	\$ 941
Interest on lease liabilities	297
Operating lease cost	5,064
Short-term lease cost	177
Variable lease cost	83
Total lease expense ⁽¹⁾	\$ 6,562

⁽¹⁾ Lease expense of the Company's formerly owned Distribution business was included in discontinued operations on the Company's Condensed Consolidated Statement of Operations. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

20. LEASES (CONTINUED)

The following table segregates cash paid for the Company's leases from continuing operations.

	December 31, 2019
<i>In thousands</i>	
Operating cash flows from operating leases	\$ (4,950)
Operating cash flows from finance leases	(1,609)
Financing cash flows from finance leases	(297)
Total cash flows from leasing activities ⁽¹⁾	<u>\$ (6,856)</u>

⁽¹⁾ Cash flows from leasing activities of the Company's formerly owned Distribution business was included in discontinued operations on the Company's Condensed Consolidated Statement of Cash Flows. See Note 3, *Discontinued Operations*, for further information on the Company's sale of the Distribution business.

During the twelve-month fiscal period ended December 31, 2019, \$1.4 million and \$1.5 million in right-of-use assets were obtained in exchange for new operating lease liabilities and finance lease liabilities, respectively.

Other information related to leases is as follows:

	December 31, 2019
Weighted-average remaining lease term (years)	
Operating leases	4.11
Finance leases	3.30
Weighted-average discount rate	
Operating leases	4.32%
Finance leases	4.04%

21. COMPUTATION OF EARNINGS PER SHARE

The computation of basic earnings per share is based on net earnings divided by the weighted average number of shares of common stock outstanding for each year. The computation of diluted earnings per share includes the common stock equivalency of dilutive options granted to employees under the Company's stock incentive plan and shares issuable on redemption of its Convertible Notes.

	For the Year Ended December 31,		
	2019	2018	2017
<i>In thousands, except per share amounts</i>			
Earnings from continuing operations	\$ 56,446	\$ 15,877	\$ 19,708
Total earnings from discontinued operations	153,383	38,292	30,118
Net earnings	\$ 209,829	\$ 54,169	\$ 49,826
Basic:			
Weighted average number of shares outstanding	27,936	27,945	27,611
Earnings per share from continuing operations	\$ 2.02	\$ 0.57	\$ 0.71
Earnings per share from discontinued operations	5.49	1.37	1.09
Basic earnings per share	\$ 7.51	\$ 1.94	\$ 1.80
Diluted:			
Weighted average number of shares outstanding	27,936	27,945	27,611
Weighted average shares issuable on exercise of dilutive stock options	156	208	160
Weighted average shares issuable on exercise of convertible notes	—	37	466
Weighted average shares issuable on redemption of warrants related to 2017 Notes	—	33	181
Total	28,092	28,223	28,418
Earnings per share from continuing operations	\$ 2.01	\$ 0.56	\$ 0.69
Earnings per share from discontinued operations	5.46	1.36	1.06
Diluted earnings per share	\$ 7.47	\$ 1.92	\$ 1.75

Equity awards

Excluded from the diluted earnings per share calculation for the years ended December 31, 2019, 2018 and 2017, respectively, are 339,961, 186,115 and 245,361 shares associated with equity awards granted to employees that are anti-dilutive based on the average stock price.

2017 Convertible Notes

For the years ended December 31, 2019 and 2018, there were no shares issuable under the 2017 Notes. For the year ended December 31, 2017, shares issuable under the 2017 Notes that were dilutive during the period were included in the calculation of earnings per share as the conversion price for the Convertible Notes was less than the average share price of the Company's stock.

2024 Convertible Notes

For the years ended December 31, 2019, 2018 and 2017, shares issuable under the 2024 Notes were excluded from the calculation of diluted earnings per share as the conversion price for the Convertible Notes was more than the average share price of the Company's stock.

21. COMPUTATION OF EARNINGS PER SHARE (CONTINUED)

Warrants

For the years ended December 31, 2019, 2018, and 2017 shares issuable under the warrants sold in connection with the Company's 2017 Convertible Note offering were included in the calculation of diluted earnings per share as the strike price of the warrants was less than the average share price of the Company's stock. For further information on the Convertible Notes, see *Note 14, Debt*.

22. SHARE-BASED ARRANGEMENTS

General

The Company accounts for stock options, restricted stock awards, restricted stock units and performance shares as equity awards and measures the cost of all share-based payments, including stock options, at fair value on the grant date and recognizes this cost in the statement of operations. The Company also has an employee stock purchase plan which is accounted for as a liability award.

Compensation expense for stock options, restricted stock awards and restricted stock units is recognized on a straight-line basis over the vesting period of the awards. Share-based compensation expense recorded for continuing operations for the years ended December 31, 2019, 2018 and 2017 was \$4.7 million, \$5.5 million and \$4.9 million, respectively. These amounts were included in selling, general and administrative expenses on the Company's Consolidated Statements of Operations.

Share-based compensation expense for discontinued operations for the year ended December 31, 2019 was \$2.9 million. Of this amount, \$0.5 million was included in earnings from discontinued operations, net of tax on the Company's Consolidated Statements of Operations. As a result of the Company selling its Distribution business, the vesting dates of all outstanding unvested stock options and restricted stock awards for Distribution employees were accelerated to vest on the closing date. These stock options and awards would not have vested prior to the closing date; therefore, the related stock-based compensation expense previously recognized through the modification date of \$0.4 million was reduced to zero and a new fair value of the options and awards was established on the date the Company entered the definitive agreement to sell the Distribution business. The expense of \$2.8 million was recognized ratably from the date of signing the definitive agreement to the closing date of the sale. The amount included in the gain on disposal of discontinued operations, net of tax attributable to the acceleration and modification of these awards was \$2.4 million for the year ended December 31, 2019. Share-based compensation expense recorded for discontinued operations for the years ended December 31, 2018 and 2017 was \$1.0 million and \$1.1 million, respectively. These amounts were included in earnings from discontinued operations, net of tax on the Company's Consolidated Statement of Operations.

Stock Incentive Plan

On April 17, 2013, the shareholders of the Company approved the 2013 Management Incentive Plan (the "2013 Plan"), which replaced the 2003 Stock Incentive Plan. The 2013 Plan was designed as a flexible share authorization plan, such that the Company's share authorization is based on the least costly type of award (stock options). Shares issued pursuant to "Full Value Awards" as defined in the 2013 Plan (awards other than stock options or stock appreciation rights which are settled by the issuance of shares, e.g., restricted stock, restricted stock units, performance shares, performance units if settled with stock, or other stock-based awards) count against the 2013 Plan's share authorization at a rate of 3 to 1, while shares issued upon exercise of stock options or stock appreciation rights count against the share authorization at a rate of 1 to 1. This means that every time an option is granted, the authorized pool of shares is reduced by one (1) share and every time a Full Value Award is granted, the authorized pool of shares is reduced by 3 shares. In deriving the valuation ratio used in the 2013 Plan, the Company used the Black Scholes Fair Value model as the basis for determining the approximate value of an option as compared to a "full value share." The 2013 Plan provided the Company with the ability to use equity-based awards of up to 2,250,000 authorized shares. On April 18, 2018, the shareholders of the Company approved the amendment and restatement of the 2013 Plan, which increased the number of authorized shares by 2,250,000 shares. As of December 31, 2019, there were 2,199,160 shares available for grant under the plan.

22. SHARE-BASED ARRANGEMENTS (CONTINUED)

Stock Incentive Plan - continued

LTIP awards provide certain senior executives an opportunity to receive award payments in either stock or cash as determined by the Compensation Committee of the Board of Directors in accordance with the Plan, at the end of each performance cycle. Prior to 2018, performance was based on the Company's financial results compared to the Russell 2000 indices for the same periods based upon the following metrics: (a) average return on total capital, (b) average earnings per share growth and (c) total return to shareholders for the performance period. Beginning in 2018, the performance metrics were changed to the following: (a) average return on total capital and (b) total return to shareholders, both compared to the Russell 2000 indices for the same performance period. No awards will be payable if the Company's performance is below the 25th percentile. The maximum award is payable if performance reaches the 75th percentile of the designated indices. Awards are paid out at 100% at the 50th percentile. Awards for performance between the 25th and 75th percentiles are determined by straight-line interpolation between 0% and 200%. Generally, LTIP awards are paid in cash.

Stock options are granted with an exercise price equal to the average market price of our stock at the date of grant. Stock options and Stock Appreciation Rights ("SARs") granted under the plan generally expire ten years from the date of grant and vest 20% each year over a 5-year period on each of the first five anniversaries of the date of grant. Restricted Stock Awards ("RSAs") are generally granted with restrictions that lapse at the rate of 20% per year over a 5-year period on each of the first five anniversaries of the date of grant. Generally, these awards are subject to forfeiture if a recipient separates from service with the Company.

From time-to-time, the Company has issued stock awards with market and performance based conditions. Throughout the course of the requisite service period, the Company monitors the level of achievement compared to the target and adjusts the number of shares expected to be earned, and the related compensation expense recorded thereafter, to reflect the most probable outcome. The number of shares earned under an award granted in 2016 has been determined at a 130% achievement level, representing 925 shares delivered in 2019. The number of shares were pro-rated to reflect the number of days the participant was employed by the Company during the performance period. There are no outstanding awards with these conditions that have not been settled. Compensation expense for these awards for the years ended December 31, 2019, 2018 and 2017, was not material.

Stock option activity is as follows:

	Options	Weighted average-exercise price
Options outstanding at December 31, 2018	935,252	\$ 45.91
Granted	194,470	61.02
Exercised	(373,015)	45.68
Forfeited or expired	(20,343)	58.41
Options outstanding at December 31, 2019	736,364	\$ 49.67

The following table presents information regarding options outstanding as of December 31, 2019:

Weighted-average remaining contractual term - options outstanding (years)	6.2
Aggregate intrinsic value - options outstanding (in thousands)	\$ 12,171
Weighted-average exercise price - options outstanding	\$ 49.67
Options exercisable	312,121
Weighted-average remaining contractual term - options exercisable (years)	4.5
Aggregate intrinsic value - options exercisable (in thousands)	\$ 7,672
Weighted-average exercise price - options exercisable	\$ 41.62

The intrinsic value represents the amount by which the market price of the stock on the measurement date exceeds the exercise price of the option. The intrinsic value of options exercised in 2019, 2018 and 2017 was \$6.2 million, \$5.2 million and \$3.9 million, respectively. The Company currently has an open stock repurchase plan, which would enable the Company to repurchase shares as needed. Since 2008 the Company has generally issued shares related to option exercises and RSAs from its authorized but unissued common stock.

22. SHARE-BASED ARRANGEMENTS (CONTINUED)

Stock Incentive Plan - continued

The fair value of each option award is estimated on the date of grant using the Black-Scholes option valuation model. The following table indicates the weighted-average assumptions used in estimating fair value:

	2019	2018	2017
Expected option term (years)	4.9	4.9	5.0
Expected volatility	19.4%	18.1%	19.9%
Risk-free interest rate	2.5%	2.6%	1.9%
Expected dividend yield	1.3%	1.5%	1.6%
Per share fair value of options granted	\$ 11.18	\$ 10.65	\$ 8.61

The expected term of options granted represents the period of time option grants are expected to be outstanding based upon historical exercise patterns. Forfeitures of options are estimated based upon historical data and are adjusted based upon actual occurrences. The cumulative effect of stock award forfeitures was immaterial. The volatility assumption is based on the historical daily price data of the Company's stock over a period equivalent to the weighted-average expected term of the options. Management evaluated whether there were factors during that period that were unusual and would distort the volatility figure if used to estimate future volatility and concluded that there were no such factors. The Company relies only on historical volatility since future volatility is expected to be consistent with historical volatility.

The risk-free interest rate assumption is based upon the interpolation of various U.S. Treasury rates determined at the date of option grant. Expected dividends are based upon a historical analysis of our dividend yield over the past year.

Restricted Stock Award and Restricted Stock Unit activity is as follows:

	Restricted Stock Awards	Weighted-average grant date fair value
Restricted Stock outstanding at December 31, 2018	143,697	\$ 49.97
Granted	63,804	60.86
Vested	(108,517)	52.81
Forfeited or expired	(6,184)	57.62
Restricted Stock outstanding at December 31, 2019	92,800	\$ 53.63

The grant date fair value for restricted stock is the average market price of the unrestricted shares on the date of grant. The total fair value of restricted stock awards vested during 2019, 2018 and 2017 was \$6.5 million, \$3.6 million and \$5.7 million, respectively.

The Company records a tax benefit and associated deferred tax asset for compensation expense recognized on non-qualified stock options and restricted stock for which the Company is allowed a tax deduction. For 2019, 2018 and 2017, respectively, the Company recorded a tax benefit of \$1.6 million, \$1.4 million and \$2.0 million for these two types of compensation expense.

As of December 31, 2019, future compensation costs related to non-vested stock options and restricted stock grants is \$4.1 million. The Company anticipates that this cost will be recognized over a weighted-average period of 3.1 years.

Employees Stock Purchase Plan

The Kaman Corporation Employees Stock Purchase Plan ("ESPP") allows employees to purchase common stock of the Company, through payroll deductions, at 85% of the market value of shares at the time of purchase. The plan provides for the grant of rights to employees to purchase a maximum of 2,000,000 shares of common stock.

During 2019, 60,997 shares were issued to employees at prices ranging from \$55.61 to \$63.69. During 2018, 59,082 shares were issued to employees at prices ranging from \$56.86 to \$72.15. During 2017, 63,874 shares were issued to employees at prices ranging from \$46.79 to \$57.27. At December 31, 2019, there were 551,112 shares available for purchase under the plan.

23. SUBSEQUENT EVENTS

On January 3, 2020, the Company announced that it had completed the acquisition of Bal Seal Engineering Inc. ("Bal Seal"), at a purchase price of approximately \$331.0 million, subject to working capital adjustments. Bal Seal is a leader in the design, development, and manufacturing of highly engineered products including precision springs, seals and contacts. Bal Seal has an established global presence, with manufacturing facilities across the United States and sales representation in the United States, Europe and Asia. In the year ended December 31, 2019, the Company incurred \$4.0 million in acquisition costs associated with the acquisition of Bal Seal, which was included in selling, general and administrative expenses on the Company's Consolidated Statements of Operations. The Company is currently performing procedures to determine the purchase price allocation and estimating the fair value of tangible and intangible assets acquired and liabilities assumed in connection with the Bal Seal acquisition. The initial fair value estimates will be recorded in the first quarter of 2020.

The Company has evaluated subsequent events through the issuance date of these financial statements. Other than the matter noted above, no material subsequent events were identified that require disclosure.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES**Disclosure Controls and Procedures**

The Company has carried out an evaluation, under the supervision and with the participation of our management, including the Chief Executive Officer and the Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer have concluded that, as of December 31, 2019, the Company's disclosure controls and procedures were effective.

Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Management has assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019.

In making its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, management utilized the criteria set forth by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission in Internal Control—Integrated Framework (2013). Management concluded that based on its assessment the Company's internal control over financial reporting was effective as of December 31, 2019. The effectiveness of internal control over financial reporting as of December 31, 2019, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included in Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control Over Financial Reporting

Management of the Company has evaluated, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, changes in the Company's internal controls over financial reporting during 2019.

During the fourth quarter ended December 31, 2019, management made no changes to internal control over financial reporting that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Controls

The Company's evaluation described in this Item was undertaken acknowledging that there are inherent limitations to the effectiveness of any system of controls, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective controls can only provide reasonable assurance of achieving their control objectives.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Other than the list of executive officers of the Company set forth in Item 1, Information about our Executive Officers, all information under this caption may be found in the Company's proxy statement to be delivered to stockholders in connection with the Annual Meeting of Shareholders, which is scheduled for April 15, 2020, (the "Proxy Statement") in the following sections: "Election of Two Directors for One Year Terms," "Information about Nominees and Continuing Directors," "Director Nominees," "Specific Experience, Qualifications, Attributes and Skills of Current Board Members," "Code of Business Conduct and Other Governance Documents Available on the Company's Website" and "Audit Committee." Those portions of the Proxy Statement are incorporated by reference into this Item 10.

ITEM 11. EXECUTIVE COMPENSATION

Information about the compensation of Kaman's named executive officers appears under the captions "Compensation Discussion and Analysis," "Summary Compensation Table," "Post-Termination Payments and Benefits" and "Pay Ratio Disclosure" in the Proxy Statement. Information about the compensation of Kaman's directors appears under "2019 Director Compensation" in the Proxy Statement. Information required pursuant to Item 407(d) and (e) of Regulation S-K appears under the captions "Compensation Committee Interlocks and Insider Participation" and "Personnel & Compensation Committee Report." Those portions of the Proxy Statement are incorporated by reference into this Item 11.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information about security ownership of certain beneficial owners and management appears under "Security Ownership of Certain Beneficial Owners and Management" in the Proxy Statement. That portion of the Proxy Statement is incorporated by reference into this Item 12.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table provides information as of December 31, 2019, concerning Common Stock issuable under the Company's equity compensation plans.

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted- average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders:			
2003 Stock Incentive Plan	86,669	\$ 31.98	—
2013 Management Incentive Plan	649,695	52.03	2,199,160
Employees Stock Purchase Plan	—	—	551,112
Equity compensation plans not approved by security holders	—	—	—
Total	736,364	\$ 49.67	2,750,272

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information about certain relationships and related transactions appears under "Related Party Transactions" and "Board and Committee Independence Requirements" in the Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this Item 13.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information regarding audit fees and all other fees, in addition to the Audit Committee's pre-approval policies and procedures appears under "Principal Accounting Fees and Services" and "Audit Committee Preapproval Policy" in the Proxy Statement. Those portions of the Proxy Statement are incorporated by reference into this Item 14.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

(a)(1) FINANCIAL STATEMENTS.

See Item 8 of this Form 10-K setting forth our Consolidated Financial Statements.

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(a)(2) FINANCIAL STATEMENT SCHEDULE.

KAMAN CORPORATION AND SUBSIDIARIES
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
YEARS ENDED DECEMBER 31, 2019, 2018 AND 2017
(Dollars in Thousands)

DESCRIPTION	Balance Beginning of Period	Additions		Deductions (B)	Balance End of Period
		Charged to Costs and Expenses	Others (A)		
2019					
Allowance for doubtful accounts	\$ 2,498	\$ 788	\$ —	\$ 2,040	\$ 1,246
2018					
Allowance for doubtful accounts	\$ 2,181	\$ 767	\$ —	\$ 450	\$ 2,498
2017					
Allowance for doubtful accounts	\$ 2,282	\$ 746	\$ —	\$ 847	\$ 2,181

(A) Additions to allowance for doubtful accounts attributable to acquisitions.

(B) Recoveries and write-off of bad debts.

DESCRIPTION	Balance Beginning of Period	Additions (Reductions)		Balance End of Period
		Current Year Provision (Benefit)	Others	
2019				
Valuation allowance on deferred tax assets	\$ 8,243	\$ 2,046	\$ (2,147)	\$ 8,142
2018				
Valuation allowance on deferred tax assets	\$ 4,944	\$ 3,472	\$ (173)	\$ 8,243
2017				
Valuation allowance on deferred tax assets	\$ 3,831	\$ 772	\$ 341	\$ 4,944

(a)(3) EXHIBITS.

An index to the exhibits filed or incorporated by reference immediately precedes such exhibits.

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ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Bloomfield, State of Connecticut, on this 24th day of February 2020.

KAMAN CORPORATION
(Registrant)

By: /s/ Neal J. Keating

Neal J. Keating

Chairman, President,

Chief Executive Officer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title:	Date:
<u>/s/ Neal J. Keating</u> Neal J. Keating	Chairman, President, Chief Executive Officer and Director (Principal Executive Officer)	February 24, 2020
<u>/s/ Robert D. Starr</u> Robert D. Starr	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 24, 2020
<u>/s/ John J. Tedone</u> John J. Tedone	Vice President – Finance and Chief Accounting Officer (Principal Accounting Officer)	February 24, 2020
<u>/s/ Neal J. Keating</u> Neal J. Keating Attorney-in-Fact for:		February 24, 2020
Brian E. Barents	Director	
E. Reeves Callaway III	Director	
Karen M. Garrison	Director	
A. William Higgins	Director	
Scott E. Kuechle	Director	
George E. Minnich	Director	
Jennifer M. Pollino	Director	
Thomas W. Rabaut	Director	

KAMAN CORPORATION
INDEX TO EXHIBITS

Exhibit 2.1	<u>Share Purchase Agreement, dated as of June 25, 2019, by and between Kaman Corporation and LJ KAI Blocker, Inc., LJ KFP Blocker, Inc. and LJ KIT Blocker, Inc.</u> (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K dated June 26, 2019, File No. 001-35419).	Previously Filed
Exhibit 2.2	<u>Securities and Asset Purchase Agreement, dated November 4, 2019, by and among Kaman Aerospace Group, Inc., Kaman Corporation, as guarantor, Peter J. Balsells, in his capacity as trustee of the BF Trust, 19650 Pauling, LLC, Pauling Properties LLC and Bal Seal Engineering, Inc.</u> (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K dated November 5, 2019, File No. 001-35419).	Previously Filed
Exhibit 2.3	<u>First Amendment to Securities and Asset Purchase Agreement, dated as of December 26, 2019, by and among Kaman Aerospace Group, Inc., Kaman Corporation, as guarantor, Peter J. Balsells, in his capacity as trustee of The Balsells Family Trust Dated October 1, 1985 - Trust A, as Wholly Amended And Restated June 5, 2019, 19650 Pauling, LLC, Pauling Properties LLC and Bal Seal Engineering, Inc.</u> (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K/A dated December 27, 2019, File No. 001-35419).	Previously Filed
Exhibit 3.1	<u>Amended and Restated Certificate of Incorporation of the Company</u> (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated November 4, 2005, File No. 333-66179), <u>as amended by the Certificate of Amendment</u> thereto (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated April, 22 2019).	Previously Filed
Exhibit 3.2	<u>Amended and Restated Bylaws of the Company</u> (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated December 11, 2019, File No. 001-35419).	Previously Filed
Exhibit 4.1	<u>Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.</u>	Filed Herewith
Exhibit 4.2	<u>Indenture, dated as of May 12, 2017, by and between Kaman Corporation and U.S. Bank National Association, as trustee</u> (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated May 12, 2017, File No. 001-35419).	Previously Filed
Exhibit 4.3	<u>First Supplemental Indenture, dated as of July 15, 2019, by and between Kaman Corporation and U.S. Bank National Association, as trustee</u> (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated July 16, 2019, File No. 001-35419).	Previously Filed
Exhibit 10.1	<u>Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Annex A to the Company's Definitive Proxy Statement on Schedule 14A filed with the Securities and Exchange Commission on March 1, 2013, File No. 001-35419).*	Previously Filed
Exhibit 10.2	<u>First Amendment to the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated February 23, 2015, File No. 001-35419).*	Previously Filed
Exhibit 10.3	<u>Kaman Corporation Amended and Restated 2013 Management Incentive Plan.</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 23, 2018, File No. 001-35419).*	Previously Filed
Exhibit 10.4	<u>Form of Nonqualified Stock Option Agreement under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated February 24, 2014, File No. 001-35419).*	Previously Filed
Exhibit 10.5	<u>Form of Restricted Share Agreement under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated February 24, 2014, File No. 001-35419).*	Previously Filed
Exhibit 10.6	<u>Form of Restricted Stock Unit Agreement under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 6, 2014, File No 001-35419).*	Previously Filed

Exhibit 10.7	<u>Form of Long-Term Performance Award Agreement (Payable in Cash) under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated February 24, 2014, File No. 001-35419).*	Previously Filed
Exhibit 10.8	<u>Form of Long-Term Performance Award Agreement (Payable in Cash) granted under the Kaman Corporation 2013 Management Incentive Plan, for awards granted on or after February 17, 2017</u> (incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the fiscal quarter ended March 31, 2017, File No. 001-35419).*	Previously Filed
Exhibit 10.9	<u>Form of Long-Term Performance Award Agreement (Payable in Shares) granted under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K dated February 24, 2014, File No. 001-35419).*	Previously Filed
Exhibit 10.10	<u>Form of Award Agreement for Non-Employee Directors under the Kaman Corporation 2013 Management Incentive Plan</u> (incorporated by reference to Exhibit 10.6 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, File No. 001-35419).*	Previously Filed
Exhibit 10.11	<u>Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10(a)(i) to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended October 2, 2009, File No. 000-01093), as amended by amendments thereto filed with the SEC on <u>April 7, 2010</u> (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated April 7, 2010, File No. 000-01093) and <u>November 1, 2010</u> (incorporated by reference to Exhibit 10(b) to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended October 1, 2010, File No. 000-01093), and <u>February 22, 2012</u> (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K, dated February 22, 2012, File No. 000-01093).*	Previously Filed
Exhibit 10.12	<u>Form of Incentive Stock Option Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(i) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, File No. 000-01093).*	Previously Filed
Exhibit 10.13	<u>Form of Non-Statutory Stock Option Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(ii) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, File No. 000-01093).*	Previously Filed
Exhibit 10.14	<u>Form of Stock Appreciation Rights Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(iii) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, File No. 000-01093).*	Previously Filed
Exhibit 10.15	<u>Form of Restricted Stock Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(iv) to the Company's Form 10-Q for the fiscal quarter ended June 29, 2007, File No. 000-01093).*	Previously Filed
Exhibit 10.16	<u>Form of Long Term Performance Award Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(v) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, File No. 001-35419).*	Previously Filed
Exhibit 10.17	<u>Form of Restricted Stock Unit Agreement under the Kaman Corporation 2003 Stock Incentive Plan</u> (incorporated by reference to Exhibit 10h(vi) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, File No. 000-10093).*	Previously Filed

Exhibit 10.18	Kaman Corporation Employees Stock Purchase Plan (incorporated by reference to Exhibit 10(a) to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended October 1, 2010, File No. 000-01093), as amended by the First Amendment thereto filed with the SEC on February 27, 2012 (incorporated by reference to Exhibit 10b to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, File No. 001-35419), the Second Amendment thereto filed with the SEC on February 25, 2013 (incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2012, File No. 001-35419) and the Third Amendment thereto filed with the SEC on February 27, 2014 by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, File No. 001-35419).*	Previously Filed
Exhibit 10.19	Kaman Corporation Amended and Restated Employee Stock Purchase Plan , (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on April 23, 2018, File No. 001-35419), as amended by the First Amendment thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated November 15, 2018, File No. 001-35419).*	Previously Filed
Exhibit 10.20	Kaman Corporation Supplemental Employees' Retirement Plan (incorporated by reference to Exhibit 10c to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2000, File No. 333-66179), as amended by an amendment thereto filed with the SEC on March 5, 2004 (incorporated by reference to Exhibit 10c to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2003, File No. 333-66179), and an amendment thereto filed with the SEC on February 26, 2007 (incorporated by reference to Exhibit 10.10 to the Company's Current Report on Form 8-K, dated February 26, 2007, File No. 000-01093).*	Previously Filed
Exhibit 10.21	Post-2004 Supplemental Employees' Retirement Plan (incorporated by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K, dated February 26, 2007, File No. 000-01093), as amended by the First Amendment thereto filed with the SEC on February 28, 2008 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated February 28, 2008, File No. 000-01093) and the Second Amendment thereto filed with the SEC on February 25, 2010 (incorporated by reference to Exhibit 10(c)(iii) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009, File No. 000-01093).*	Previously Filed
Exhibit 10.22	Kaman Corporation Amended and Restated Deferred Compensation Plan (incorporated by reference to Exhibit 10d to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2002, File No. 333-66179), as amended by an amendment thereto filed with the SEC on March 5, 2004 (incorporated by reference to Exhibit 10d to the Company's Annual report on Form 10-K for the fiscal year ended December 31, 2003 File No. 333-66179), and an amendment thereto filed with the SEC on August 3, 2004 (incorporated by reference to Exhibit 10(a) to the Company's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2004, File No. 333-66179).*	Previously Filed
Exhibit 10.23	Kaman Corporation Post-2004 Deferred Compensation Plan (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated February 28, 2008, File No. 000-01093), as amended by the First Amendment thereto filed with the SEC on February 27, 2012 (incorporated by reference to Exhibit 10d(ii) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, File No. 001-35419), the Second Amendment thereto (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, File No. 001-35419), the Third Amendment thereto (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated November 21, 2014, File No. 001-35419) and the Fourth Amendment thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 13, 2016, File No. 001-35419). *	Previously Filed

Exhibit 10.24	<u>Amended and Restated Executive Employment Agreement between Kaman Corporation and Neal J. Keating</u> , originally dated as of August 7, 2007 and amended and restated as of November 11, 2008 (incorporated by reference to Exhibit 10g(xviii) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008, File No. 000-01093), as amended by <u>Amendment No. 1</u> thereto dated January 1, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated February 23, 2010, File No. 000-01093), <u>Amendment No. 2</u> thereto dated September 17, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K, dated September 20, 2010, File No. 000-01093), and <u>Amendment No. 3</u> thereto dated November 18, 2014 (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K, dated November 21, 2014, File No. 000-01093).*	Previously Filed
Exhibit 10.25	<u>Executive Employment Agreement between Kaman Corporation and Robert D. Starr</u> , dated as of November 18, 2014 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated November 21, 2014, File No. 001-35419).*	Previously Filed
Exhibit 10.26	<u>Offer Letter between Kaman Corporation and Richard R. Barnhart</u> effective as of September 24, 2017 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated September 21, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.27	<u>Form of Amended and Restated Change in Control Agreement by and between the Company and certain of its executive officers (to wit: Messrs. Keating, Starr, Barnhart, Lisle, Tedone and Troy)</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated April 22, 2016, File No. 001-35419).*	Previously Filed
Exhibit 10.28	<u>Completion Bonus Agreement, dated June 25, 2019, by and between Kaman Corporation and Alphonse J. Lariviere, Jr.</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 26, 2019, File No. 001-35419).*	Previously Filed
Exhibit 10.29	<u>Change in Control Agreement, dated June 25, 2019, by and between Kaman Industrial Technologies Corporation and Alphonse J. Lariviere, Jr.</u> (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated June 26, 2019, File No. 001-35419).*	Previously Filed
Exhibit 10.30	<u>Garden Leave and General Release Agreement, effective as of October 31, 2019, by and between Kaman Corporation and Paul M. Villani.</u> *	Filed Herewith
Exhibit 10.31	<u>Letter Agreement, dated May 8, 2017, between Bank of America, N.A. and Kaman Corporation, regarding the Capped Call Transaction</u> (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated May 12, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.32	<u>Letter Agreement, dated May 8, 2017, between JPMorgan Chase Bank, National Association, London Branch and Kaman Corporation, regarding the Capped Call Transaction</u> (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K dated May 12, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.33	<u>Letter Agreement, dated May 8, 2017 between UBS AG, London Branch and Kaman Corporation, regarding the Capped Call Transaction</u> (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K dated May 12, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.34	<u>Letter Agreement, dated May 22, 2017, between Bank of America, N.A. and Kaman Corporation, regarding the Additional Capped Call Transaction</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated May 25, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.35	<u>Letter Agreement, dated May 22, 2017, between JPMorgan Chase Bank, National Association, London Branch and Kaman Corporation, regarding the Additional Capped Call Transaction</u> (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated May 25, 2017, File No. 001-35419).	Previously Filed
Exhibit 10.36	<u>Letter Agreement, dated May 22, 2017, between UBS AG, London Branch and Kaman Corporation, regarding the Additional Capped Call Transaction</u> (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated May 25, 2017, File No. 001-35419).	Previously Filed

Exhibit 10.37	<u>Second Amended and Restated Credit and Guaranty Agreement, dated as of December 13, 2019, by and among Kaman Corporation, RWG Germany GmbH, Kaman Lux Holding, S.à r.l and the other subsidiary borrowers from time to time party thereto, the Lenders from time to time party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent and as Collateral Agent</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated December 18, 2019, File No. 001-35419).	Previously Filed
Exhibit 10.38	<u>Transition Services Agreement, dated as of August 26, 2019, by and among Kaman Corporation, LJ KAI Blocker, Inc., LJ KFP Blocker, Inc. and LJ KIT Blocker, Inc., and Kaman Industrial Technologies Corporation</u> (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated August 26, 2019, File No. 001-35419).	Previously Filed
Exhibit 10.39	<u>Form of Trademark, Trade Name and Domain Name License Agreement, dated as of August 26, 2019, between Kaman Corporation and certain Licensees</u> (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated August 26, 2019, File No. 001-35419); and <u>Schedule identifying agreements substantially identical to the form of Trademark, Trade Name and Domain Name License Agreement filed as Exhibit 10.39 hereto</u> (incorporated by reference to Exhibit 10.2(a) to the Company's Current Report on Form 8-K dated August 26, 2019, File No. 001-35419).	Previously Filed
Exhibit 21	<u>List of Subsidiaries</u>	Filed Herewith
Exhibit 23	<u>Consent of PricewaterhouseCoopers LLP, the Company's current independent registered public accounting firm.</u>	Filed Herewith
Exhibit 24	<u>Power of attorney under which this report was signed on behalf of certain directors.</u>	Filed Herewith
Exhibit 31.1	<u>Certification of Chief Executive Officer Pursuant to Rule 13a-14 under the Securities and Exchange Act of 1934.</u>	Filed Herewith
Exhibit 31.2	<u>Certification of Chief Financial Officer Pursuant to Rule 13a-14 under the Securities and Exchange Act of 1934.</u>	Filed Herewith
Exhibit 32.1	<u>Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>	Filed Herewith
Exhibit 32.2	<u>Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>	Filed Herewith
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document	Filed Herewith
101.SCH	Inline XBRL Taxonomy Extension Schema	Filed Herewith
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase	Filed Herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase	Filed Herewith
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase	Filed Herewith
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase	Filed Herewith
104	Cover Page Interactive Data File, formatted in iXBRL and contained in Exhibit 101	Filed Herewith
* Management contract or compensatory plan		

DESCRIPTION OF REGISTRANT’S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

As of December 31, 2019, Kaman Corporation (the “Company”) has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”): our common stock, par value \$1.00 per share (the “Common Stock”).

DESCRIPTION OF COMMON STOCK

The following summary description sets forth certain of the general terms and provisions of the Common Stock pursuant to the Company’s Amended and Restated Certificate of Incorporation, as amended by the Certificate of Amendment thereto (prior to such Certificate of Amendment, the “Initial Certificate” and, as amended by the Certificate of Amendment, the “Amended Certificate”), the Company’s Amended and Restated Bylaws (the “Bylaws”) and the Connecticut Business Corporation Act, as amended (the “CBCA”). This summary does not purport to be complete and is qualified in its entirety by the provisions of the Amended Certificate and Bylaws, each of which is an exhibit to the Annual Report on Form 10-K to which this description is an exhibit, and the CBCA.

Authorized Shares

The Company is authorized to issue fifty million (50,000,000) shares of Common Stock and two hundred thousand (200,000) shares of preferred stock. As of December 31, 2019, there were 27,839,123 shares of Common Stock outstanding, and no shares of preferred stock outstanding. All outstanding shares of Common Stock are fully paid and non-assessable.

Voting Rights

The holders of shares of Common Stock are entitled to one vote per share on all matters to be voted upon by shareholders. In general, at a meeting of shareholders at which a quorum is present, an action at a meeting is approved if the votes cast favoring the action exceed the votes cast opposing the action, , unless the matter is one upon which, by express provision of the Amended Certificate, the Bylaws or statute, a different vote is required.

There is no cumulative voting with respect to the election of directors. In an uncontested election of directors, directors nominees are elected by an affirmative majority of the votes cast with respect to each such director nominee. “Votes cast” include votes “for” and “against”, but exclude abstentions and broker non-votes with respect to a director nominee’s election. In a contested election of directors, in which the number of director nominees exceeds the number of directors to be elected, directors nominees are elected by a plurality of the shares of Common Stock present in person or by proxy.

Phased Declassification of Board of Directors

Under the Initial Certificate, the Company’s Board of Directors was classified into three classes serving staggered three year terms. However, under the Amended Certificate, Directors elected at the 2020 annual meeting of shareholders and thereafter will be elected to one-year terms. The declassification is being phased in so that it will not affect the unexpired term of any director elected prior to the 2020 annual meeting. Therefore, the terms of the directors elected at the 2017 annual meeting will expire at the 2020 annual meeting, the terms of the directors elected at the 2018 annual meeting will expire at the 2021 annual meeting, and the terms of the directors elected at the 2019 annual meeting will expire at the 2022 annual meeting. From and after the 2022 annual meeting, all directors will stand for election annually. Any director first elected by the Board of Directors as a result of a newly created directorship or to fill a vacancy on the Board of Directors will hold office until the next annual meeting of shareholders.

Dividend Rights

The holders of Common Stock are entitled to such dividends, if any, as may be declared by the Company’s board of directors in its discretion out of funds legally available for that purpose, subject to the payment of dividends on preferred stock, if any, then outstanding.

Liquidation Rights

In the event of the Company’s liquidation, dissolution or winding up, the holders of shares of Common Stock are entitled to share ratably in all assets remaining after payment of debts and liabilities, subject to the priority of preferred stock, if any, then outstanding.

Other Rights and Preferences

The holders of shares of Common Stock have no preemptive rights to subscribe to any additional issue or sale of capital stock or to acquire any security convertible into capital stock. No conversion, redemption or sinking fund provisions apply to shares of Common Stock.

Interested Shareholder Provisions

The Company is subject to Sections 33-841 and 33-842 of the CBCA. These provisions generally require business combinations with an interested shareholder to be approved by the board of directors and then by the affirmative vote of at least::

- (a) the holders of 80% of the voting power of the outstanding shares of the voting stock of the Company; and
- (b) the holders of 2/3 of the voting power of the outstanding shares of the Company's voting stock, excluding voting stock held by the interested shareholder;

unless the consideration to be received by the shareholders meets certain price and other requirements set forth in Section 33-842 of the CBCA or unless the board of directors of the Company has by resolution determined to exempt business combinations with that interested shareholder prior to the time that such shareholder became an interested shareholder.

The Company is also subject to Section 33-841 of the CBCA which, subject to certain limited exceptions, prohibits a business combination between the Company and an interested shareholder for a period of five years following such interested shareholder's stock acquisition date unless such business combination or the interested shareholder's purchase of the Company's stock is first approved by the Company's board of directors. This must include the approval of a majority of the non-employee directors, of which there must be at least two.

Under the CBCA, an "interested shareholder" is defined generally as the beneficial owner of ten percent or more of the voting power of the outstanding voting stock of a corporation, or is an affiliate or associate of a corporation and owned 10% or more of the corporation's voting power within the past five years. . A "business combination" generally includes mergers, asset sales, some types of stock issuances and other transactions with, or resulting in a disproportionate financial benefit to, the interested shareholder.

GARDEN LEAVE AND GENERAL RELEASE AGREEMENT

Kaman Corporation, on behalf of itself, its parent corporation, affiliates, subsidiaries, divisions, and each of their successors and assigns (the “**Company**”) and **Paul M. Villani**, on behalf of himself, his heirs, executors, administrators, successors, and assigns (collectively referred to throughout this Agreement as “**Employee**”), enter into this Garden Leave and General Release Agreement (“**Agreement**”) and agree that:

1. **Separation Date, Garden Leave and Resignation from Officer Positions.** Provided that Employee timely signs this Agreement and does not revoke same, and complies with all of its terms, the Company agrees that:

- (a) Employee’s last day of full-time, active employment with the Company shall be on October 31, 2019 (“**Transition Date**”). However, Employee shall remain employed with the Company through January 2, 2020, under the conditions set forth herein, or such earlier date as the parties shall mutually agree upon as detailed in subparagraph 1(e) (“**Separation Date**”).
- (b) Commencing on the Transition Date, and continuing through the Separation Date, Employee shall remain employed by Company on a “garden leave” (the “**Garden Leave**”), during which Employee is not required to report to work or to perform day-to-day duties for the Company.
- (c) Employee will report directly to the Chief Human Resources Officer of Kaman Corporation throughout the Garden Leave period.
- (d) During the Garden Leave, Employee may search for alternative employment and hold himself out to prospective employers as a current employee of the Company, provided that he is not authorized to act on behalf of, bind or otherwise take any action on behalf of the Company. Employee shall make himself reasonably available to assist the Company with transitioning his duties, cooperating with respect to any claims, lawsuits or government investigations or inquiries, assisting with special projects, and responding to inquiries from the Company or its agents.
- (e) Prior to January 2, 2020, at Employee’s election and subject to the prior approval of the Company, Employee may commence employment with another employer, provided such employment does not otherwise violate this Agreement including Paragraph 8 on Non-Disclosure of Confidential Information and Paragraph 9 on Non-Solicitation. Such commencement of work for another employer shall terminate the Garden Leave and shall be the Separation Date of this Agreement.
- (f) Effective on the Transition Date Employee shall and hereby does relinquish and resign from, any and all offices, directorships, trusteeships, committee memberships or fiduciary capacities and positions held with or on behalf of the Company, its parent corporation, affiliates, subsidiaries, divisions and the like. Employee agrees to execute and deliver any documents reasonably necessary to effectuate such resignations, and does hereby irrevocably appoint the General Counsel of Kaman Corporation to be

Employee's attorney-in-fact to execute any documents and do anything in Employee's name to effect such resignations.

2. **Consideration.**

- (a) In addition to the Garden Leave described in Paragraph 1, in consideration for and subject to Employee (1) timely signing this Agreement, (2) not revoking this Agreement, (3) complying with the terms of this Agreement, (4) timely signing the Reaffirmation Agreement attached as Exhibit A within forty five (45) days following the Separation Date, (5) not revoking such Reaffirmation Agreement, and (6) complying with terms of such Reaffirmation Agreement (the foregoing covenants 2(a)(1), 2(a)(2), 2(a)(3), 2(a)(4), 2(a)(5) and 2(a)(6) are referred to throughout this Agreement collectively as, the "**Employee Covenants**"), Company will provide the following compensation and benefits to the Employee:
- i. The Company shall pay Employee the amount of \$324,408 (inclusive of auto allowance), less applicable withholdings ("**Separation Pay**"). The Separation Pay shall be paid in the following manner: standard monthly payments of \$27,034 (inclusive of auto allowance), less applicable withholding and standard benefit deductions, in accordance with the Company's regular payroll practices during the Garden Leave, commencing the next payroll date after the Transition Date and continuing through the Separation Date. The balance of the Separation Pay will be paid in ten (10) equal monthly installments of \$27,034 each, less applicable withholding, commencing on or about January 31, 2020 and ending on or about October 31, 2020.
 - ii. During the Garden Leave until the Separation Date, and except as described herein, Employee shall be eligible to participate in or receive benefits under any employee benefit plan generally made available by the Company to employees in accordance with the eligibility requirements of such plans and subject to the terms and conditions set forth in such plans.
 - iii. Commencing upon the Separation Date and continuing through October 31, 2020, the Company will pay the premiums for medical coverage elected by Employee under COBRA, subject to and provided that the Employee elects such COBRA coverage within sixty (60) days following the Separation Date.
 - iv. Employee shall be eligible for an annual cash incentive award for the 2019 performance year under the Kaman Corporation Annual Cash Incentive Plan, payable at the time and upon such terms that annual cash incentive awards are paid to other senior executives.
 - v. Employee shall be eligible for participation in the Company's Deferred Compensation Plan for the entire 2019 calendar year.

- vi. Employee shall be eligible for 2017 - 2019 Long Term Incentive Awards for the full 2019 calendar year upon approval of the Company's Board of Directors at its meeting scheduled for June 2020 and shall receive his pro-rated share of Long Term Incentive Awards for that portion of the following Long Term Incentive Award performance periods during which he was actively employed: performance period 2018 through 2020, and performance period 2019 through 2021.
- (b) As further consideration for and subject to Employee's full compliance with the Employee Covenants, the Company shall request the Kaman Board of Directors to vest upon the Separation Date all of the Employee's then unvested restricted stock awards and unvested non-statutory stock options. Such request will be made to the Company's Board of Directors at its meeting scheduled for November 2019 with respect to all unvested equity awards existing at that time.
- (c) Employee and the Company agree that Employee shall not be eligible to receive an annual cash incentive award under the Kaman Corporation Annual Cash Incentive Plan for the year 2020.
- (d) Employee shall be solely responsible for, and is legally bound to make payment of, any taxes determined to be due and owing (including penalties and interest related thereto) by him to any federal, state, local or regional taxing authority as a result of any consideration that Employee receives under this Agreement. Employee and the Company agree that the Company shall withhold federal, state and municipal taxes from payments made to Employee under this Agreement, as required by applicable law.
- (e) In the event that Employee dies prior to the Separation Date, the consideration provided for in this Paragraph 2 and its subparagraphs shall become due and payable to Employee's estate.

3. **No Consideration Absent Execution of this Agreement.**

Employee understands and agrees that Employee would not receive the monies and/or benefits specified in paragraphs 1 and 2 above, except for Employee's timely execution, and non-revocation, of this Agreement and, as applicable, the Reaffirmation Agreement, and the fulfillment of the promises contained herein. Employee further acknowledges no entitlement to any additional payment or consideration not specifically referenced herein, including that Employee is not eligible for equity plan awards for 2020 and Employee is not eligible for a cash incentive award for 2020, all as described in Section 2 above; provided, however, that without regard to Employee's timely execution and non-revocation of this Agreement and the Reaffirmation Agreement, Employee will be paid for all accrued but unused vacation days through his Separation Date not later than the next payroll date after the Separation Date.

4. **General Release, Claims Not Released and Related Provisions.**

- (a) **General Release of Claims.** In exchange for the consideration provided in this Agreement and except as provided herein, the Employee and the Employee's heirs, executors, representatives, agents, insurers, administrators, successors and assigns (collectively, the "**Releasors**") irrevocably and unconditionally fully and forever waive, release, and discharge the Company, its parent corporation, affiliates, subsidiaries, divisions, predecessors, insurers, successors and assigns, and each of their current and former employees, attorneys, officers, directors, shareholders and agents thereof, both individually and in their business capacities, and their employee benefit plans and programs and their administrators and fiduciaries, in their corporate and individual capacities (collectively, the "**Releasees**") from any and all claims, demands, actions, causes of actions, obligations, judgments, rights, fees, damages, debts, obligations, liabilities, and expenses (inclusive of attorneys' fees) of any kind whatsoever (collectively, "**Claims**"), whether known or unknown, from the beginning of time to the date of the Employee's execution of this Agreement, including, without limitation, any claims under any federal, state, local, or foreign law, that Releasors may have, have ever had or may in the future have arising out of, or in any way related to the Employee's hire, benefits, employment, termination, or separation from employment with the Company and any actual or alleged act, omission, transaction, practice, conduct, occurrence, or other matter, including, but not limited to:
- i. any and all claims under Title VII of the Civil Rights Act of 1964, as amended, Sections 1981 through 1988 of Title 42 of the United States Code, the Employee Retirement Income Security Act of 1974 ("**ERISA**"), as amended (with respect to unvested benefits), the Immigration Reform and Control Act of 1986, the Americans with Disabilities Act of 1990, as amended, the Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967, as amended, the Worker Adjustment and Retraining Notification Act, as amended, the Occupational Safety and Health Act, as amended, to the extent permitted by law, the Fair Credit Reporting Act, as amended, the Sarbanes-Oxley Act, to the extent permitted by law, the Dodd-Frank Wall-Street Reform and Consumer Protection Act, to the extent permitted by law, the Family and Medical Leave Act of 1993, as amended, the Equal Pay Act of 1963, as amended, and the Genetic Information Nondiscrimination Act of 2008 ("**GINA**"), as amended;
 - ii. any state, local, municipal, foreign or other law, rule, regulation, code, ordinance or other source of legal rights that may be legally waived and released, including but not limited to the Connecticut Human Rights and Opportunities Act, which includes the Connecticut Fair Employment Practices Act, the Connecticut Statutory Provision Regarding Retaliation/Discrimination for Filing a Workers Compensation Claim, the Connecticut Equal Pay Law, the Connecticut Family and Medical Leave Law, the Connecticut Whistleblower Law, the Connecticut Age Discrimination and Employee Benefits Law, the Connecticut Electronic Monitoring of Employees Law, the Connecticut Wage Laws, the Connecticut OSHA, the Connecticut Reproductive Hazards Law, the Connecticut AIDS Testing

and Confidentiality Law, the Connecticut Statutory Provision Regarding Protection of Social Security Numbers and Personal Information, the Connecticut Statutory Provision Regarding Concerning Consumer Privacy and Identity Theft, the Connecticut Paid Sick Leave law, the Connecticut Wage laws, the Connecticut Drug Testing law, the Connecticut Whistleblower law, the Connecticut Free Speech law, the Connecticut Electronic Monitoring of Employees law, and the Connecticut law preventing the use of credit scores by certain employers in hiring decisions;

- iii. any and all claims under any public policy, contract (oral or written, express or implied), tort or common law;
- iv. any and all claims under any statute, common law, agreement or other basis for seeking or recovering any costs, fees or other expenses, including but not limited to attorneys' fees and/or costs;
- v. any and all claims for compensation of any type whatsoever, including but not limited to claims for salary, wages, bonuses, commissions, incentive compensation, vacation, and severance that may be legally waived and released;
- vi. any and all claims arising under tort, contract, and quasi-contract law, including but not limited to claims of breach of an expressed or implied contract, tortious interference with contract or prospective business advantage, breach of the covenant of good faith and fair dealing, promissory estoppel, detrimental reliance, invasion of privacy, nonphysical injury, personal injury or sickness or any other harm, wrongful or retaliatory discharge, fraud, defamation, slander, libel, false imprisonment, and negligent or intentional infliction of emotional distress; and
- vii. any and all claims for monetary or equitable relief, including but not limited to attorneys' fees, back pay, front pay, reinstatement, experts' fees, medical fees or expenses, costs, and disbursements.

(b) **Specific Release of ADEA Claims**. In further consideration of the payments and benefits provided to Employee in this Agreement, the Releasors hereby irrevocably and unconditionally fully and forever waive, release, and discharge the Releasees from any and all Claims, whether known or unknown, from the beginning of time to the date of Employee's execution of this Agreement arising under the Age Discrimination in Employment Act ("ADEA"), as amended, and its implementing regulations. By signing this Agreement, Employee hereby acknowledges and confirms that:

- i. Employee has read this Agreement in its entirety and understands all of its terms;
- ii. by this Agreement, Employee has been advised in writing of the right to consult with an attorney of Employee's choosing before executing this Agreement;

- iii. Employee knowingly, freely, and voluntarily assents to all of the terms and conditions set out in this Agreement including, without limitation, the waiver, release, and covenants contained in it;
- iv. Employee is executing this Agreement, including the waiver and release, in exchange for good and valuable consideration in addition to anything of value to which Employee is otherwise entitled;
- v. Employee was given at least forty-five (45) days to consider the terms of this Agreement and consult with an attorney of Employee's choice, although Employee may sign it sooner if desired and changes to this Agreement, whether material or immaterial, do not restart the running of the 45-day period;
- vi. Employee understands that he has seven (7) days from signing this Agreement to revoke the release in this paragraph by delivering notice of revocation to Gregory T. Troy, Senior Vice President & Chief Human Resources Officer, Kaman Corporation, 1332 Blue Hills Drive, Bloomfield, CT 06002 by email to Greg.Troy@kaman.com or by overnight delivery before the end of such seven-day period;
- vii. Employee understands that the release contained in this paragraph does not apply to rights and claims that may arise after Employee signs this Agreement; and
- viii. this Agreement shall not become effective until the eighth (8th) day after Employee and the Company sign, without revoking, this Agreement (the "**Effective Date**"). No payment due to Employee under this Agreement shall be made or begin before the Effective Date.

- (c) **Claims Not Released.** Nothing in this Agreement, including the general release and waiver of claims, excludes, and Employee does not waive, release, or discharge: (1) any right to file an administrative charge or complaint with the Equal Employment Opportunity Commission or other similar federal or state administrative agencies, although Employee waives any right to monetary relief related to such a charge or administrative complaint to the extent permitted by applicable law; (2) claims which cannot be waived by law, such as but not limited to claims for unemployment benefit rights and workers' compensation; (3) indemnification rights Employee has against the Company; and (4) any rights to vested benefits, such as pension, retirement, equity, or welfare benefits, the rights to which are governed by the terms of the applicable plan documents and award agreements.
- (d) **Permitted Disclosures.** Nothing in this Agreement prohibits or prevents Employee from filing a charge with, or participating, testifying, or assisting in, any investigation, hearing, whistleblower proceeding or other proceeding before any federal, state, or local government agency, nor does anything in this Agreement preclude, prohibit, or otherwise limit, in any way, Employee's rights and abilities to contact, communicate with, report matters to, or otherwise participate in any whistleblower program administered by any such agencies.

Nothing in this Agreement prohibits or restricts Employee (or Employee's attorney) from filing a charge or complaint with the Securities and Exchange Commission (SEC), the Financial Industry Regulatory Authority (FINRA), or any other securities regulatory agency or self-regulatory authority, the Equal Employment Opportunity Commission (EEOC), the National Labor Relations Board (NLRB), the Occupational Safety and Health Administration (OSHA), or any other federal or state regulatory authority ("**Government Agencies**"). Employee further understands that this Agreement does not limit Employee's ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agencies without notice to the Employer. This Agreement does not limit Employee's right to receive an award for information provided to any Government Agencies.

Nothing in this Agreement in any way prohibits or is intended to restrict or impede Employee from discussing the terms and conditions of his employment with co-workers or exercising protected rights under Section 7 of the National Labor Relations Act or exercising protected rights to the extent that such rights cannot be waived by agreement, or otherwise disclosing information as permitted by law.

- (e) **Notice of Immunity Under the Defend Trade Secrets Act of 2016.** Notwithstanding any other provision of this Agreement:

(1) Employee will not be held criminally or civilly liable under any federal or state trade secret law for any disclosure of a trade secret that is made: (A) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, and solely for the purpose of reporting or investigating a suspected violation of law; or (B) in a complaint or other document that is filed under seal in a lawsuit or other proceeding.

(2) If Employee files a lawsuit for retaliation by Company for reporting a suspected violation of law, Employee may disclose Company's trade secrets to Employee's attorney and use the trade secret information in the court proceeding if the Employee: (A) files any document containing the trade secret under seal; and (B) does not disclose the trade secret, except pursuant to court order.

- (f) **Collective/Class Action Waiver.** If any claim is not subject to release and to the extent permitted by law, Employee waives any right or ability to be a class or collective action representative or to otherwise participate in any putative or certified class, collective or multi-party action or proceeding based on such a claim in which the Company or any other Releasee identified in this Agreement is a party.

- (g) **Unemployment Benefits.** If the Employee applies for unemployment benefits after the Separation Date, the Company shall not actively contest it. However, the Company will respond truthfully, completely, and timely to any inquiries by the applicable unemployment commission concerning the termination of Employee's employment.

5. **Acknowledgments and Affirmations.** Employee affirms that Employee has not filed, caused to be filed, or presently is a party to any claim against Releasees.

Employee also affirms that, except as expressly provided herein, Employee has been paid and/or has received all compensation, wages, bonuses, severance, commissions, incentive compensation and/or benefits that are due and payable to Employee under the terms of any agreement, policy, practice, program or plan.

Employee affirms that Employee has been granted all leaves to which Employee was entitled under the Family and Medical Leave Act or related state or local leave or disability accommodation laws. Employee further affirms that Employee has no known workplace injuries or occupational diseases.

Employee also affirms that Employee has not divulged any proprietary or confidential information of the Company and will continue to maintain the confidentiality of such information consistent with the Company's policies, any agreement signed by Employee, including, if applicable, any proprietary information and inventions agreement, which is expressly incorporated herein by reference, and/or common law.

Employee further affirms that Employee has not been retaliated against for reporting any allegations of wrongdoing by the Company or its officers, including any allegations of corporate fraud.

Employee affirms that all of the Company's decisions regarding Employee's pay and benefits through the Transition Date were not discriminatory based on age, disability, race, color, sex, religion, national origin or any other classification protected by law.

Employee agrees that, after the Transition Date, he will not represent himself as being an employee, officer, attorney, agent or representative of the Company for any purpose. Without limiting the foregoing, Employee specifically agrees to update any and all social media accounts the Employee accesses, uses or maintains to reflect the fact that the Employee is no longer employed by the Company within sixty (60) days of the Transition Date. For purposes of this paragraph, social media accounts include but are not limited to Facebook, LinkedIn, Twitter and Four Square.

6. **Acknowledgement.** Employee understands that the nature of Employee's position has provided Employee with access to and knowledge of Confidential Information, and has placed Employee in a position of trust and confidence with Company. Employee understands and acknowledges that the intellectual services Employee provided to Company are unique, special or extraordinary. Employee further understands and acknowledges that Company's ability to reserve these for the exclusive knowledge and use of Company is of great competitive importance and commercial value to Company, and that improper use or disclosure by Employee is likely to result in unfair or unlawful competitive activity.

7. **Confidential Information.**

- (a) Employee understands and acknowledges that during the course of Employee's employment by the Company, Employee has had access to and learned about confidential, secret and proprietary documents, materials and other information, in tangible and intangible form, of and relating to Company, Company's businesses and Company's existing and prospective customers, suppliers, investors and other associated third parties ("**Confidential Information**"). Employee further understands and acknowledges that this Confidential Information and Company's ability to reserve it for Company's exclusive knowledge and use is of great competitive importance and commercial value to Company, and that any improper use or disclosure of the Confidential Information by Employee might cause Company to incur financial costs,

loss of business advantage, liability under confidentiality agreements with third parties, civil damages and criminal penalties.

- (b) For purposes of this Agreement, Confidential Information includes, but is not limited to, all information not generally known to the public, in spoken, printed, electronic or any other form or medium, relating directly or indirectly to: business processes, practices, methods, policies, plans, publications, documents, research, operations, services, strategies, techniques, agreements, contracts, terms of agreements, transactions, potential transactions, negotiations, pending negotiations, know-how, trade secrets, computer programs, computer software, applications, operating systems, software design, web design, work-in-process, databases, manuals, records, systems, material, sources of material, supplier information, vendor information, financial information, results, accounting information, accounting records, legal information, marketing information, advertising information, pricing information, credit information, design information, payroll information, staffing information, personnel information, employee lists, supplier lists, vendor lists, developments, reports, internal controls, security procedures, graphics, drawings, sketches, market studies, sales information, revenue, costs, formulae, notes, communications, product plans, designs, styles, models, ideas, audiovisual programs, inventions, unpublished patent applications, original works of authorship, discoveries, specifications, customer information, customer lists, distributor lists, and buyer lists of Company, of Company's businesses or of any existing or prospective customer, supplier, investor or other associated third party of Company, or of any other person or entity that has entrusted information to Company in confidence.
- (c) Employee understands that the above list is not exhaustive, and that Confidential Information also includes other information that is marked or otherwise identified as confidential or proprietary, or that would otherwise appear to a reasonable person to be confidential or proprietary in the context and circumstances in which the information is known or used.
- (d) Employee understands and agrees that Confidential Information developed by Employee in the course of Employee's employment with Company shall be subject to the terms and conditions of this Agreement as if Company furnished the same Confidential Information to Employee in the first instance. Confidential Information shall not include information that is generally available to and known by the public at the time of disclosure to Employee, provided that such disclosure is through no direct or indirect fault of Employee or any person(s) acting on Employee's behalf.

8. **Agreement and Covenants for Non-Disclosure of Confidential Information.**

- (a) Employee agrees and covenants: (1) to treat all Confidential Information as strictly confidential; (2) not to directly or indirectly disclose, publish, communicate or make available Confidential Information, or allow it to be disclosed, published, communicated or made available, in whole or part, to any entity or person whatsoever, including other employees of Company who do not have a need to know and authority to know and use the Confidential Information in connection with the business of Company and, in any event, not to anyone outside of the direct employ of Company except as required in the performance of any of Employee's remaining authorized employment duties to Company and only with the prior consent of an authorized officer

acting on behalf of Company in each instance (and then, such disclosure shall be made only within the limits and to the extent of such duties or consent); and (3) not to access or use any Confidential Information, and not to copy any documents, records, files, media or other resources containing any Confidential Information, or remove any such documents, records, files, media or other resources from the premises or control of Company, except as required in the performance of any of Employee's remaining authorized employment duties to Company or with the prior consent of an authorized officer acting on behalf of Company in each instance (and then, such disclosure shall be made only within the limits and to the extent of such duties or consent). Nothing in this Agreement shall be construed to prevent disclosure of Confidential Information as may be required by applicable law or regulation, or pursuant to the valid order of a court of competent jurisdiction or an authorized government agency, provided that the disclosure does not exceed the extent of disclosure required by such law, regulation or order. Employee shall promptly provide written notice of any such order to an authorized officer of Company.

- (b) Employee understands and acknowledges that Employee's obligations under this Agreement with regard to any particular Confidential Information shall commence immediately and shall continue during and after Employee's employment by Company until such time as such Confidential Information has become public knowledge other than as a result of Employee's breach of this Agreement or breach by those acting in concert with Employee or on Employee's behalf.

9. **Non-Solicitation.** In recognition of the consideration provided for in this Agreement, and the Confidential Information the Employee had access to during and as a result of his employment with the Company, during the Garden Leave and for a period of twenty four (24) months following the Separation Date, the Employee agrees and covenants not to directly or indirectly solicit, hire, or recruit, or induce the termination of employment of, any person employed by the Company or its affiliates.

10. **Confidentiality of Agreement.** Employee agrees not to disclose any information regarding the underlying facts leading up to or the existence or substance of this Agreement including the dollar amounts herein, except to his spouse or civil union partner (if applicable), tax advisor, financial consultant and/or an attorney with whom he chooses to consult regarding his consideration of this Agreement or pursuant to court order, subpoena or as otherwise required by law. Employee represents that he has instructed or will instruct his spouse or civil union partner (if applicable), tax advisor, financial consultant and/or an attorney to keep the dollar amounts, all the terms of this Agreement, in strictest confidence and to not disclose them to anyone.

11. **Return of Property.**

- (a) Except as otherwise provided for in this Agreement, Employee agrees that he will return all of the Company's property, documents, and/or any Confidential Information in his possession or control, including his Company-issued computer software, manuals, hotspot device(s), tokens, keys, badge(s) and credit card(s), no later than the Separation Date.
- (b) Employee is permitted to retain his Company-issued cellular phone or mobile device (individually and collectively, "**Devices**") after the Separation Date, provided Employee: (i) promptly obtains his own personal cellular and data service coverage for the Devices; (ii) is solely responsible for any and all transfer, termination,

activation, taxes and on-going carrier service expenses related to the Devices; (iii) permanently deletes all data and information on the Devices related to the Company and its affiliates, including all Confidential Information, included but not limited to, as related to the business operations, employees, customers or suppliers of the Company and its affiliates; and (iv) presents the Devices to the Kaman Corporate Information Technologies Department prior to the Separation Date for inspection and deletion of all Company-owned, leased or licensed operating systems and software.

- (c) Nothing in this Paragraph will prevent Employee from retaining any documents in Employee's possession or control concerning Employee's employee benefits and/or Employee's compensation.
- (d) Immediately upon Employee's execution of this Agreement or at any other time requested by Company, Employee also agrees to delete any Confidential Information from any computer hard drive or computer system within Employee's possession or control that is not located on Company's premises.
- (e) Employee affirms that he is in possession of all of his property that he had at the Company's premises and that the Company is not in possession of any of his property.

12. **Nondisparagement.**

- (a) Employee agrees not to at any time in any way maliciously disparage or defame the Releasees in any forum, including to the media. In the event Employee violates this provision, the Company has the right to institute an action for any damages plus the reimbursement of attorneys' fees and costs incurred in connection with the enforcement of this provision. It is understood that the rest of this Agreement would, nevertheless, remain in full force and effect.
- (b) The Company agrees: (i) that Company, its parent, subsidiaries and affiliates will not at any time or in any way issue any statements or press releases disparaging or defaming Employee; (ii) to instruct management-level employees and senior executive employees of the Company, its parent, subsidiaries and affiliates not to disparage or defame Employee; and (iii) that management-level employees and senior executive employees of the Company, its parent, subsidiaries and affiliates will not disparage or defame Employee. In the event of a violation of this provision, Employee has the right to institute an action for any damages plus the reimbursement of attorneys' fees and costs incurred in connection with the enforcement of this provision. It is understood that the rest of this Agreement would, nevertheless, remain in full force and effect.

13. **Reformation and Severability.** In the event that any provision of this Agreement is held in any jurisdiction to be invalid, prohibited or unenforceable for any reason, such provision, as to such jurisdiction, shall be ineffective, without invalidating the remaining provisions of this Agreement or affecting the validity, or enforceability of such provision in any other jurisdiction. Regardless of the foregoing, if such provision could be more narrowly drawn so as not to be invalid, prohibited or unenforceable, in such jurisdiction, it shall as to such jurisdiction be either automatically deemed to be so narrowly drawn, or any court of competent jurisdiction is hereby authorized to redraw it in that manner, without invalidating the remaining provisions of this Agreement in any other jurisdiction.

14. **No Waiver.** Waiver by the Company of any breach of this Agreement shall not constitute a waiver of any succeeding breach or a modification or waiver of the particular provision(s) so breached.

15. **Equitable Remedies.** Employee acknowledges that the restrictions contained in this Agreement are necessary to protect trade secrets and to protect the business and goodwill of the Company and its affiliates and are considered to be reasonable for such purposes. Employee agrees that any breach of this Agreement is likely to cause the Company substantial and irrevocable damage that is difficult to measure. Therefore, in the event of any breach or threatened breach, Employee agree that the Company, in addition to such other remedies which may be available, shall have the right to seek an injunction from a court, without bond, restraining such a breach or threatened breach and the right to specific performance.

16. **Attorneys' Fees.** If Employee is found to have breached any obligation in this Agreement, Employee will pay the Company, in addition to any damages that may be awarded by the Court, reasonable attorneys' fees incurred by the Company to establish that breach, and otherwise to enforce this Agreement.

17. **Governing Law, Interpretation and Jurisdiction.** This Agreement shall be governed and conformed in accordance with the laws of the State of Connecticut without regard to its conflict of laws provision and the parties agree that the courts of the State of Connecticut shall be the exclusive forum for any disputes between Employee and the Company. In the event of a breach of any provision of this Agreement, either party may institute an action specifically to enforce any term or terms of this Agreement and/or to seek any damages for breach. Should any provision of this Agreement be declared illegal or unenforceable by any court of competent jurisdiction and cannot be modified to be enforceable, excluding the general release language, such provision shall immediately become null and void, leaving the remainder of this Agreement in full force and effect.

18. **Cooperation.** Employee agrees to cooperate reasonably and in good faith with the Company, including meeting with the Company, its attorneys or agents, to respond to business inquiries and/or in connection with any legal proceeding or government investigation and to provide truthful testimony if any subpoena, court or government agency asks for Employee's assistance. If Employee receives a subpoena or request from any government agency in any matter about the Company, Employee agrees to notify the Company in writing of that subpoena or request within ten days of receiving it, unless otherwise prohibited by law. The Company shall reimburse Employee for any expenses incurred in providing services or assistance under this paragraph.

19. **Non-admission of Wrongdoing.** The Parties agree that neither this Agreement nor the furnishing of the consideration for this Agreement shall be deemed or construed at any time for any purpose as an admission by Releasees of wrongdoing or evidence of any liability or unlawful conduct of any kind.

20. **Amendment.** This Agreement may not be modified, altered or changed except in writing and signed by both Parties wherein specific reference is made to this Agreement.

21. **Assignment.** To the extent permitted by state law, the Company may assign this Agreement to any subsidiary or corporate affiliate, or to any successor or assign (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company. The Employee shall not assign this Agreement or any part hereof. Any purported assignment by the Employee shall be null and void from the initial date of purported assignment.

22. **Entire Agreement.** This Agreement sets forth the entire agreement between the Parties hereto, and fully supersedes any prior agreements or understandings between the Parties; provided, however, that this Agreement is intended to supplement, and not supersede, any signed written agreements entered into by

Employment during Employee's employment with the Company regarding the protection of trade secrets and confidential information., Employee acknowledges that Employee has not relied on any representations, promises, understandings, course of conduct or agreements of any kind made to Employee in connection with Employee's decision to accept this Agreement, except for those set forth in this Agreement.

23. **Counterparts.** This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

EMPLOYEE IS ADVISED THAT EMPLOYEE HAS UP TO FORTY FIVE (45) CALENDAR DAYS TO CONSIDER THIS AGREEMENT. EMPLOYEE ALSO IS ADVISED TO CONSULT WITH AN ATTORNEY PRIOR TO EMPLOYEE'S SIGNING OF THIS AGREEMENT. IF EMPLOYEE SIGNS THE AGREEMENT, HE MUST PERSONALLY DELIVER THE SIGNED AGREEMENT TO GREGORY T. TROY, SENIOR VICE PRESIDENT AND CHIEF HUMAN RESOURCES OFFICER, KAMAN CORPORATION, 1332 BLUE HILLS AVENUE, BLOOMFIELD, CONNECTICUT 06002.

EMPLOYEE MAY REVOKE THIS AGREEMENT FOR A PERIOD OF SEVEN (7) CALENDAR DAYS FOLLOWING THE DAY EMPLOYEE SIGNS THIS AGREEMENT. ANY REVOCATION WITHIN THIS PERIOD MUST BE SUBMITTED, IN WRITING, TO GREGORY T. TROY AND STATE, "I HEREBY REVOKE MY ACCEPTANCE OF OUR AGREEMENT." THE REVOCATION MUST BE PERSONALLY DELIVERED TO GREGORY T. TROY, SENIOR VICE PRESIDENT AND CHIEF HUMAN RESOURCES OFFICER, KAMAN CORPORATION, 1332 BLUE HILLS AVENUE, BLOOMFIELD, CONNECTICUT 06002 AND POSTMARKED WITHIN SEVEN (7) CALENDAR DAYS AFTER EMPLOYEE SIGNS THIS AGREEMENT. THIS AGREEMENT SHALL BECOME FINAL AND BINDING ON THE EIGHTH (8TH) DAY FOLLOWING EMPLOYEE'S EXECUTION PROVIDED EMPLOYEE HAS NOT REVOKED SAME (THE "EFFECTIVE DATE").

EMPLOYEE AGREES THAT ANY MODIFICATIONS, MATERIAL OR OTHERWISE, MADE TO THIS AGREEMENT, DO NOT RESTART OR AFFECT IN ANY MANNER THE ORIGINAL UP TO FORTY FIVE (45) CALENDAR DAY CONSIDERATION PERIOD.

EMPLOYEE FREELY AND KNOWINGLY, AND AFTER DUE CONSIDERATION, ENTERS INTO THIS AGREEMENT INTENDING TO WAIVE, SETTLE AND RELEASE ALL CLAIMS EMPLOYEE HAS OR MIGHT HAVE AGAINST RELEASEES.

The Parties knowingly and voluntarily sign this Agreement as of the date(s) set forth below:

Kaman Corporation

By: /s/ Paul M. Villani

Paul M. Villani

Dated: December 16, 2019

By: /s/ Gregory T. Troy

Gregory T. Troy
SRVP Human Resources and CHRO

Dated: December 18, 2019

EXHIBIT A

REAFFIRMATION AGREEMENT (“Reaffirmation”)

This Reaffirmation Agreement (“**Reaffirmation**”) is made by and between **Paul M. Villani** (“**Employee**”) and **Kaman Corporation**, on behalf of itself, its parent corporation, affiliates, subsidiaries, divisions, and each of their successors and assigns (the “**Company**”) after Employee’s Separation Date. Employee reaffirms that certain Garden Leave and General Release Agreement (“**Release Agreement**”) between himself and the Company. Capitalized terms used in this Reaffirmation and not otherwise defined herein shall have the meaning ascribed thereto in the Release Agreement.

WHEREAS, the Company and Employee agreed to a Garden Leave and Separation process under which Employee concluded his employment with the Company pursuant to the Release Agreement to which this Reaffirmation was made Exhibit A thereto; and

WHEREAS, the Company and Employee further agreed to this Reaffirmation, which provides for certain consideration to be paid to Employee as described in the Release Agreement and which further sets forth an agreement regarding the Company’s and Employee’s rights and obligations with respect to each other following the Separation Date.

NOW THEREFORE, in consideration of the mutual covenants contained in this Reaffirmation, the Company and Employee agree as follows:

1. **Separation Date.** Employee’s Separation Date from the Company is January 2, 2020.
2. **Consideration.** In consideration for Employee’s agreement to be bound by the terms of this Reaffirmation, and his compliance with the promises made herein, the Company agrees that, following the Effective Date of this Reaffirmation (as defined), Company shall provide Employee with the consideration set forth in Paragraph 2(b) of the Agreement.
3. **No Consideration Absent Execution of this Reaffirmation.** Employee understands and agrees that he would not receive the consideration set forth in Paragraph 2(b) of the Agreement, except for his execution of this Reaffirmation and the fulfillment of the promises contained herein.
4. **General Release of Claims.** Specifically, and without limitations to the continuing enforceability of other provisions of such Agreement, in exchange and as a condition precedent to Employee’s receipt of the consideration set forth in Paragraph 2(b) of the Agreement, Employee and the Employee’s heirs, executors, representatives, agents, insurers, administrators, successors and assigns (collectively referred to throughout the remainder of this Reaffirmation as, the “**Releasors**”) knowingly and voluntarily release and forever discharge the Company, its parent corporation, affiliates, subsidiaries, divisions, predecessors, insurers, successors and assigns, and each of their current and former employees, attorneys, officers, directors and agents thereof, both individually and in their business capacities, and their employee benefit plans and programs and their administrators and fiduciaries (collectively referred to throughout the remainder of this Reaffirmation as “**Releasees**”), of and from any and all claims, demands, actions, causes of actions, obligations, judgments, rights, fees, damages, debts, obligations, liabilities, and expenses (inclusive of attorneys’ fees) of any kind whatsoever (collectively referred to throughout the remainder of this Reaffirmation as “**Claims**”) known and unknown, asserted or unasserted, which Employee has or may have against Releasees as of the date of execution of this Reaffirmation, including, including, without limitation, any claims under any federal, state, local, or foreign law, that Releasors may have, have ever had or may in the future have arising out of, or in any way related to the Employee’s hire, benefits, employment,

termination, or separation from employment with the Company and any actual or alleged act, omission, transaction, practice, conduct, occurrence, or other matter, including, but not limited to:

- a. any and all claims under Title VII of the Civil Rights Act of 1964, as amended, Sections 1981 through 1988 of Title 42 of the United States Code, the Employee Retirement Income Security Act of 1974 (“ERISA”), as amended (with respect to unvested benefits), the Immigration Reform and Control Act of 1986, the Americans with Disabilities Act of 1990, as amended, the Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967 (“ADEA”), as amended, the Worker Adjustment and Retraining Notification Act, as amended, the Occupational Safety and Health Act, as amended, to the extent permitted by law, the Fair Credit Reporting Act, as amended, the Sarbanes-Oxley Act, to the extent permitted by law, the Dodd-Frank Wall-Street Reform and Consumer Protection Act, to the extent permitted by law, the Family and Medical Leave Act of 1993, as amended, the Equal Pay Act of 1963, as amended, and the Genetic Information Nondiscrimination Act of 2008 (“GINA”), as amended;
- b. any state, local, municipal, foreign or other law, rule, regulation, code, ordinance or other source of legal rights that may be legally waived and released, including but not limited to the Connecticut Human Rights and Opportunities Act, which includes the Connecticut Fair Employment Practices Act, the Connecticut Statutory Provision Regarding Retaliation/Discrimination for Filing a Workers Compensation Claim, the Connecticut Equal Pay Law, the Connecticut Family and Medical Leave Law, the Connecticut Whistleblower Law, the Connecticut Age Discrimination and Employee Benefits Law, the Connecticut Electronic Monitoring of Employees Law, the Connecticut Wage Laws, the Connecticut OSHA, the Connecticut Reproductive Hazards Law, the Connecticut AIDS Testing and Confidentiality Law, the Connecticut Statutory Provision Regarding Protection of Social Security Numbers and Personal Information, the Connecticut Statutory Provision Regarding Concerning Consumer Privacy and Identity Theft, the Connecticut Paid Sick Leave law, the Connecticut Wage laws, the Connecticut Drug Testing law, the Connecticut Whistleblower law, the Connecticut Free Speech law, the Connecticut Electronic Monitoring of Employees law, and the Connecticut law preventing the use of credit scores by certain employers in hiring decisions;
- c. any and all claims under any public policy, contract (oral or written, express or implied), tort or common law;
- d. any and all claims under any statute, common law, agreement or other basis for seeking or recovering any costs, fees or other expenses, including but not limited to attorneys’ fees and/or costs;
- e. any and all claims for compensation of any type whatsoever, including but not limited to claims for salary, wages, bonuses, commissions, incentive compensation, vacation, and severance that may be legally waived and released;
- f. any and all claims arising under tort, contract, and quasi-contract law, including but not limited to claims of breach of an expressed or implied contract, tortious interference with contract or prospective business advantage, breach of the covenant of good faith and fair dealing, promissory estoppel, detrimental reliance, invasion of privacy, nonphysical injury, personal injury or sickness or any other harm, wrongful or retaliatory discharge,

fraud, defamation, slander, libel, false imprisonment, and negligent or intentional infliction of emotional distress; and

- g. any and all claims for monetary or equitable relief, including but not limited to attorneys' fees, back pay, front pay, reinstatement, experts' fees, medical fees or expenses, costs, and disbursements.

5. **Specific Release of ADEA Claims.** In further consideration of the consideration provided to the Employee, the Releasors hereby irrevocably and unconditionally fully and forever waive, release, and discharge the Releasees from any and all Claims, whether known or unknown, from the beginning of time to the date of the Employee's execution of this Reaffirmation arising under the Age Discrimination in Employment Act ("ADEA"), as amended, and its implementing regulations. By signing this Reaffirmation, the Employee hereby acknowledges and confirms that:

- a. Employee has read this Reaffirmation in its entirety and understands all of its terms;
- b. by this Reaffirmation, Employee has been advised in writing of the right to consult with an attorney of Employee's choosing before executing this Reaffirmation;
- c. the Employee knowingly, freely, and voluntarily assents to all of the terms and conditions set out in this Reaffirmation including, without limitation, the waiver, release, and covenants contained in it;
- d. the Employee is executing this Reaffirmation, including the waiver and release, in exchange for good and valuable consideration in addition to anything of value to which the Employee is otherwise entitled;
- e. the Employee was given at least forty five (45) days to consider the terms of this Reaffirmation and consult with an attorney of the Employee's choice, although the Employee may sign it sooner if desired and changes to this Reaffirmation, whether material or immaterial, do not restart the running of the 45-day period;
- f. the Employee understands that he has seven (7) days from signing this Reaffirmation to revoke the release in this paragraph by delivering notice of revocation to Gregory T. Troy, Senior Vice President & Chief Human Resources Officer, Kaman Corporation, 1332 Blue Hills Drive, Bloomfield, CT 06002 by email to Greg.Troy@kaman.com or by overnight delivery before the end of such seven-day period;
- g. the Employee understands that the release contained in this paragraph does not apply to rights and claims that may arise after the Employee signs this Reaffirmation; and
- h. this Reaffirmation shall not become effective until the eighth (8th) day after the Employee and the Company sign, without revoking, this Reaffirmation (referred to throughout the remainder of this Reaffirmation as the "**Effective Date**"). No payment due to the Employee under this Reaffirmation shall be made or begin before the Effective Date.

6. **Claims Not Released.** Nothing in this Reaffirmation, including the general release and waiver of claims, excludes, and Employee does not waive, release, or discharge: (a) any right to file an administrative charge or complaint with the Equal Employment Opportunity Commission or other similar federal or state administrative agencies, although the Employee waives any right to monetary relief related to such a charge or administrative complaint to the extent permitted by applicable law; (b) claims which cannot be waived

by law, such as but not limited to claims for unemployment benefit rights and workers' compensation; (c) indemnification rights the Employee has against the Company; and (d) any rights to vested benefits, such as pension, retirement, equity, or welfare benefits, the rights to which are governed by the terms of the applicable plan documents and award agreements.

7. **Permitted Disclosures.** Nothing in this Reaffirmation prohibits or prevents Employee from filing a charge with, or participating, testifying, or assisting in, any investigation, hearing, whistleblower proceeding or other proceeding before any federal, state, or local government agency, nor does anything in this Reaffirmation preclude, prohibit, or otherwise limit, in any way, Employee's rights and abilities to contact, communicate with, report matters to, or otherwise participate in any whistleblower program administered by any such agencies.

Nothing in this Reaffirmation prohibits or restricts Employee (or Employee's attorney) from filing a charge or complaint with the Securities and Exchange Commission (SEC), the Financial Industry Regulatory Authority (FINRA), or any other securities regulatory agency or self-regulatory authority, the Equal Employment Opportunity Commission (EEOC), the National Labor Relations Board (NLRB), the Occupational Safety and Health Administration (OSHA), or any other federal or state regulatory authority (referred to throughout the remainder of this Reaffirmation as the "**Government Agencies**"). Employee further understands that this Reaffirmation does not limit Employee's ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agencies without notice to the Employer. This Reaffirmation does not limit Employee's right to receive an award for information provided to any Government Agencies.

Nothing in this Reaffirmation in any way prohibits or is intended to restrict or impede Employee from discussing the terms and conditions of his employment with co-workers or exercising protected rights under Section 7 of the National Labor Relations Act or exercising protected rights to the extent that such rights cannot be waived by agreement, or otherwise disclosing information as permitted by law.

8. **Notice of Immunity Under the Defend Trade Secrets Act of 2016.** Notwithstanding any other provision of this Reaffirmation:

- a. Employee will not be held criminally or civilly liable under any federal or state trade secret law for any disclosure of a trade secret that is made: (1) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney, and solely for the purpose of reporting or investigating a suspected violation of law; or (2) in a complaint or other document that is filed under seal in a lawsuit or other proceeding.
- b. If Employee files a lawsuit for retaliation by Company for reporting a suspected violation of law, Employee may disclose Company's trade secrets to Employee's attorney and use the trade secret information in the court proceeding if the Employee: (1) files any document containing the trade secret under seal; and (2) does not disclose the trade secret, except pursuant to court order.

9. **Collective/Class Action Waiver.** If any claim is not subject to release and to the extent permitted by law, Employee waives any right or ability to be a class or collective action representative or to otherwise participate in any putative or certified class, collective or multi-party action or proceeding based on such a claim in which the Company or any other Releasee identified in this Reaffirmation is a party.

10. **Acknowledgements and Affirmations.**

- a. Employee is not waiving any rights he may have to Employee's own vested accrued employee benefits under the Company's health, welfare, or retirement benefit plans as of the Separation Date; (b) benefits and/or the right to seek benefits under applicable workers' compensation and/or unemployment compensation statutes; (c) pursue claims which by law cannot be waived by signing this Reaffirmation; and (d) enforce this Reaffirmation.
- b. Nothing in this Reaffirmation prohibits or prevents Employee from filing a charge with or participating, testifying, or assisting in any investigation, hearing, or other proceeding before any federal, state, or local government agency. However, to the maximum extent permitted by law, Employee agrees that if such an administrative claim is made, Employee shall not be entitled to recover any individual monetary relief or other individual remedies.
- c. If any claim is not subject to release, to the extent permitted by law, Employee waives any right or ability to be a class or collective action representative or to otherwise participate in any putative or certified class, collective or multi-party action or proceeding based on such a claim in which the Company or any other Releasee identified in this Reaffirmation is a party.
- d. Employee also affirms that, except as expressly provided herein, Employee has been paid and/or has received all compensation, wages, bonuses, severance, commissions, incentive compensation and/or benefits that are due and payable to Employee under the terms of any agreement, policy, practice, program or plan.
- e. Employee affirms that Employee has been granted all leaves to which Employee was entitled under the Family and Medical Leave Act or related state or local leave or disability accommodation laws. Employee further affirms that Employee has no known workplace injuries or occupational diseases.
- f. Employee also affirms that Employee has not divulged any proprietary or confidential information of the Company and will continue to maintain the confidentiality of such information consistent with the Company's policies, any agreement signed by Employee, including, if applicable, any proprietary information and inventions agreement, which is expressly incorporated herein by reference, and/or common law.
- g. Employee further affirms that Employee has not been retaliated against for reporting any allegations of wrongdoing by the Company or its officers, including any allegations of corporate fraud.
- h. Employee affirms that all of the Company's decisions regarding Employee's pay and benefits through the date of Employee's Separation Date were not discriminatory based on age, disability, race, color, sex, religion, national origin or any other classification protected by law.
- i. In the event that any paragraph or provision of this Reaffirmation shall be held to be illegal or unenforceable, such paragraph or provision shall be severed from this Reaffirmation and the entire Reaffirmation shall not fail on account thereof, but shall otherwise remain in full force and effect.

11. **Entire Agreement.** The Agreement, which is incorporated herein, and the Reaffirmation set forth the entire agreement between Employee and Company, and fully supersede any prior agreements or understandings between Employee and Company; provided, however, that this Reaffirmation is intended to supplement, and not supersede, any signed written agreements entered into by Employee during his employment with Company regarding the protection of trade secrets and confidential information. Employee acknowledges that Employee has not relied on any representations, promises, understandings, course of conduct or agreements of any kind made to Employee in connection with Employee's decision to accept the Agreement and this Reaffirmation, except for those set forth in the Agreement and this Reaffirmation.

12. **Counterparts.** This Reaffirmation may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

EMPLOYEE IS ADVISED THAT EMPLOYEE HAS UP TO FORTY FIVE (45) CALENDAR DAYS TO CONSIDER THIS REAFFIRMATION. EMPLOYEE ALSO IS ADVISED TO CONSULT WITH AN ATTORNEY PRIOR TO EMPLOYEE'S SIGNING OF THIS REAFFIRMATION. IF EMPLOYEE SIGNS THE REAFFIRMATION, HE MUST PERSONALLY DELIVER THE SIGNED REAFFIRMATION TO GREGORY T. TROY, SENIOR VICE PRESIDENT AND CHIEF HUMAN RESOURCES OFFICER, KAMAN CORPORATION, 1332 BLUE HILLS AVENUE, BLOOMFIELD, CONNECTICUT 06002.

EMPLOYEE MAY REVOKE THIS REAFFIRMATION FOR A PERIOD OF SEVEN (7) CALENDAR DAYS FOLLOWING THE DAY EMPLOYEE SIGNS THIS REAFFIRMATION. ANY REVOCATION WITHIN THIS PERIOD MUST BE SUBMITTED, IN WRITING, TO GREGORY T. TROY AND STATE, "I HEREBY REVOKE MY ACCEPTANCE OF OUR REAFFIRMATION." THE REVOCATION MUST BE PERSONALLY DELIVERED TO GREGORY T. TROY, SENIOR VICE PRESIDENT AND CHIEF HUMAN RESOURCES OFFICER, KAMAN CORPORATION, 1332 BLUE HILLS AVENUE, BLOOMFIELD, CONNECTICUT 06002 AND POSTMARKED WITHIN SEVEN (7) CALENDAR DAYS AFTER EMPLOYEE SIGNS THIS REAFFIRMATION. THIS REAFFIRMATION SHALL BECOME FINAL AND BINDING ON THE EIGHTH (8TH) DAY FOLLOWING EMPLOYEE'S EXECUTION PROVIDED EMPLOYEE HAS NOT REVOKED SAME (THE "EFFECTIVE DATE").

EMPLOYEE AGREES THAT ANY MODIFICATIONS, MATERIAL OR OTHERWISE, MADE TO THIS REAFFIRMATION, DO NOT RESTART OR AFFECT IN ANY MANNER THE ORIGINAL UP TO FORTY FIVE (45) CALENDAR DAY CONSIDERATION PERIOD.

EMPLOYEE FREELY AND KNOWINGLY, AND AFTER DUE CONSIDERATION, ENTERS INTO THIS REAFFIRMATION INTENDING TO WAIVE, SETTLE AND RELEASE ALL CLAIMS EMPLOYEE HAS OR MIGHT HAVE AGAINST RELEASEES.

[Signature page follows]

The Parties knowingly and voluntarily sign this Reaffirmation as of the date(s) set forth below:

Kaman Corporation

By:
Paul M. Villani

Dated: December 16, 2019

By:
Gregory T. Troy
SRVP Human Resources and CHRO
Dated: December 18, 2019

Note: To be signed and dated within 45 days after the Separation Date.

KAMAN CORPORATION

SUBSIDIARIES

Following is a list of the Corporation's subsidiaries, each of which, unless otherwise indicated, is wholly owned by the Corporation either directly or through another subsidiary. Second-tier subsidiaries are listed under the name of the parent subsidiary.

Name	State of Incorporation
Registrant: KAMAN CORPORATION	Connecticut
Subsidiaries:	
Kaman Aerospace Group, Inc.	Connecticut
Kaman Aerospace Corporation	Delaware
K-MAX Corporation	Connecticut
Kaman X Corporation	Connecticut
Kamatics Corporation	Connecticut
RWG Germany GmbH	Germany
Kaman Lux Holding, S.à r.l.	Luxembourg
Kaman Acquisition GmbH	Germany
GRW Bearing GmbH	Germany
Verwaltungsgesellschaft Reinfurt mbH	Germany
GRW CR s.r.o.	Czech Republic
Gebr. Reinfurt GmbH & Co. KG	Germany
GRW Management Inc.	Virginia
GRW High Precision Bearings, LP	Virginia
Reinfurt-CR, k.s.	Czech Republic
Kaman Specialty Bearings Pte. Ltd.	Singapore
Kaman UK Holdings Limited	UK
Kaman Composites - UK Holdings Limited	UK
Brookhouse Group Holdings Limited	UK
Brookhouse 2004 Limited	UK
Kaman Composites - UK Limited	UK
Kaman Fabricated Products Limited	UK
Brookhouse (SPD) Tool Company Limited	UK
Brookhouse Automotive Limited	UK
Brookhouse IM Limited	UK
Kaman Engineering Services, Inc.	Washington
Kaman Composites - Vermont, Inc.	Vermont
Kaman Composites - Wichita, Inc.	Delaware
Kaman Precision Products, Inc.	Florida
EXTEX Engineered Products, Inc.	Delaware
KEX Canada, Inc.	Canada (BC)
Kaman Specialty Bearings & Engineered Products, GmbH	Germany
Kaman Acquisition USA, Inc.	Connecticut
Bal Seal Engineering, LLC	California
ASC Continental AG	Switzerland
Bal Seal Engineering Europe BV	Netherlands
Bal Seal Asia, Ltd.	Hong Kong

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-188247, 333-116371, 333-225615 and 333-212080) of Kaman Corporation of our report dated February 24, 2020 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Hartford, Connecticut
February 24, 2020

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each of the undersigned does hereby appoint and constitute Neal J. Keating and Robert D. Starr and each of them as his or her agent and attorney-in-fact to execute in his or her name, place and stead (whether on behalf of the undersigned individually or as an officer or director of Kaman Corporation or otherwise) the Annual Report on Form 10-K of Kaman Corporation respecting its fiscal year ended December 31, 2019 and any and all amendments thereto and to file such Form 10-K and any such amendment thereto with the Securities and Exchange Commission. Each of the said attorneys shall have the power to act hereunder with or without the other.

IN WITNESS WHEREOF, the undersigned have executed this instrument this 18th day of February, 2020.

/s/ Brian E. Barents

/s/ Scott E. Kuechle

/s/ E. Reeves Callaway III

/s/ George E. Minnich

/s/ Karen M. Garrison

/s/ Jennifer M. Pollino

/s/ A. William Higgins

/s/ Thomas W. Rabaut

/s/ Neal J. Keating

Certification Pursuant to Rule
13a-14 under the Securities and
Exchange Act of 1934

I, Neal J. Keating, certify that:

1. I have reviewed this annual report on Form 10-K of Kaman Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2020

By: /s/ Neal J. Keating
Neal J. Keating
Chairman, President and
Chief Executive Officer

Certification Pursuant to Rule
13a-14 under the Securities and
Exchange Act of 1934

I, Robert D. Starr, certify that:

1. I have reviewed this annual report on Form 10-K of Kaman Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report, based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2020

By: /s/ Robert D. Starr

Robert D. Starr
Executive Vice President and
Chief Financial Officer

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Kaman Corporation (the "Corporation") on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Neal J. Keating, Chairman, President and Chief Executive Officer of the Corporation, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

By: /s/ Neal J. Keating
Neal J. Keating
Chairman, President and
Chief Executive Officer
February 24, 2020

Certification Pursuant to
18 U.S.C. Section 1350,
As Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002

In connection with the Annual Report of Kaman Corporation (the "Corporation") on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Robert D. Starr, Executive Vice President and Chief Financial Officer of the Corporation, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

By: /s/ Robert D. Starr
Robert D. Starr
Executive Vice President
and Chief Financial Officer
February 24, 2020
